

**Facing the Gorgon:  
Sustainability assessment and  
policy learning  
in Western Australia**

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I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary education institute.

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**Jennifer Margaret Pope**  
**March 2007**



**Gorgon [gôr'gən]:**

In Greek mythology, one of the three monstrous sisters, Stheno, Eurale and Medusa; daughters of Ceto and Phorcus. Their hair was a cluster of writhing snakes, and their faces were so hideous that all who saw them were turned to stone<sup>1</sup>.

Middle English, from Latin *Gorg*, *Gorgon-*, from Greek, from *gorgos*, terrible<sup>2</sup>.

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<sup>1</sup> The Columbia Encyclopedia, Sixth Edition, 2001-05. Available online: URL [www.bartleby.com](http://www.bartleby.com)

<sup>2</sup> The American Heritage® Dictionary of the English Language, Fourth Edition 2000. Available online: URL [www.bartleby.com](http://www.bartleby.com)



## **Abstract**

Sustainability assessment is emerging as a form of impact assessment with the concept of sustainability at its heart. This thesis contributes to the process of theory-building for sustainability assessment through an exploration of the development of this policy tool within the Western Australian context. Through an analysis of the sustainability assessments of the Gorgon gas development on Barrow Island and the South West Yarragadee water supply development, and a process of personal reflection, I explore the potential of sustainability assessment to contribute to a more sustainable society by facilitating learning.

While the focus of traditional forms of impact assessment has typically been ‘exterior’ forms of knowledge and learning relating to the potential impacts of a proposal, or to process methodologies and governance arrangements, in this thesis I argue that sustainability assessment processes should also facilitate ‘interior’ forms of learning that excavate and challenge underpinning assumptions about the organisation of society, including shared discourses and storylines, as well as personal views and beliefs.

To achieve this aim, I maintain that sustainability assessment should be a proactive process that is integrated with the proposal development, framed by an open question and guided by a ‘sustainability decision-making protocol’ that operationalises sustainability for the decision at hand. It should be guided by a structured process framework that assures attention is given to issues that might otherwise be neglected. Each step of the process framework should represent a space for inclusive deliberation, with the concept of sustainability itself acting as a catalyst for learning and reflexivity.

Located within the institutions of modern industrial society, deliberative sustainability assessment processes can contribute to the emergence of an ‘integral sustainability’ that embraces and reconnects the interior and exterior, collective and individual dimensions of policy-making and of society in general. The influence of sustainability assessment can thus extend beyond the immediate decision at hand to contribute to a momentum for societal change towards a more sustainable future.



## Publications

Sections of this dissertation have already been presented as conference papers, published as peer-reviewed journal articles or prepared as government reports. They are:

1. Pope, J. (2003a). *Sustainability Assessment Working Group outcomes*. Perth: Sustainability Policy Unit, Department of the Premier and Cabinet (Chapter 2).
2. Pope, J. (2003b, June 2003). *Integrated, strategic assessment of the Gorgon gas development on Barrow Island*. paper presented at the 23<sup>rd</sup> Annual Meeting of the International Association for Impact Assessment, Marrakech, Morocco (Chapters 1 and 3).
3. Pope, J. (2003c, 17-19 September). *Sustainability assessment: What is it and how do we do it?* Paper presented at the Second Meeting of the Academic Forum of Regional Government for Sustainable Development. Fremantle, Western Australia (Appendix B).

Subsequently published as:

4. Pope, J., Annandale, D. and Morrison-Saunders, A. (2004). Conceptualising sustainability assessment. *Environmental Impact Assessment Review*, 24(6), 595-616. (This article, the intellectual content of which is mine alone, is reproduced in full in Chapter 2).
5. Pope, J. (2004b). *Background paper: Sustainability assessment in Western Australia*. Perth: Western Australian Department of the Premier and Cabinet.
6. Pope, J. (2004a, April). *Conceptualising sustainability assessment: Three models and a case study*. Paper presented at the 24<sup>th</sup> Annual Meeting of the International Association for Impact Assessment, Vancouver, Canada.

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7. Pope, J., Morrison-Saunders, A. and Annandale, D. (2005). Applying sustainability assessment models. *Impact Assessment and Project Appraisal*, 23(4), 293-302 (Chapter 4).

8. Grace, W. and Pope, J. (2005, September). *Sustainability assessment: Issues of process, policy and governance*. Paper presented at the International Association for Impact Assessment's special topic conference 'International Experience and Perspectives in SEA', Prague, Czech Republic.

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9. Pope, J. and Grace, W. (2006). Sustainability assessment in context: Issues of process, policy and governance. *Journal of Environmental Assessment, Policy and Management*, 8(3), 373-398 (Chapters 1, 4 and 6).

10. Pope, J. (2006a, May). *Sustainability assessment: A dialogue of the deaf or a social learning process?* Paper presented at the 26<sup>th</sup> Annual Meeting of the International Association for Impact Assessment, Stavanger, Norway (Chapters 5 and 6).

11. Pope, J (2006b). Editorial: What's so special about sustainability assessment? *Journal of Environmental Assessment, Policy and Management*, 8(3), v-ix (Chapters 4, 6 and 7).

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## **Glossary of abbreviations and acronyms**

CALM	Department of Conservation and Land Management
CEO	Chief Executive Officer
CCWA	Conservation Council of Western Australia
CRG	Community Reference Group
DoE	Department of Environment
DoIR	Department of Industry and Resources
DPC	Department of the Premier and Cabinet
DPI	Department of Planning and Infrastructure
DTF	Department of Treasury and Finance
EIA	Environmental impact assessment
EPA	Environmental Protection Authority
EPBC	Environmental Protection and Biodiversity Conservation (Act)
ESE	Environmental, social and economic
IAIA	International Association for Impact Assessment
IWSS	Integrated Water Supply Scheme
JV	Joint venture
GTL	Gas to liquids
LNG	Liquefied natural gas
NCB	Net conservation benefit
NEPA	National Environmental Policy Act (United States)
NGO	Non-government organisation
OMP	Office of Major Projects
PPP	Policy, plan or programme
SEA	Strategic environmental assessment
SIAC	Standing Inter-agency Committee of CEOs
SPU	Sustainability Policy Unit
SWY	South West Yarragadee
TBL	Triple bottom line
WRC	Waters and Rivers Commission



## **Chapter 1: Framing the journey**

### **1.1 Introduction**

This thesis is about learning, focusing specifically on learning within a policy context about sustainability. It recounts the story of policy learning and sustainability in Western Australia during the period 2002-2006, when a ‘learning by doing’ approach to sustainability assessment was adopted by the State Government. It has been suggested that “in those cases where no regulations have been formulated in the area in question, there is obviously greater room for the advancement of social learning” (Glasbergen, 1996, p191). This has been confirmed in Western Australia, where the commitment to undertake sustainability assessment in advance of any legislative or institutional reform has provided space for the creativity, experimentation and reflection with which this research is concerned. The primary purpose of this thesis is to contribute not only to learning about sustainability assessment in Western Australia, but more generally to the process of theory-building for sustainability assessment that extends beyond these jurisdictional bounds.

Through my research process I have been actively and practically involved in the collective Western Australian journey. I have contributed to sustainability assessment case studies, assisted in the development of public and corporate policies and frameworks for sustainability assessment, and engaged with an international audience, with whom I shared our stories and from whom I brought back new ideas. This thesis therefore also tells the story of my personal journey as a researcher and an advocate for sustainability assessment over this period.

In this introductory chapter, I begin by describing the background to the research and its nature and purpose, leading into an articulation of my research questions. I then introduce the three concepts that lie at the heart of the study: sustainability, sustainability assessment and policy learning, before anchoring my study firmly within the context of Western Australia. This is followed by a brief introduction to the two case studies through which these concepts are explored. After explaining the methodological approach, I conclude by providing a map through the various dimensions of my journey in the form of an overview of the thesis structure.

## 1.2 Positioning the research

My research journey commenced in mid-2002, when a *State Sustainability Strategy* for Western Australia was in preparation, sustainability was the dominant discourse in local politics and also increasingly within the business community, and sustainability assessment was emerging as one of the most promising tools by which the State's sustainability goals might be achieved. This context has shaped the nature and aims of the research.

The research is grounded in two case studies of sustainability assessments of large-scale projects conducted by the Government of Western Australia during the period of the research. The first of these, the integrated strategic assessment of the Gorgon gas development, provided the original *raison d'être* for the research, the title of the thesis, and an important opportunity to learn about how sustainability assessment might be conducted in Western Australia. The second, the sustainability evaluation of the South West Yarragadee (SWY) water supply development, built upon the lessons learnt from Gorgon and also generated new insights into the potential of sustainability assessment as a tool for sustainability. Together they have not only provided the empirical data but have shaped the research process and given form to this thesis.

### 1.2.1 The aims of the research

Its practical orientation notwithstanding, the purpose of my research extends beyond reflections upon empirical practice and seeks to contribute to theory-building for sustainability assessment. It is thus located at the nexus of theory and practice, which is entirely appropriate, since theory is not an end-point in itself. The ultimate goal of theory-building is improved practice, and in the case of sustainability assessment, improved sustainability outcomes. Impact assessment theorist David Lawrence (1997, p81) describes the contribution of theory towards these ends when he states, "Theory explains, guides, and enhances understanding. It analyses, subdivides, connects, and recreates objects, concepts, experiences, knowledge, and actions in different ways".

Theory-building involves going beyond what might be called the 'technological aspects' of sustainability assessment, that is "the more or less concrete tasks and

routines which make up the world of practitioners” (Power, 1997, p6) that are only a small part of the story (Power, 1997; Rose & Miller, 1992). Of more influence and interest are the normative dimensions, which relate to “the ideas and concepts which shape the mission of the practice and which, crucially, attach the practice to the broader....political sphere” (Power, 1997, p6). In relation to this point Friedmann (1998, p250) invokes Schön (1983), who shows that “practitioners constantly work with theoretical assumptions, and it is the theorists’ job to make these assumptions visible and thus to help practitioners reflect on them”. My role as a researcher of sustainability assessment is therefore to make the links between theory and practice.

I echo the sentiments of Michael Power (1997, pxii) in his book *The Audit Society*, when he says:

I am probably condemning myself to criticism from self-styled practical men and women as well as high theorists. But I hope that the text will appeal to both groups, offering the former occasion to reflect on that which they have always regarded as most concrete and secure, and providing the latter with an example of theorising close up.

My target audience similarly has two groups: the practitioner of sustainability assessment, and particularly the practitioner seeking to understanding the wider meaning of his or her work, rather than the one merely looking for an instrumental approach to better practice; and the small but growing group of impact assessment theorists.

It has been noted that impact assessment in general is under-theorised. There has been a tendency amongst those contributing to the literature to focus on methodological improvements rather than to engage with the conceptual foundations of practice, which in turn has been to the detriment of practice and its substantive outcomes (Bina, in press; Lawrence, 1997). Cashmore (2004, p420) argues for such conceptual engagement, since “it might be possible to bypass the current norms of small, incremental advances in [environmental impact assessment] and realise more radical improvements in effects and effectiveness by focusing on the fundamental theoretical premises on which this decision tool is based”.

The need for theory building is further heightened by the rapid emergence internationally of sustainability assessment as a new generation of impact assessment

(Sadler, 1999). Sustainability assessment arises at the nexus between more established forms of impact assessment, such as environmental impact assessment (EIA), strategic environmental assessment (SEA) and social impact assessment, and the complex and ambiguous concept of sustainability itself. This thesis explores this coupling in the context of Western Australia. It then draws upon the understanding gained in this specific setting to contribute to more general theory-building for sustainability assessment in a way that makes this research relevant to an international audience. There are many different ways in which theory can be categorised, but sufficient for my purposes is the distinction between explanatory theory, and normative or prescriptive theory (Friedmann, 1998). This thesis seeks to contribute to both of these forms of theory; my concern is to describe and explain the Gorgon case study and then to draw from this to develop a normative theory of how sustainability assessment might be conducted to be an effective tool for sustainability.

Cashmore (2004) asserts that the starting point for developing a theory of impact assessment should be a clear articulation of its substantive purpose, supported by an understanding of the causal mechanisms that might contribute to this purpose. Only when these dimensions are articulated can effective procedures towards their attainment be established. My starting position is that the substantive purpose of sustainability assessment must be to contribute to sustainability. From this basis my two research questions are therefore:

- How can sustainability assessment contribute to sustainability?
- How should sustainability assessment be conducted to maximise this contribution?

### ***1.2.2 The nature of the research***

The theoretical starting point for my research is the impact assessment literature. Although it can be argued that sustainability assessment has many roots (Gibson, 2001), most contributions to the topic are located within the field of impact assessment, of which sustainability assessment is considered one form. Upon reaching the limits of the explanatory power of this somewhat ‘technological’ literature, with its focus on methods and techniques, I relocate the practice of

sustainability within its political or normative context by drawing on contributions to the broader policy literature. Other ideas that originate in sociology, psychology and philosophy, and which have often been previously translated by policy theorists for the purposes of overcoming the inherent limits of their own field, are also employed. In addition, I have introduced a heuristic model from integral theory (Wilber, 1995, 2000) that provides the conceptual framework for my argument.

My research is grounded in empirical practice, and specifically the Gorgon and SWY sustainability assessments conducted by the Government of Western Australia over the period 2002-2006, and thus meaning and theory have emerged from practice. As a ‘reflective practitioner’, in the manner of Schön (1983), who has been actively involved in both of the case studies and as a member of the informal ‘sustainability assessment learning community’<sup>1</sup> that has developed in Western Australia, I have contributed, along with others, to the evolution of sustainability assessment in Western Australia.

This thesis is highly personal: firstly, since “[a]ll theory is personal, because it is infused with the experience of the person who formulated it” (Lawrence, 1997, p90) and secondly, because it tells the story of my personal learning and reflexivity. Reflexivity in this sense means “interpreting one’s own interpretations, looking at one’s own perspectives from other perspectives, and turning a self-critical eye onto one’s own authority as interpreter and author” (Alvesson & Skoldberg, 2000, pvii). Trained as a chemical engineer, I was working as an environmental management consultant to industrial clients when I commenced my research in 2002. The thesis documents my own journey of excavating and challenging the assumptions that I brought to my research, leading eventually to an entirely reformed conceptualisation of sustainability assessment and sustainability itself.

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<sup>1</sup> I use Kingdon’s (1995) terminology to refer here to a group of people from government, academia, consultancy and industry that have come together on various occasions in different combinations to discuss the practice of sustainability assessment. As well as innumerable informal discussions and the Sustainability Assessment Working Group (see Chapter 2), significant workshops were held in September 2004 and August 2005, convened respectively by Government and myself in conjunction with two colleagues. Two roundtable discussions, to which members of the learning community were invited, were held at Murdoch University in 2004 and 2005, with visiting specialists in the field.

### 1.3 Three important concepts

Three concepts are at the heart of my research: the discourse of sustainability, the theory and practice of sustainability assessment, and the notion of policy learning. I briefly introduce each of these here.

#### 1.3.1 Sustainability

Sustainability, or sustainable development, has become the dominant discourse of environmental politics at the international level. This trend is generally traced to 1987 and the Brundtland Commission report *Our Common Future*, which defined sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987).

As Davison argues (2001, p12), “The language of sustainable development has guided environmental issues from the margins towards the core of political debate”, and most commentators agree that this is a positive thing. For example, Fischer and Hajer (1999, p2), while acknowledging its limitations, concede that “[t]he concept of sustainable development should be credited with providing the ‘generative metaphor’ – or storyline – around which different key economic and environmental interests could converge”.

Chapter 7 is devoted to tracing the evolution of the sustainability discourse, exploring the tensions within it, and considering how the discourse relates to the practice of sustainability assessment. The important points here are that sustainability is a highly contested concept, and arguably the greatest divide is between those who place environmental concerns at its heart and those who focus more upon socio-economic development. The former tend to consider sustainability as a call for social change, while the latter, particularly the business sector, interpret it as ‘business as usual with a bit more care’.

Although Western Australia has followed the common model of conceptualising sustainability as three inter-related ‘pillars’ representing environmental, social and economic considerations, with an emphasis on seeking means by which the three can be integrated (Government of Western Australia, 2003b), I will argue in Chapter 7

that the transformative potential of the sustainability discourse lies in its inherent ambiguity, which resists such attempts at rationalisation.

### 1.3.2 Sustainability assessment

Sustainability assessment has been broadly defined as a process that seeks to identify the future consequences of a proposed action in a manner that directs planning and decision-making towards sustainability<sup>2</sup>. The form of sustainability assessment with which I am concerned is thus conducted prior to the implementation of a proposal or action, in contrast with assessments that seek to determine the ‘state of sustainability’ in a particular area and which are monitoring tools. Sustainability assessment is not a technique, but rather an orientation of practice.

Sustainability considerations have been incorporated into many different decision-making processes in various contexts (Gibson et al., 2005). Environmental assessment, however, has arguably been the most natural fit and impact assessment practitioners have largely developed the literature on sustainability assessment (Rees, 1988). Gibson et al. (2005, p15) say of environmental assessment and sustainability:

The two grew up in the same large neighbourhood, facing similar challenges and learning similar lessons. It is hardly surprising that they should fit well together.

Gibson (2001, p18) notes that environmental assessment has gradually evolved towards being:

- Conducted earlier in planning (beginning with purposes and broad alternatives);
- More participative (involving not just proponents, government officials and technical experts but also affected and concerned citizens, citizen organizations and other stakeholders);
- More comprehensive (covering the social, economic and cultural as well as biophysical environment, distant as well as local effects, cumulative as well as immediate effects, positive as well as negative effects, and strategic as well as project level undertakings);

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<sup>2</sup> This definition is derived from one suggested by Theo Hacking from Cambridge University (*pers. comms*). However, I will argue in this thesis that the potential influence of sustainability assessment extends beyond the boundaries of specific planning decisions.

- More integrative (considering systemic effects rather than just individual impacts);
- More cautious (recognizing and addressing uncertainties, applying the precautionary principle); and
- More demanding (seeking most desirable alternatives rather than just individually “acceptable” undertakings).

The sustainability assessment literature reveals an astonishing array of approaches to practice and very little consensus on any aspect of it (see for example Dalal-Clayton & Sadler, 2005). Since I commenced my research, this situation has improved somewhat (see for example Gibson et al., 2005), but there remains much to be done. It can also be argued that there has been some benefit in the lack of definition and the vagueness surrounding the notion of sustainability assessment. Power (1997, p6) says of auditing, which is similarly undefined, “[I]t is precisely this fuzziness in the idea of auditing that allows its migration and importation into a wide variety of organizational contexts”. In Western Australia, sustainability assessment processes have been specifically developed around existing EIA processes, which are described in more detail in Section 1.4. My approach has therefore been, at least initially, to take an impact assessment perspective on sustainability assessment.

### ***1.3.3 Policy learning***

Learning is an important theme of my research, since it was prompted by a desire to contribute to the Western Australian Government’s ‘learning by doing’ approach to implementing sustainability assessment. Learning in a policy context has many dimensions and takes many forms (discussed in detail in Chapter 6), which unfold throughout this thesis. It is sufficient at this point to define policy learning as “a process in which individuals apply new information and ideas to policy decisions” (Busenberg, 2001, p173). The type of learning that was most obvious and significant at the commencement of my research was a specific form of ‘technical’ learning that focuses on ‘how to’ conduct sustainability assessment. The research, however, goes on to embrace other forms of learning that have sometimes been called ‘conceptual’ and ‘social’ learning (Kemp & Weehuizen, 2004). I develop a framework in Chapter 6 within which these other, potentially far more powerful, forms of learning might be understood. Although policy learning often operates collectively, since a policy

community evolves together, I have also alluded to my own process of personal learning and reflexivity within the collective experience.

## 1.4 The Western Australian context

My purpose in this section is to set the scene for the case studies that are the empirical basis of this research. I describe the cultural context in which they took place, that not only provided the backdrop for these case studies but also shaped, framed and formed them (Bryson & Bromily, 1993). This is important, since context is “the frame of reference that makes understanding possible” (Lawrence, 1997, p93), and therefore the lessons drawn from our experiences and their meaning cannot simply be transposed without understanding the context in which they were learnt (Marsden, 1998).

Context is a function of place, where place is (Healey, de Magalhaes, Madanipour, & Pendlebury, 2003, p62):

understood as more than a physical locale or collection of assets to be positioned in a new geography of competing places. It refers to the conglomeration of meanings and experiences which accumulate around locales through the daily life experience of people living their lives and firms conducting their activities<sup>3</sup>.

Aspects of context relevant to sustainability assessment include the formal institutional and legislative arrangements within a particular jurisdiction, previous decisions that influence the way in which an assessment is framed, and also the physical, social, cultural, political and economic perspectives that define and shape how a place functions (Brown & Thérivel, 2000; O’Riordan & Sewell, 1981).

Furthermore, these aspects of context are so interrelated that they become indistinguishable (Christoff, 1996); as Harvey (1993, p23) says, “[T]he cultural politics of places, the political economy of their development, and the accumulation of a sense of social power in place frequently fuse in indistinguishable ways”.

Context is not something frozen into a ‘static entity’. In reality, it is “emergent, variable and highly elastic”, notwithstanding that it must be “stopped in its tracks” at certain points to permit description and analysis (Holstein & Gumbrium, 2004,

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<sup>3</sup> Flyvbjerg (2004b, p298) cites MacIntyre (1984, p216) to articulate the same point slightly differently, “I can only answer the question ‘What am I to do?’ if I can answer the prior question ‘Of what story or stories do I find myself a part?’”.

p309). Context, both fixed and flexible, is central to this thesis. Some important general aspects of the Western Australian context are described in the following sections.

#### ***1.4.1 Western Australia, its economy and its policy culture***

Western Australia is the largest of the six states and two territories that comprise the Commonwealth of Australia. It is vast, sparsely populated, and rich in mineral resources, the extraction of which powers its economy. With only 10 per cent of the country's population, Western Australia is Australia's foremost export State, generating A\$36.7 billion in total goods and services exports in 2003/04 or 26 per cent of Australia's total goods and services exports. One in five workers in Western Australia is employed directly or indirectly in the mining or petroleum industries (Government of Western Australia, 2002b).

Despite the economic significance of the resource sector, which makes it of paramount importance to the State, there is a dearth of formal policy statements relating to it. In Western Australia, resource development is therefore an example of what has been called a 'quasi-policy', whereby "governments may have a wide variety of actions, past and present, within a given policy area, without necessarily having adopted consciously an over-all set of goals" (Simeon, 1976, p557). Western Australia offers a prime example of what Howitt (1995, p390) means when he says, "Within the conventional political arena, government policies assume that industrial expansion is development, and therefore unquestionably desirable".

Western Australia is also extremely remote, with its capital city, Perth, the most isolated capital city in the world and located 4000 kilometres from the seat of the Australian federal government in Canberra. Perhaps due to this 'separateness', Western Australians see themselves as independent and innovative, having a healthy scepticism for over-regulation that could constrain their entrepreneurial spirit. Furthermore, with approximately 80 per cent of its population living in Perth, Western Australian society is predominantly urban.

Given these physical and cultural characteristics, it is unsurprising that economic and land use planning processes in Western Australia are far less complex and less developed than in some other jurisdictions, such as the United Kingdom and other

parts of Western Europe. Development has been driven less by planning than by huge development projects, often located in remote areas of the State and considerable distances from population centres. It is important to note that these areas remain essentially pristine environments about which little is often known<sup>4</sup>. It is, therefore, perhaps appropriate that sustainability assessment processes have been applied first to the approval of new projects, rather than to plans and programmes, as has been the case with sustainability appraisal in the UK. Sustainability assessment in Western Australia builds upon a strong culture of project EIA, as discussed further in Section 1.4.4.

### ***1.4.2 Sustainability in Western Australia***

The incumbent Labor Government of Western Australia came to power in February 2001 on the back of an election campaign fought largely on environmental issues. The particular focus was the matter of the logging of old growth forests in the South West of the State. This issue had engaged sectors of the community not normally given to environmental protest, resulting in ‘men and women in suits’ marching on Parliament House calling for the practice to cease (Hillier, 2000).

The Labor Party’s environmental campaign platform was strongly worded, and included commitments to the establishment of a Sustainability Policy Unit (SPU) within the Department of the Premier and Cabinet (DPC), and the development of a sustainability strategy for the State (Australian Labor Party Western Australian Branch, 2001). The new government, under the State Premier Geoff Gallop, quickly adopted the language of sustainability as an overarching framework for their vision for Western Australia.

Professor Peter Newman of Murdoch University, a long-time campaigner on environmental and sustainability issues, particularly those relating to urban development, was invited to become Director of the new SPU. His task over the three years from 2001 to 2003 was to co-ordinate the development of the Western Australian *State Sustainability Strategy*. Representatives of many sectors of the community, including business, government agencies, non-government

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<sup>4</sup> Environmental studies in these remote areas are often only conducted in response to the development proposal through the EIA process (see Chapter 6).

organisations, community groups and the universities, engaged actively in the process. They attended seminars and workshops, wrote background papers and case studies, and made formal submissions responding to the draft strategy. This was a time of great energy and enthusiasm, and the resulting *State Sustainability Strategy* (Government of Western Australia, 2003b) changed the language of policy in Western Australia<sup>5</sup>.

### 1.4.3 Drivers for sustainability assessment

The need for processes to review the broad sustainability implications of proposals in an integrated way was recognised in both the *State Sustainability Strategy* (Government of Western Australia, 2002a, 2003b) and the *Review of the Project Development Approvals System*, known as the *Keating Review* (Government of Western Australia, 2002b). In addition to a long list of recommendations aimed at streamlining the project approvals system for the benefit of proponents, the *Keating Review* made several recommendations relating to sustainability assessment. These included requirements for sustainability statements to be prepared as part of the development application process, and for major projects to be assessed by Government within a sustainability context (Government of Western Australia, 2002b).

The *State Sustainability Strategy* incorporated the *Keating Review* recommendations with respect to the sustainability assessment of ‘complex and strategic projects’. *Vision for the Future: The Western Australian State Sustainability Strategy Consultation Draft*, which was released in September 2002, recognised the need for sustainability assessment processes to integrate the environmental, social and economic aspects of decision-making and minimise trade-offs between these considerations (Government of Western Australia 2002a). The final strategy, *Hope for the Future: The Western Australian State Sustainability Strategy* released in September 2003, calls for sustainability assessment to be applied to all forms of government decisions, including policies, plans, programmes, Cabinet submissions,

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<sup>5</sup> Much of this work remains on the website: [www.sustainability.dpc.wa.gov.au](http://www.sustainability.dpc.wa.gov.au).

government department corporate plans and legislation, as well as to complex and strategic projects of State significance (Government of Western Australia, 2003b)<sup>6</sup>.

There is currently no established process or supporting legislative framework in Western Australia that enables the sustainability assessment of project proposals. In both Gorgon and South West Yarragadee cases, *ad hoc* processes were developed around existing, statutory environmental assessment processes in order to address current institutional shortcomings. The regulatory frameworks for environmental assessment are discussed in the following section, while the specifics of the two case studies can be found in Chapters 3 and 6 respectively.

#### ***1.4.4 Institutional and regulatory arrangements***

Western Australia has a strong tradition of EIA, enabled by the *Environmental Protection Act* 1986 under which an independent statutory body, the Environmental Protection Authority (EPA), provides advice to the Minister for the Environment as to the environmental acceptability of project proposals assessed under Part IV of the *Act*. As has been described elsewhere (Bache, Bailey, & Evans, 1996), however, the EPA is limited in its ability to address the full scope of social and economic considerations that sustainability assessment requires. The potential for the EIA process to evolve without legislative amendment to encompass broader strategic and social considerations was effectively curtailed by a Supreme Court decision in 1996, which found that the EPA could not include economic and social considerations in its advice to the Minister for the Environment (*Coastal Waters Alliance of Australia Inc v Environmental Protection Authority and another* (1996) 90 LGRA 136).

Section 16e of the *Environmental Protection Act* 1986 allows the EPA to provide environmental advice to the Minister for the Environment on strategic matters, but the scope of this advice is similarly limited by the Supreme Court ruling.

Furthermore, while the EIA process is rigorous and well defined by the *Act* and its supporting Administrative Procedures (Environmental Protection Authority, 2002), there is no equivalent strategic environmental assessment process underpinning the

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<sup>6</sup> Interestingly, the final version of the *Strategy* contained considerably less detail about sustainability assessment processes than did the draft. This was a result of the recognition by Government of the need for further thought on the subject, including reflection on the Gorgon assessment process (see Chapter 4), prior to making commitments as to the form sustainability assessment should take.

provision of any strategic advice under Section 16e and there are no provisions for the establishment of conditions on the proponent as a result of the strategic assessment.

Infrastructure projects undertaken in Australia with potential impacts on ‘matters of national environmental significance’ also fall under the jurisdiction of the Commonwealth of Australia’s *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)*, which includes provisions for both strategic environmental assessment and EIA. A bilateral agreement has now been negotiated between the State and Commonwealth Governments to accredit certain levels of EIA in Western Australia under the *EPBC Act* to limit the potential for projects to require assessment under both Acts.

There remain no formal processes for conducting either social or economic impact assessments of proposals in Western Australia, and capabilities in these areas remain under-developed within the Western Australian bureaucracy<sup>7</sup>. This means that, until the advent of sustainability assessment, the perceived social and economic implications of project proposals have only been considered ‘behind closed doors’ at the point of the political approval decision. Unsurprisingly, given this somewhat lopsided situation, the *Environmental Protection Act 1986* has formed the centrepiece of each of the case study assessments<sup>8</sup>.

## 1.5 Case studies: The empirical base

The two case studies with which this research is concerned, the integrated, strategic assessment of the proposed Gorgon gas development on Barrow Island (Gorgon), and the sustainability evaluation of the South West Yarragadee (SWY) water supply development, represent the first two attempts within Western Australia to apply sustainability assessment concepts to complex and strategic projects and to integrate

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<sup>7</sup> For a short period in the 1990s, a social impact assessment unit located in a government agency provided advice on the social implications of projects; however this expertise was essentially lost when the unit was disbanded.

<sup>8</sup> The South West Yarragadee (SWY) proposal was assessed under Part IV, with the Gorgon assessment being conducted under Section 16(e). In the Gorgon case, however, the Part IV EIA methodology was applied in the provision of the strategic advice (see Chapter 3).

environmental, social and economic (ESE) considerations. They provide, therefore, the logical and appropriate choice for the empirical basis of my research<sup>9</sup>.

Each case study was part of a larger assessment and decision-making process. In the case of Gorgon, the integrated, strategic assessment was followed by a statutory project-level EIA process that does not form part of my scope<sup>10</sup>. In the case of the SWY, the ‘sustainability evaluation’ that is my main focus is a proponent-driven process that precedes a regulatory ‘sustainability assessment’, which is in its early stages at the time of writing in October 2006. It is, therefore, also outside my scope although I do discuss the nexus between these two processes in Chapter 6. For simplicity, however, I refer to the case studies as the ‘Gorgon ESE process’ or the ‘Gorgon assessment’, and the ‘SWY assessment’ respectively. The locations of the respective projects are shown in Figure 1.1.

### ***1.5.1 The Gorgon gas development on Barrow Island***

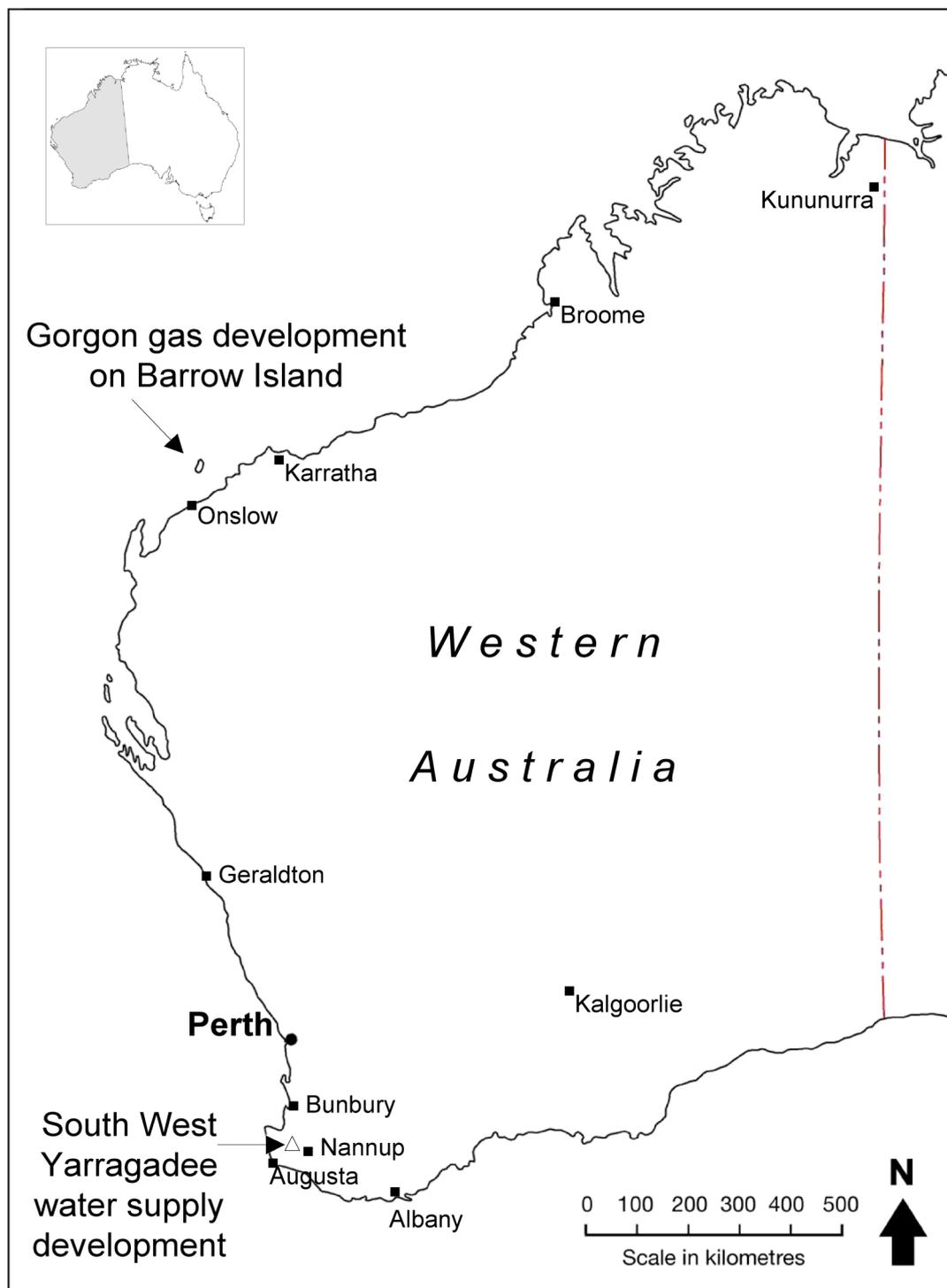
The integrated, strategic assessment of the proposed Gorgon gas development on Barrow Island (2002-2003) was conducted in response to a request by the Gorgon Joint Venture (JV), headed by ChevronTexaco, to develop the Gorgon gasfields off the coast of Western Australia and process the gas on Barrow Island. In broad terms, the ‘question’ addressed by the Gorgon assessment was, “Are the potential impacts of constructing a gas processing plant on Barrow Island acceptable?”

This question would typically have been addressed through the statutory EIA process, and therefore the only grounds for not proceeding would be the risk of significant environmental harm. The situation in this case, however, was complicated because Barrow Island has been classified as an A Class Nature Reserve since 1910 by virtue of its significant conservation values, and industrial development on the island would clearly contravene the pre-election platform of the incumbent Labor Government. Furthermore, the island has also supported a small operating oilfield since 1967, which is now managed by ChevronTexaco, the major partner in the Gorgon JV (Pope, 2003b).

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<sup>9</sup> A third sustainability assessment of the proposed Fremantle Outer Harbour development has subsequently been conducted by the Western Australian Government (Pope & Grace, 2006).

<sup>10</sup> Since its scope is limited to environmental impacts only, while my interest was in the sustainability-oriented strategic-level assessment.



**Fig 1.1: Location of case study projects in Western Australia**

In response to the proponent's request, the Government of Western Australia determined that a high level economic, social and environmental (ESE) evaluation<sup>11</sup>

<sup>11</sup> The Gorgon assessment was deliberately not termed a 'sustainability assessment', since it was recognised that although it would be a useful trial for the concept it should not necessarily become a model for future sustainability assessment processes (Pope et al., 2005).

of the broad development plan<sup>12</sup> was required to allow it to make an informed decision on whether to reject it or to provide ‘in principle’ approval for the use of Barrow Island. The proponent was also required to demonstrate ‘net conservation benefits’ (NCBs) arising from the development as a contribution to sustainability<sup>13</sup>. The assessment process was managed by the Department of Industry and Resources (DoIR) on behalf of a committee of government agency Chief Executive Officers (CEOs), with the support of a Reference Group comprised of officer-level representatives from these agencies. The assessment process was based upon the EIA process in Western Australia, with an Expert Panel of consultants undertaking the social, economic and strategic assessment alongside the environmental assessment conducted by the EPA. The Western Australian Cabinet was the final decision-maker in this case. The Gorgon assessment process is the subject of Chapter 3.

### ***1.5.2 The South West Yarragadee water supply development***

The proponent in this case is the Water Corporation of Western Australia, the government-owned water utility, which is seeking approval to extract 45 gegalitres per year (GL/yr) of groundwater from the Yarragadee Formation aquifers in the South West of Western Australia, some 300 km south of Perth. The water is proposed for delivery to the Integrated Water Supply Scheme (IWSS) that services Perth together with some of the agricultural and goldfields districts of Western Australia (Strategen, 2006b). The sustainability assessment of the South West Yarragadee water supply development was designed to address two questions, firstly, “Is the proposal to extract 45 GL/year from the Yarragadee Formation aquifers acceptable?” and secondly, “What is the most sustainable way of developing the aquifer?”

The SWY is one of a number of potential water supply strategies maintained by the Water Corporation in accordance with its ‘security through diversity’ policy. From the proponent’s perspective, and as reflected by the first of these questions, the primary aim of the sustainability assessment was to determine whether or not the

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<sup>12</sup> A detailed project proposal had not yet been finalised, and therefore the assessment was conducted on a ‘development plan’ based upon a ‘reference case’ of a gas processing facility initially producing liquefied natural gas (LNG) for the international market. For this reason, the assessment was considered to be strategic rather than project-level. This is discussed further in Chapter 3.

<sup>13</sup> This requirement was documented in a letter from the Minister for State Development in November 2001 (see Chapter 3).

SWY could be developed as a water supply. The second question reflects the second aim of the assessment process, which was to develop the details of the proposal to be as ‘sustainable’ as possible. The proposal is controversial, since it is perceived by some sectors of the community, particularly in the South West, as an immoral appropriation of South West regional water for the benefit of city customers<sup>14</sup>. It was particularly important, therefore, that the assessment be conducted in collaboration with the community and within a sustainability context. A Community Reference Group (CRG) was thus formed and a Sustainability Panel was established as an independent body to provide integrated sustainability advice to the Government and, as appropriate, to the proponent at various stages of the sustainability assessment process (Strategen, 2006b).

The sustainability assessment commenced when the proposal was still in a conceptual stage<sup>15</sup> and applied an iterative approach to refining the proposal. It was conducted by Water Corporation and its consultants, Strategen, in collaboration with the CRG and the Sustainability Panel. At the conclusion of this stage of the process, the final proposal was submitted to the regulatory agencies for approval. The decision-makers in this case are the Minister for the Environment, acting on advice from the EPA, and the Waters and Rivers Commission (WRC), the body responsible for water allocation in Western Australia. In practice, however, the final decision as to the acceptability of the proposal will be made by the Minister or Cabinet based upon advice from the EPA, WRC and the Sustainability Panel. The SWY assessment process is discussed in detail in Chapter 6.

## **1.6 Methodological framework**

Research methodologist Michael Crotty (1998) distinguishes four elements of a methodological framework that applies to all research projects: epistemology, theoretical perspective, methodology and methods. This research is grounded in a constructionist epistemology, and its theoretical perspective embraces interpretivism, since it “attempts to uncover the sense of a given action, practice or constitutive

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<sup>14</sup> This is an example of the divide between city and country communities in Western Australia, and is identified as a key issue in Stategen (2006c).

<sup>15</sup> A considerable amount of work, however, had already been done, for example in modelling the aquifer and determining the most appropriate locations for the bores and it would be fair to say that the proponent had some strong ideas about how the development should proceed before the assessment commenced.

meaning” (Fay, 1975, p79) and, more importantly, critical theory, since in seeking to develop a theory prescribing how sustainability assessment might contribute to sustainability it is oriented towards understanding and reform of “those features that can be altered” (Fay, 1975, p92).

Crotty (1998, pp14-15) points out that it is the nature and the focus of the research project ahead that suggest how the researcher should proceed, since “every piece of research is unique and calls for a unique methodology”, and therefore methodologies are usually the first element of this framework to emerge. Following his lead, I commence by identifying the various methodologies that have informed my approach and the methods applied in gathering and analysing the data. Some further justification for my claims regarding the theoretical perspectives that have guided the research comes in Section 1.7, where I provide an overview of the thesis and explain its structure, highlighting the theoretical and methodological approaches applied at each phase of the research journey.

### ***1.6.1 Methodology***

My research draws on a number of different methodological approaches, including case study research, action research, thick description, and grounded theory. Each of these was appropriate to the nature of the research situation before me, which was an opportunity to engage actively with case studies of sustainability assessment in Western Australia with the aim of learning what contribution sustainability assessment could make to sustainability and how it should be conducted.

This is clearly an example of case study research, which has been defined as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (Yin, 2003, p13). Context has many layers, from the immediate policies surrounding a decision to the macro structures of global society, and the relationship of sustainability assessment processes with their broader context is a particular focus of my research. I explore not only how context shapes the practice of sustainability assessment but how sustainability assessment in turn might shape context.

By virtue of the practical nature of this research, its focus upon improving practice as well as developing theory, and also my involvement as a ‘reflective practitioner’ (Schön, 1983) in the evolution of sustainability assessment processes in Western Australia, it also has an action research orientation. Action research is characterised by “a commitment to rigorous reflection and experimentation with new understandings or behaviours” (Ladkin, 2004, p537). Reflexivity, and the excavation of the researcher’s own assumptions and biases is an important part of action research (Ladkin, 2004). Although its primary purpose is often seen as “to produce practical knowledge that is useful to people in the everyday conduct of their lives” (Reason & Bradbury, 2001, p2), conceptualisation and theory building can also emerge from action research, reflecting Kolb’s cycle of experience-based learning: experience, reflect, conceptualise and plan (Kolb, 1984).

Research methodologies can be generally categorised as either deductive, whereby data is analysed against an existing framework, or inductive, involving “discovering patterns, themes, and categories in one’s data” (Patton, 2002, p453). The inductive approach to case study research allows themes to emerge through a process of searching for patterns within the data, and relevant existing theory is incorporated into the discussion at a later point. Grounded theory is a specific example of inductive research (Glaser & Strauss, 1967).

I adopt an inductive approach in my analysis of the Gorgon data, since the Gorgon assessment commenced in somewhat of a vacuum of conceptual or practical understanding of sustainability assessment processes, a point that is discussed further in Chapter 4. The emergence of the Gorgon themes was facilitated by long interviews, sometimes up to three hours, guided by open-ended questions in which I encouraged ‘elaborated and detailed answers’ (Rapley, 2004). The extensive data thus gathered contributed to what has been called a ‘thick description’, in which the data tells a story and issues become apparent in a way that they do not from a purely theoretical perspective (Flyvbjerg, 2002; Peattie, 2001). Forms of thick description have been applied in the ethnographic approaches to planning research (see for example Forester, 1999). Flyvbjerg (1998a, p1) adopted it to great effect in his study of the Aalborg Project in Denmark which is documented in his book *Rationality and Power*. He says:

It has been my aim to present my findings in the form of a narrative that would help readers move about in the dense case material, so as to provide them with the basis to form their own judgments about the case and its implications.

Thus thick description facilitates the transfer of understanding from one context to another.

### ***1.6.2 Data collection methods***

I collected data on the case studies through participant observation enabled by my direct involvement in the case study assessments, and semi-structured research interviews. Observation as a method of data collection draws from ethnography, and involves interacting with people as they carry out their tasks (Delamont, 2004), while interviews reflect a phenomenological orientation where the aim is an understanding of the individual and his or her frames of understanding. Both are interpretive approaches. In addition, I also reviewed the project documentation, particularly ChevronTexaco (2003a; 2003b; 2003c) and Strategen (2006a; 2006b; 2006c).

#### **Personal involvement and participant observation**

From 2002 to 2004, I undertook several roles, both professional and voluntary, with the Government of Western Australia in relation to sustainability assessment in general and to my case studies in particular. These roles enabled me to collect data through participant observation and reviews of documents to which I would not otherwise have had access, and also contributed significantly to the development of my ideas on sustainability assessment and to my research process in general. As a participant observer, I can not claim to be an objective recorder of my experiences. It has been argued, however, that a degree of subjectivity is inherent in all research, and that this is not necessarily a disadvantage (Flyvbjerg, 2004a; Lawrence, 1997). In fact, Flyvbjerg (2004a, p429) argues from a phenomenological perspective that “the most advanced form of understanding is achieved when researchers place themselves within the context being studied”.

While working within the Sustainability Policy Unit (SPU) within DPC in the second half of 2002, I coordinated the Government-Industry Working Group on Sustainability Assessment (described in Chapter 2), attended Gorgon Reference Group meetings with the DPC representative (see Chapter 3), and reviewed

documentation for the purpose of providing feedback to the Project Manager of the Gorgon assessment process.

From February to May 2003, I worked within the Office of Major Projects (OMP) in the Department of Industry and Resources (DoIR), where I attended Gorgon Reference Group meetings; attended internal DoIR meetings regarding the project management of the Gorgon assessment process; prepared meeting agendas and minutes; prepared information for submission to the Expert Panel evaluating the strategic, economic and social implications of the proposal; and reviewed documentation and provided comment. During this time, I also processed public submissions on the proponent's Environmental, Social and Economic Review Document on behalf of the Department of Environment (DoE)<sup>16</sup>.

In early 2004, I was commissioned by DoIR to conduct a peer review of the Department's internal review of the Gorgon assessment process. From July to December 2004, I was employed by the SPU within DPC to develop a *Sustainability Assessment Framework* for government agencies to assist them in meeting their commitments in accordance with the *State Sustainability Strategy* (Government of Western Australia, 2003b) and the *Sustainability Code of Practice for Government Agencies* (Government of Western Australia, 2004).

In 2005, I was hired by Water Corporation to assist their consultants, Strategen, in the conduct of the sustainability evaluation of the SWY proposal. In this role I attended and contributed to meetings and workshops where the process was developed and refined, reviewed documentation, and contributed to the final approval documentation (Strategen, 2006a, 2006b, 2006c), specifically the sections on international experiences with sustainability assessment and the application of the trade-off rules devised by Gibson et al. (2005) to the SWY proposal, discussed in Chapter 6.

Throughout the period of my research I have maintained membership of the International Association for Impact Assessment (IAIA), at whose conferences in

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<sup>16</sup> For the sake of simplicity I refer to the Department Of Environment (DoE) throughout this thesis. In fact, during the time of the Gorgon assessment it was called the Department of Environmental Protection and it has subsequently amalgamated with the Department of Conservation and Land Management (on 1 July 2006) to form the Department of Environment and Conservation.

Marrakech, Morocco (2003), Vancouver, Canada (2004), Prague, Czech Republic (2005)<sup>17</sup>, and Stavanger, Norway (2006), I have presented papers on my research and engaged in discussions with international practitioners and theorists of sustainability assessment.

### **Semi-structured interviews**

Between May and August 2003, I interviewed 13 representatives of the Gorgon Reference Group, the proponent and community groups who had made submissions during the public process. Specifically, the organisations represented were: DoIR, ChevronTexaco, DoE, EPA, the Expert Panel of consultants; the Department of Conservation and Land Management (CALM), the Conservation Commission, and the Conservation Council of Western Australia (CCWA). They are identified in my analysis and discussion by their organisation, grouping the EPA and DoE together and CALM and the Conservation Commission together. With two exceptions, this meant that there were at least three interviewees from each organisation. Two participants, one from DoIR and one from DoE/EPA were interviewed twice. Due to confidentiality concerns, I have applied a numerical coding system to identify the interviewees, and have not included their names anywhere in this thesis.

Between April and July 2006, I interviewed nine people directly involved with the SWY case study, the five members of the Sustainability Panel and four of the key personnel from the project team, including one representative each from Water Corporation and Strategen, and the social and economic consultants.

The indicative interview questions for both series of interviews are presented in Appendix A.

## **1.7 Thesis overview**

In this section I provide both a map to the thesis and an explanation of its trajectory, highlighting the various methodologies applied and pointing to my original contributions to knowledge. The thesis is structured broadly chronologically. This is because it chronicles two stories: that of the evolution of sustainability assessment in Western Australia and the emergence of understanding about the nature and

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<sup>17</sup> At the Prague conference I co-chaired a session entitled ‘SEA and sustainability appraisal’.

practices of sustainability assessment, and that of my concurrent personal learning process.

Chapter 2 presents my work in 2002 and 2003. It encompasses two of the starting points for my research: the work I undertook on behalf of DPC in co-ordinating the Government-Industry Working Group on Sustainability Assessment, and my sustainability assessment literature review. It commences by setting the scene in mid-2002 when there was considerable enthusiasm but also confusion about the notion of sustainability assessment. It presents some of the eventual outcomes of the Working Group process in the form of a brief overview of the purpose and application of sustainability assessment, before leading into a review of the literature.

This initial literature review was conducted in 2003, presented as a conference paper later that year, and published in 2004 (Pope, Annandale, & Morrison-Saunders, 2004). It is concerned primarily with conceptualisations of sustainability and process methodologies. It reflects my views on sustainability at the time, views that have evolved considerably throughout the course of my research. Its function within the thesis is therefore not to shape a rigorous deductive analysis of the case studies as might be expected<sup>18</sup>. Rather, it serves to introduce the fundamental principles of environmental assessment that are also relevant to sustainability assessment, to document the literature and level of conceptual understanding that was available at the time, and as a ‘place marker’ in the development of my own ideas to which I reflexively refer throughout the thesis.

The Gorgon assessment was also undertaken during 2002 and 2003, and Chapter 3 tells the Gorgon story using the ‘thick description’ approach. It draws upon the assessment documentation, my personal observations and interview data. Applying an inductive analysis in Chapter 4<sup>19</sup>, I identify a number of themes that emerge from the story. These themes fall into two broad categories: issues of process and issues of context, the latter including institutional and policy arrangements. Each is addressed in turn, drawing mainly on the impact assessment literature. The focus of the

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<sup>18</sup> Although I did use it for the purpose of analysing Gorgon in two papers that I draw upon in Chapter 4 (Pope, 2004a; Pope, Morrison-Saunders, & Annandale, 2005).

<sup>19</sup> This process was partially aided by the qualitative data management software NUD.IST N6.

analysis at this point is my second research question, “*How should sustainability assessment be conducted to maximise its potential?*”, and I posit a number of principles and recommendations for future practice arising from this analysis.

The analysis of Chapter 4, however, based as it is in the impact assessment literature, leaves certain themes inadequately conceptualised, particularly the contextual and subjective elements of policy decision-making and the interplay between knowledge, values and power. I seek in Chapter 5 to develop a more complete explanation of the Gorgon experience that includes not only the ‘exterior’ dimensions of impact assessment as developed in Chapter 4 but also the ‘interior’ dimensions. Following the lead of other impact assessment theorists, I relocate impact assessment within the broader and better conceptualised field of policy theory. Finding previous attempts to do so lacking in any kind of overarching conceptual framework, however, I introduce a heuristic framework from integral theory (Wilber, 1995), which acknowledges the tensions between the exterior and the interior, and the individual and the collective dimensions of policy making, to guide my exploration of some important contributions to policy theory. I then apply the post-empiricist notion of policy discourses and storylines to demonstrate how these dimensions interrelate and to explore the Gorgon case study from a more holistic and integrated perspective. This analysis reflects a critical theory orientation since it acknowledges and incorporates the interpretive social sciences, seeks to uncover the nature of systems that shape and define actions, and connects theory and practice (Fay, 1975).

My second case study, the SWY sustainability assessment, is introduced in Chapter 6, and I retain the heuristic framework from Chapter 5 to guide an exploration of policy learning within it. The SWY analysis, therefore, is more deductive than the analysis of Gorgon, since my purpose was to explore the different forms of learning suggested by the heuristic framework. I begin with the exterior or technical dimensions of learning, drawing on and developing further the process and context-oriented conclusions of Chapter 4, before noting that the SWY case study also demonstrated the potential of sustainability assessment to catalyse forms of interior learning or reflexivity, at both the individual and collective levels. Of particular interest is a form of collective learning through which the storylines framing the SWY proposal shifted, resulting in a significant reconceptualisation of the proposal

itself. This leads into the development of a conceptual model describing the mechanisms through which sustainability assessment can be a driver for learning and change.

Having drawn extensively from general impact assessment literature and policy theory up to this point, in Chapter 7 I emphatically ‘put sustainability back into sustainability assessment’. A brief review of the evolution of the sustainability discourse from its roots in the environmental movements of the 1960s through the Brundtland Commission of 1987 to present interpretations in public policy and the corporate world, identifies a prevalence of interpretations of the concept that seek improved environmental, social and economic outcomes without challenging the structuring discourses of modern society. Following many other contributors to the literature, I argue that the discourses and current trajectory of industrial modernity, with its fixation on perpetual economic growth is unsustainable and that more fundamental change is required. I pose an argument for an ‘integral sustainability’ that embraces exterior and interior, and individual and collective dimensions, and which might be facilitated by sustainability assessment. I offer my personal research journey as evidence of this potential.

Chapter 8 is my conclusion, in which the threads of the discussion of sustainability assessment, sustainability itself, and policy learning are drawn together. Chapters 5, 6 and 7 all deal with policy discourses and storylines at different levels and depths: Chapter 5 demonstrates the power of particular storyline relating to the resource development sector in Western Australia to shape a political decision-making process; Chapter 6 reveals that storylines, at least those operating at the relatively low level of a particular decision, may also be flexible and could evolve through processes of social learning facilitated by sustainability assessment processes; and Chapter 7 identifies the deeply rooted discourses that shape industrial modernity as the fundamental cause of unsustainability. Together, they lead to my argument that sustainability assessment, as a tool of reflexive modernity, may be a process by which these structuring discourses might be challenged and through which deep change towards a more sustainable society might ultimately be attainable.

## Chapter 2: Opening Pandora's Box

I sat in the meeting room in Perth, Western Australia on a Friday afternoon late in 2002, and looked around me at the 30 or so people who had gathered to discuss the prospect of new processes for sustainability assessment in Western Australia, the newly formed 'Sustainability Assessment Working Group'. It was a different group from that which had turned up a fortnight earlier and different again from the group of a fortnight before that. Clearly, some previous attendees had decided not to come back, that their priorities lay elsewhere. The timeslot late on a Friday afternoon was probably a deterrent too, especially as policy forbade the use of Government funds to provide drinks other than tea and coffee at the end of the session.

Still, there was a good turn out again, from government agencies, industry, universities, consultancy firms and non-government organisations. Some had come to contribute to the discussion, some came to learn from the others, and some weren't sure why they were there at all, apart from a sense that they couldn't be left behind from whatever it was that was happening. There was bewilderment in the room, but also excitement and anticipation, and a conviction that we as a group could collectively 'figure out' what sustainability assessment was and how it could be done in practice.

After a presentation from one of the group members, the discussion quickly deviated from the content of the presentation and from our mandate of considering techniques and methods for integration, to issues ranging from policy to institutional structures to critiques of the recently released Consultation Draft of the Western Australian State Sustainability Strategy to the concept of sustainability itself. At 5:30pm, we wrapped up the discussion and I wondered if we had achieved anything at all, beyond exposing the complexity of the task ahead. Not for the first time, I felt overwhelmed and wondered how many of my new colleagues felt the same way.

### 2.1 Introduction

Fundamental questions of what sustainability assessment is, where it has come from, what its potential contribution might be in furthering the sustainability agenda, how it could be applied to support and enhance decision-making processes, and the process models and features that might be appropriate, provide the focus for this chapter. Of course, these issues remain core to my research project as a whole and therefore are revisited many times throughout this thesis, in varying degrees of

detail, in different contexts, and from different perspectives, making it important to distinguish this chapter from those to follow.

This chapter describes aspects of my own process of learning about sustainability assessment, and particularly my process of working out where to begin. It is written chronologically commencing with the Sustainability Assessment Working Group<sup>1</sup> process of late 2002, leading into my review of the available literature undertaken during 2003 and touching in passing on the role I undertook within the Sustainability Policy Unit (SPU) of the Western Australian Department of the Premier and Cabinet (DPC) in the second half of 2004. The discussion in the chapter is grounded almost entirely within the boundaries of the impact assessment literature, and attempts to extract the maximum value from others working in this field while alluding to some of its limits. These limits in turn become the catalysts for my exploration of other sources and theoretical lenses through which to explore the case studies in later subsequent chapters of this thesis.

## **2.2 Confusion reigns: The Sustainability Assessment Working Group (2002)**

My first exposure to sustainability assessment was the Sustainability Assessment Working Group process that I coordinated on behalf of the SPU in late 2002. This process began with a specific purpose, but quickly deviated from this and expanded to draw out many of the important themes of sustainability assessment. In this section, I begin by explaining the Working Group process before presenting what was, for me, the most significant outcome of the process: a conceptual framework for sustainability assessment in Western Australia describing its intended forms, applications and relationships with decision-making processes. I conclude by summarising the Working Group discussions, including those focusing upon its role and purpose, and those focusing on the substantive issues of sustainability assessment.

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<sup>1</sup> Here I revert to the simplified and commonly used name of this group, having referred to it in Chapter 1 the Government-Industry Working Group on Sustainability Assessment, its title in the State Sustainability Strategy Consultation Draft (Government of Western Australia, 2002a).

### 2.2.1 Overview of the Working Group process

The Sustainability Assessment Working Group was convened by Professor Peter Newman, Director of the Sustainability Policy Unit (SPU) in late 2002 in response to an action raised in the *State Sustainability Strategy Consultation Draft* to, “Establish an Industry-Government Working Group on Sustainability Assessment to further develop processes and practices” (Government of Western Australia, 2002a, p41). The specific mandate of the Working Group was to draw on the experience of the industrial sector, which had already begun to develop sustainability assessment processes as a tool for internal decision-making and to evaluate the strengths and weaknesses of the available techniques. The emphasis of the Working Group deliberations on such techniques was to be “the integration of environmental, social and economic decision-making” (Pope, 2003a, p2).

The Working Group met for six fortnightly workshops between September and November 2002, each consisting of the presentation of a case study followed by discussion. Membership of the Working Group was initially by invitation to people across the community known to be engaged with sustainability and the preparation of the *State Sustainability Strategy*<sup>2</sup>, but was open to anyone who wished to participate. ‘Word of mouth’ brought a number of new members. Approximately 55 representatives of government, industry, consultancies, academia and the not-for-profit sector attended one or more of the six sessions, with a core group of 14 attending four or more sessions. Typical attendance was between 25 and 30 people. The Working Group process and the discussions are documented on the SPU website<sup>3</sup> (Pope, 2003a).

Since industry had already begun to conduct sustainability assessment, using either internal resources or consultants, the basic premise was that the group could collectively learn from these experiences for the common good. The hope was that the Working Group could ultimately develop a ‘how to’ guide that would assist

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<sup>2</sup> The invitation list was prepared by Professor Peter Newman from his personal contacts, who were many and varied by virtue of his long-standing work in sustainability and his role as Director of the SPU. Therefore, although membership was essentially by random selection, it was not exclusive and it did include a cross-section of stakeholders in matters of sustainability assessment.

<sup>3</sup> <http://www.sustainability.dpc.wa.gov.au/BGPapers/Pope%20J%20-%20Working%20Group%20Outcomes.pdf>

proponents in identifying and applying appropriate techniques within their decision-making processes.

It was initially considered important to confine the Working Group to reviewing the available tools and techniques for assessment and integration, in order to distinguish its role from other government activities in relation to sustainability assessment. The main point of confusion with regard to the mandate of the Working Group was the distinction between sustainability assessment conducted by an industry for its own internal purposes, skills that the group ostensibly was charged with discussing and ultimately sharing, and sustainability assessment as a regulatory tool. The latter was the mandate of the committees responsible for implementing the *Keating Review* (Government of Western Australia, 2002b)<sup>4</sup>, and it was unclear where the boundaries, both jurisdictional and conceptual, actually lay. It proved difficult in practice to restrict Working Group topics of discussion in this way, and much of the group's time was taken up discussing and challenging its mandate (Pope, 2003a).

To aid this discussion, it became necessary halfway through the series of workshops to 'map' out the scope of sustainability assessment in Western Australia, that is, its intended forms, applications and relationships with decision-making processes, to provide the context in which the Government's commitments to sustainability assessment and the activities and role of the Working Group could be considered in more detail. I developed such a map for the Working Group in 2002 and subsequently revised and expanded it in a background paper prepared in 2004 as part of the process of developing a *Sustainability Assessment Framework* for government agencies (Pope, 2004b)<sup>5</sup>. The later version is reproduced below.

### ***2.2.2 Applications of sustainability assessment: A conceptual framework***

Sustainability assessment is a decision-aiding tool. To demonstrate how sustainability assessment can inform the decision-making process in practice, it is

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<sup>4</sup> The *Keating Review* was discussed in Chapter 1, and responsibility for the implementation of its recommendations rests with DoIR. For political reasons it was deemed important that the Working Group activities should not venture into the *Keating* territory.

<sup>5</sup> The *Framework* and accompanying background paper (Pope, 2004b) were released for comment to the government agencies in December 2004, but due to restructuring and personnel changes, including my departure at the end of my contract, the documents were never revised or formally issued.

important to distinguish between different forms of sustainability assessment and the different groups that may be involved in the assessment and decision-making processes.

Sustainability assessments can be categorised according to who undertakes them, as:

- Internal assessment conducted by a proponent organisation; or
- External assessment by government.

Sustainability assessments can also be categorised according to their relationship with the development of the strategic proposal, as:

- Proactive (or *ex ante*) processes that inform the development of a strategic proposal at all stages of decision-making for the purpose of making the proposal as sustainable as possible; or
- Reactive (or *ex post*) processes conducted after the strategic proposal has largely been developed, for the purpose of determining whether or not the proposal is sufficiently sustainable to be approved.

Proactive application reflects the view that sustainability assessment should not be considered an 'add-on' process but as a tool to provide a sustainability focus to existing planning and decision-making processes. By integrating sustainability assessment with the planning and decision-making process strategic decisions and policy outcomes can be better aligned with sustainability principles.

The *State Sustainability Strategy* (Government of Western Australia, 2003b) and the *Sustainability Code of Practice for Government Agencies* (Government of Western Australia, 2004) call for government agencies to conduct *internal* sustainability assessment of strategic proposals, including policies, plans, programmes, projects, agreements, Cabinet submissions and legislation where appropriate and relevant. Ideally, internal sustainability assessments should be proactive processes although reactive internal assessments may also be appropriate in some circumstances.

The *Strategy* also calls for external reactive sustainability assessment of 'strategic and complex projects'<sup>6</sup>. Some very significant agency strategic decisions, such as major projects or programmes for which a government agency is the proponent, may also require some form of *external* assessment and decision-making by government, either environmental impact assessment (EIA) under the *Environmental Protection Act 1986*, or possibly external sustainability assessment if the proposal is classified as strategic and complex.

The *State Sustainability Strategy* commitments with respect to sustainability assessment are summarised in Table 2.1.

**Table 2.1: Western Australian State Sustainability Strategy commitments with respect to sustainability assessment**

<b>Application</b>	<b>Proponent</b>	<b>Type of assessment</b>	<b>Assessor</b>	<b>Timing</b>	<b>Purpose</b>
Government strategic proposals (policies, plans, programmes etc)	Government agencies	Internal	Government agencies responsible for developing the strategic proposal	Preferably proactive but could be reactive	To ensure that proposals are as sustainable as possible
Complex and strategic project proposals	Private companies or government agencies	External	Government assessors	Reactive	To ensure that proposals are sufficiently sustainable to be approved

External sustainability assessment of a proposal by government regulators is by its nature a reactive process, since it is conducted after a proposal has largely been developed. However, internal sustainability assessment could potentially be either proactive or reactive. Therefore, three different forms of sustainability assessment can be distinguished:

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<sup>6</sup> No specific guidelines have been developed to define a 'strategic and complex project' but the Gorgon gas development certainly was considered to fit this category, arguably by virtue of its political sensitivity as much as its complexity or strategic importance.

- Internal proactive;
- Internal reactive;
- External reactive.

### 2.2.3 The Working Group in context

This conceptual framework enabled a clarification of the Working Group's mandate, which in turn generated discussion about the relationships between these different forms and applications of sustainability assessment that served to 'pry open' the subject of sustainability assessment in a way that has proved useful.

#### **The role of the Working Group**

Based upon the conceptual framework, the primary role of the Sustainability Assessment Working Group in 2002 was to review techniques that could be applied by proponents undertaking *internal* sustainability assessments of their proposals, and particularly those techniques that could contribute to a *proactive* approach in which sustainability assessment guided the development of the proposal. As this mandate became clearer, however, members of the Working Group raised a number of concerns.

Firstly, there were issues of intellectual property rights, particularly amongst some of the consultants in the group whose commonly expressed view was, "Why are we giving up our time to help project proponents who are potentially competitors or paying clients?" The issue of sustainability assessment to guide decision-making by government agencies was raised. While it was recognised that tools and techniques identified through the Working Group process would potentially be equally relevant to government agencies as to private proponents, this discussion highlighted that it was unclear at that time how the commitment relating to internal sustainability assessment of government strategic proposals was to be addressed.

Furthermore, it became clear that sustainability assessment undertaken by proponents during the preparation of complex and strategic project proposals could not meaningfully be considered in isolation from the subsequent external, regulatory sustainability assessment process. Clearly, it would be important that sustainability issues considered by a proponent in such cases were compatible with those that would be ultimately considered by the regulators. This in turn led to questions about

how exactly the commitment to the sustainability assessment of complex and strategic projects was being addressed by Government through the *Keating Review* process.

Perhaps most significantly, there was a feeling that perhaps tools and techniques, particularly given the Working Group's emphasis on internal decision-making within private proponent organisations, were a minor consideration in the context of the full scope of work that would be required to implement Government's commitments to sustainability assessment. It was argued that process and institutional considerations were at least as significant. Furthermore, it was suggested that there was in fact no shortage of useful tools and techniques for the purposes of gathering, analysing and integrating sustainability data<sup>7</sup>.

As a result of these debates about its role, the Working Group sought advice<sup>8</sup> as to its appropriate relationship with the *Keating Review* process. The response was that the *Keating Review* committee was waiting for the release of the final *State Sustainability Strategy* in the hope that it would provide details of proposed sustainability assessment processes in order to progress its implementation of the recommendations relating to sustainability assessment. This appeared to give the Working Group the mandate it was seeking to consider the broader issues of sustainability assessment, including regulator processes and institutional arrangements. The final workshop session was reserved for this purpose (Pope, 2003a).

### **Working Group discussion themes**

By the halfway point of the six-workshop series, the topics of the Working Group discussions had expanded from considering tools and techniques and debating the role of the group, to embracing a wide range of themes relevant to sustainability assessment. These included the nature of sustainability, appropriate applications of sustainability assessment, institutional arrangements for sustainability assessment, and the potential role for deliberation in sustainability decision-making.

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<sup>7</sup> Examples provided by Working Group members included decision analysis, matrix analysis, goal attainment setting, logical framework approach, pressure state response, multi-criteria analysis, sensitivity analysis, and cost benefit analysis.

<sup>8</sup> From the DPC representative on the *Keating Review* committee.

The Working Group debated whether it was important to consider 'sustainability' as a future vision of a desirable societal state, and to define the characteristics of such a state. Some asserted that this was important, and called upon the State Government to provide clarity on the nature of sustainability in the form of principles, objectives and criteria for sustainability with which all sectors could align. Others believed that defining sustainability was an impossible task and an unreasonable expectation of Government and that the best approach would be to take small steps, hopefully in the right direction, within the context of different activities and decision-making processes. It was suggested that perhaps sustainability could be more easily and appropriately defined at a regional<sup>9</sup>, rather than a state level.

Many members of the group expressed concern that Government's commitments to sustainability assessment of government agency decision-making and complex and strategic projects would not be a sufficient driver for change, since smaller projects and existing unsustainable practices would not be subject to sustainability assessment. This led into further discussion about the nature of sustainability, and it was suggested that implementing sustainability in a meaningful way requires challenging the norm and examining the structures of society through the lens of sustainability, to identify those norms and institutions that are incompatible with the concept and to determine what change might be required.

The issue of institutional arrangements for sustainability was a prominent point of discussion in the Working Group sessions and other fora convened around this time<sup>10</sup>. A significant concern was the relationship between the proposed sustainability assessment processes for complex and strategic projects and the existing statutory EIA processes, in particular that sustainability assessment would threaten the integrity of Western Australia's EIA system, generally considered to be world class (Wood, 1999; Wood & Bailey, 1994). The question was asked whether sustainability assessment should be the responsibility of the EPA, which would require legislative change, or whether the EIA process should be left intact and

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<sup>9</sup> 'Regions' in the Australian context are sub-sets of states.

<sup>10</sup> These included the *State Sustainability Strategy* implementation workshop on sustainability assessment and institutional change held on 6 November 2002, a series of three workshops on the topic of sustainability assessment convened by DPC earlier in 2002, and a meeting in May 2003 at DPC attended by government agency representatives.

sustainability assessment built around it<sup>11</sup>. If this was to be the case, then who would be responsible for conducting the economic and social components of the sustainability assessment<sup>12</sup>, and for integrating the three 'pillars'? There were calls for the establishment of a Sustainability Commission to undertake this integration role in some submissions to the *State Sustainability Strategy* process.

The issues of institutional arrangements and appropriate applications of sustainability assessment to maximise change were the focus of the discussion at the sixth and final workshop. A member of the group presented a potential framework for sustainability assessment that recognised the links between government and proponent activities, particularly the need to feed back actions resulting from assessment processes to government as well as proponents; the importance of the 'trickledown' of sustainability assessment from policy, program and plan level to individual projects; and the need to assess and improve existing unsustainable practices as well as new proposals. The Working Group responded very favourably to this framework, with most members agreeing that it provided a positive way forward. The framework was subsequently developed into a paper and published (Jenkins, Annandale, & Morrison-Saunders, 2003).

An interesting discussion, quite unrelated to the remainder of the Working Group's discussions, occurred at the second workshop. This workshop was attended by a consultant who presented on the use of dialogue and conversation in the consideration of complex issues, such as sustainability assessments. Drawing from Aristotle, he explained that logical thinking, 'rational' methodologies are only appropriate in relation to natural science with stable data. In other circumstances, and sustainability assessment is one such example, alternative thinking processes are required. Although these ideas were not specifically discussed in subsequent workshops, they were of great interest to most Working Group members who could see their relevance in dealing with the complexities of sustainability assessment (Pope, 2003a).

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<sup>11</sup> The latter emerged as the preferred option during 2004.

<sup>12</sup> The *State Sustainability Strategy Consultation Draft* (Government of Western Australia, 2002a) specified that the Department of Treasury and Finance (DTF) and the Department for Planning and Infrastructure (DPI) respectively would undertake these roles, but this level of detail was removed in the preparation of the final *Strategy*.

### **Where to from here?**

The Working Group discussions covered significant ground, most of which was not directly related to its original mandate to review sustainability tools and techniques appropriate for use internally by project proponents. Although it did not achieve its stated aim of producing a guidance note of analytical tools and techniques, the Working Group process had the important outcome of the formation of a core group of professionals willing and able to support the Government in developing and implementing sustainability assessment processes in Western Australia. Many members of this group have continued to be involved in subsequent discussions on the subject, both formal and informal. The Working Group 'opened up' the issue of sustainability assessment and exposed to the Western Australian policy community, perhaps for the first time, its magnitude and complexity. In a sense, then, the Working Group helped to clarify the problem if not generate a solution. The themes identified have continued to be relevant to and to some extent guide the gradual implementation of sustainability assessment over the intervening years.

I was frustrated by the lack of structure to the discussions, which persisted despite my efforts, and at the time I blamed this lack of process for the lack of apparent results. The Working Group process did, however, help me to clarify in my own mind the nature of the commitments made by the Government to sustainability assessment (see Table 2.1) and this was a significant result in the context of my research and one that was to guide subsequent work. At the conclusion of the six-workshop series, I came away with a sense of the complexity of the issues with which I was about to engage and a conviction that of all the themes discussed by the Working Group, the most fundamental to the development of sustainability assessment processes was consideration of the concept of sustainability itself. I was convinced that if sustainability was not defined, then sustainability assessment could not be meaningful<sup>13</sup>. To me, other concerns including institutional arrangements and even the appropriate application of sustainability assessment paled into insignificance compared with this core issue. This became almost an obsession that influenced my research and my work for the next two years and shaped my review of the sustainability assessment literature discussed in Section 2.3.

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<sup>13</sup> I share some further context for this conviction in Chapter 7, where I explore the evolution of my understanding of sustainability.

### **2.3 Making sense of the literature: Literature review 2003**

Early in 2003, fresh from the Working Group experience, I commenced my literature review on sustainability assessment. As an unsuspecting newcomer to the field, my first impression was that the literature appeared to be rich with discussion about the importance of impact assessment for sustainability and methodological approaches to undertaking such assessments, but at the same time was fragmented and poorly cross-referenced. With a few notable exceptions (for example Gibson, 2001) there appeared to be a distinct lack of any higher level discourse on what the purpose of sustainability assessment actually was and how sustainability assessment related to the concept of sustainability itself. My view at the time was that these issues were fundamental to any discussions about sustainability assessment and should be their starting point.

In my journey through the maze of ideas presented in the literature, I began to search for authors who addressed these important questions. Eventually, I came across the work of Clive George of Manchester University (George, 1999, 2001), who seemed to be a voice in the wilderness who perfectly articulated my own views in a way I was, as yet, not able to do. His work discussed both the role of sustainability assessment and its relationship to the concept of sustainability, and it therefore provided me with the conceptual map for which I had been looking. Furthermore, George argued that it was not only possible but indeed necessary to define sustainability for the purposes of sustainability assessment, and discussed how this could be done

I was able to review and discuss the various ideas and approaches described in the literature using a conceptual framework derived from George's work, distinguishing between the origins of the different approaches and their respective interpretations of sustainability. George's work, and therefore my own, however, went one step further than merely the provision of a useful conceptual map, and proposed a 'best way' to undertake sustainability assessment based upon considerations of the nature of sustainability.

At this point, I believed that my first research question had been answered. I presented my work as a conference paper in September 2003 (Pope, 2003c), and subsequently revised it with two co-authors as an article that was eventually

published in an academic journal the following year (Pope et al., 2004). This article was an important milestone for me, both since it was my first academically refereed publication and because it laid the groundwork for my research process. As such, the article is reproduced in this chapter in the form in which it was published. The longer and single authored original version (Pope, 2003c) is presented in Appendix B by way of comparison and to demonstrate that the content of the co-authored article is mine<sup>14</sup>.

### ***2.3.1 Conceptualising sustainability assessment: Abstract***

Sustainability assessment is being increasingly viewed as an important tool to aid in the shift towards sustainability. However, this is a new and evolving concept and there remain very few examples of effective sustainability assessment processes implemented anywhere in the world.

Sustainability assessment is often described as a process by which the implications of an initiative on sustainability are evaluated, where the initiative can be a proposed or existing policy, plan, programme, project, piece of legislation, or a current practice or activity. However, this generic definition covers a broad range of different processes, many of which have been described in the literature as 'sustainability assessment'. This article looks beyond the generic definition to examine the fundamental question of what sustainability assessment could, and should, be.

It does this firstly by reviewing the different approaches described in the literature as being forms of sustainability assessment and evaluating them in terms of their potential contributions to sustainability. Many of these are actually examples of 'integrated assessment', derived from environmental impact assessment (EIA) and strategic environmental assessment (SEA), but which have been extended to incorporate social and economic considerations as well as environmental ones, reflecting a 'triple bottom line' (TBL) approach to sustainability. It is concluded that to deserve the title of 'sustainability assessment', an assessment process must seek to determine whether or not an initiative is, or is not, sustainable, rather than seeking to minimise unsustainability or even to achieve improvements which may still not

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<sup>14</sup> The reproduced article is numbered in sequence with Chapter 2 and is distinguished in the text by vertical lines in the outer page margin.

result in a sustainable practice. To avoid confusion, this paper uses the term 'assessment for sustainability' for processes that have this first-mentioned aim.

'Assessment for sustainability' firstly requires that the concept of sustainability be well-defined. The article compares TBL approaches and principles-based approaches to developing such sustainability criteria, concluding that the latter are more appropriate, since they avoid many of the inherent limitations of the triple-bottom-line as a conceptualisation of sustainability.

### **2.3.2 Introduction**

The pervasive growth of interest over the last 15 years in the idea of 'sustainability' or 'sustainable development'<sup>15</sup> has brought with it challenges to the way in which impact assessment has been traditionally conceived.

Designed originally in the late 1960s and early 1970s to focus on the environmental impacts of proposed projects, impact assessment has recently been reassessed by scholars to take account of the sustainable development agenda (Gibson, 2001; International Association for Impact Assessment, 2002; Partidário, 2003; Sadler, 1999; Verheem, 2002). There has been a consequent call for the development of 'sustainability assessment' procedures that would contribute to the shift towards a more sustainable society.

Available definitions of sustainability assessment include:

- "Sustainability assessment is...a tool that can help decision-makers and policy-makers decide what actions they should take and should not take in an attempt to make society more sustainable" (Devuyt, 2001, p9); or
- The aim of sustainability assessment is to ensure that "plans and activities make an optimal contribution to sustainable development" (Verheem, 2002, p7).

However, as this article seeks to demonstrate, these definitions are sufficiently generic to describe a broad range of different processes, many of which have indeed been called 'sustainability assessment' or some similar term in the literature.

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<sup>15</sup> For the purposes of this article, the terms 'sustainable development' and 'sustainability' will be considered to be synonymous.

The purpose of this article is to clarify what the term 'sustainability assessment' should mean if it is to fulfil its potential as a tool for promoting sustainability. We believe that such clarification is an essential prerequisite for meaningful discussions on the development of sustainability assessment processes around the world.

Our work is also driven by a concern that moves currently being taken internationally towards sustainability assessment are not being informed by proper critical debate. There appears to be a view that any move towards sustainability assessment will axiomatically be a 'good thing'. Like Scrase and Sheate (2002), who write about integrated assessment, we do not believe that all sustainability assessment approaches can be assumed to be 'good for the environment', or indeed will encourage sustainable development. As we will show, it is possible for some concepts of sustainability assessment to overly promote the prevailing economic agenda and thereby undermine 30 years worth of hard-won environmental policy gains.

The article begins by reviewing and categorising sustainability assessment approaches, as they have been described in the literature. These sections of the article also evaluate these conceptions, asking how likely they are to contribute to sustainable development. In the final section of the article we present an alternative conceptualisation of sustainability assessment (that we call 'assessment for sustainability') which we believe addresses the limitations presented by existing approaches.

### ***2.3.3 Defining sustainability assessment***

The concept of sustainability, or sustainable development, is clearly the basis of sustainability assessment. Sustainable development was first described by the Brundtland Commission in 1987 as "development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987).

Since the Brundtland Commission, many alternative definitions of sustainability have been proposed and diverse interpretations of the concept made. Many of these are based upon the 'three-pillar' or 'triple bottom line' (TBL) concept. Whereas the Brundtland Commission presented a two-pillar model reflecting environment and

development concerns, the three-pillar TBL model separates development issues into social and economic factors, emphasising that “material gains are not sufficient measures or preservers of human well-being” (Gibson, 2001, p7). For the purposes of this paper, the TBL can be considered an interpretation of sustainability that places equal importance on environmental, social and economic considerations in decision-making.

The theory of sustainability assessment as currently expressed in the literature has largely evolved from work undertaken by practitioners of environmental impact assessment (EIA), and more recently strategic environmental assessment (SEA), which in turn has been influenced by policy analysis techniques (Sheate et al., 2001, 2003). The fact that much sustainability assessment thinking has been substantially developed by EIA and SEA practitioners is understandable, given that sustainability assessment is often considered to be the ‘next generation’ of environmental assessment (Sadler, 1999).

The literature reflects a widely-held belief that environmental assessment processes such as EIA and SEA can, and do, make valuable contributions towards sustainability. Gibson (2001, p1) points out that “environmental assessment processes...are among the most promising venues for application of sustainability-based criteria. They are anticipatory and forward looking, integrative, often flexible, and generally intended to force attention to otherwise neglected considerations”, although he also recognises that “environmental assessments are not the only vehicles for specifying sustainability principles, objectives and criteria” (Gibson, 2001, p19).

Marsden (2002) highlights the two schools of thought around the relationship between environmental assessment processes and sustainability. In some cases it is suggested that this contribution arises directly from the integration of environmental considerations into decision-making (see for example Sheate et al., 2003, p5; Wood, 2002), while others suggest that EIA and SEA provide a sound basis that can be extended to include broader sustainability concerns (Gibson, 2001; Verheem, 2002).

The two views of the potential contribution of environmental assessment to sustainability often correspond to two different conceptions of sustainability. It is

important to note at this point that sustainability is a difficult concept to define in a way that is meaningful and sufficiently practical to allow it to be operationalised. It has been suggested that the difficulty arises because sustainability is a concept like 'love', 'hope' or 'freedom', and as such tends to remain 'fuzzy' until applied in a specific context (Government of Western Australia, 2002a). This situation is not aided by the fact that many alternative theoretical formulations and applications of sustainability have been developed, which are founded upon common concerns and principles, but which have different emphases (Gibson, 2001).

This article does not attempt to provide a detailed analysis of alternative conceptualisations of sustainability, but does seek to highlight where appropriate how these alternative views are embedded in the various documented approaches to 'sustainability assessment'.

For example, the suggestion that EIA itself contributes to sustainability reflects the view that "environmental impacts are at the core of sustainability concerns" (Sadler, 1999, p12) and that "integrating the environment into strategic decision-making is an essential pre-requisite for moving towards sustainable development" (Sheate et al., 2001, p5). This is consistent with a 'deep green' ecological sustainability model that can be represented as three concentric circles, the outer representing ecology, the middle representing society and the inner representing the economy (Gibson, 2001). This view of sustainability emphasises that the source and sink functions provided by natural resources are finite, and that sustainability therefore means finding a way to live within the limits of natural systems (Sadler, 1999).

On the other hand, the suggestion is often made that environmental assessment could contribute to sustainability by extending its scope to include social and economic considerations along with environmental ones (Devuyst, 1999; Marsden & Dovers, 2002; Sadler, 1999). This reflects the 'three-pillar' or triple bottom line (TBL) model of sustainability, which is often conceptualised as three intersecting circles representing the environment, society and the economy (Gibson, 2001). This form of extension of environmental assessment results in a form of TBL integrated assessment (Twigger-Ross & Eales, 2003).

In the next two sections of this article we examine the nature of proposals for sustainability assessment approaches which embody the concept of TBL integration, as they have evolved from project-level environmental assessment processes, and from strategic environmental assessment thinking.

#### **2.3.4 The conceptual origins of sustainability assessment**

In the literature, sustainability assessment is generally viewed as a tool in the 'family' of impact assessment processes, closely related to EIA applied to projects and SEA applied to policies, plans and programmes (PPPs) (Devuyst, 2001). When considering the concept of sustainability assessment and reviewing the literature available on the subject, we believe that it is useful to consider its conceptual origins by examining the more traditional forms of these assessment tools in more detail.

As a tool typically applied to project proposals, the limitations of EIA are well understood and documented, particularly the late stage in the decision-making process at which EIA is applied. Consequently SEA has evolved rapidly over the past decade as a tool to address the need to assess the environmental implications of decisions made at much higher levels of decision-making, including PPPs (Dalal-Clayton & Sadler, 2002; Dovers, 2002; Partidário, 1999; Thérivel & Partidário, 1996).

However, within the broad definition of SEA as environmental assessment of PPPs there has been considerable debate as to how it should be approached (Brown & Thérivel, 2000; Sheate et al., 2003; Verheem & Tonk, 2000) and as a result "there are several definitions of SEA stemming from the many ideas over its role and purpose" (Sheate et al., 2001, p6).

Therefore, at this point, and based upon the work of several authors, we believe that it is important at this point to distinguish between two forms; 'EIA-driven', and 'objectives-led' SEA (Eggenberger & Partidário, 2000; Partidário, 1999; Sheate et al., 2001, 2003).

EIA-driven SEA is essentially project-level EIA process applied to a PPP, or 'EIA writ large' (Sheate et al., 2003). As such, it is typically a reactive, *ex post* process that aims to evaluate the environmental impacts of a policy, plan or programme for which decision-making is well advanced or complete against a baseline, to evaluate

the acceptability of the impacts and to identify potential modifications to improve the environmental outcomes (Devuyst, 1999; Sheate et al., 2001, 2003; Sippe, 1999). Partidário (2003) suggests that an EIA-driven approach is reflected in some early definitions and SEA legislation, including The US *National Environmental Policy Act* (1969).

The literature also describes a range of SEA processes that can be considered to be 'objectives-led'. For the purposes of this article, the term 'objectives-led' will be used to refer to SEA in which the potential impacts of a proposal are assessed against a series of aspirational environmental objectives, rather than against a baseline (Sheate et al., 2001, 2003; S. Smith & Sheate, 2001; Twigger-Ross & Eales, 2003).

Objectives-led SEA aims to be a proactive, *ex ante* process and as such it has been seen as part of the process of developing PPPs, rather than evaluating them after the fact. Clearly, a well-defined set of environmental objectives is an important prerequisite for this form of SEA. Objectives, or goals, describe the purpose of a policy, plan or programme, and in this discussion the two terms will be considered synonymous. Reflecting the principles of 'tiering', also known as 'vertical integration' or the 'trickledown effect' (Noble, 2002a; Thérivel & Partidário, 1996), these objectives must be consistent and compatible with those applied at higher and lower levels of decision-making. Ideally, environmental assessments conducted at higher levels of the planning hierarchy would establish appropriate objectives for decision-making processes at the lower levels, although it is recognised that processes are rarely so streamlined in practice (C. Jones, 2003; Lee, 2002; Noble, 2002a; Nootboom, 2000).

Extension of environmental assessment processes to include the three pillars of the triple-bottom-line could conceivably occur within all three of the environmental assessment processes described thus far: EIA, EIA-driven SEA and objectives-led SEA. For the purposes of the rest of this article, we will categorise and discuss contemporary approaches to sustainability assessment as being either 'EIA-driven integrated assessment, or 'objectives-led integrated assessment'. Although the latter is derived from objectives-led SEA, an objectives-led integrated assessment approach could equally be applied to project-level proposals.

Both of these approaches can be considered to be examples of 'sustainability appraisal', as defined by Sheate et al (2001); 'integrated sustainability appraisal' as discussed by Eggenberger and Partidário (2000) or 'integrated impact assessment' (Sheate et al., 2003). Similarly, Lee (2002) uses the term 'sustainability assessment' to describe a special form of integrated assessment, which takes into consideration economic, environmental and social impacts; a definition which applies equally to EIA-driven and objectives-led integrated assessment.

As with sustainability, the term 'integration' can be understood in different ways. Scrase and Sheate (2002) define 14 meanings of the term 'integration', with at least three<sup>16</sup> being directly related to the concerns of impact assessment. The integration of environmental, social and economic considerations is an example of what Scrase and Sheate (2002) call 'integration among assessment tools', and what Lee (2002) calls 'horizontal integration'.

The term 'integration' implies that integrated assessment should be more than the sum of separate environmental, social and economic assessments. Eggenberger and Partidário (2000, p204) remind us that "the principle that the sum of the parts does not equal the whole is widely acknowledged" and suggest that "integrating in fact means that a new entity is created where new relationships are established, bearing on individual entities that have specific characteristics and specific dynamics but in combination act in a different way".

The aim of integrated assessment is articulated by Post et al (1998, p50):

It aspires to describe – from the perspective of an identified problem or proposed project – the relations between the human communities concerned, their economic organization and their actual resource base. It qualifies, quantifies, and, as far as possible, values the effects of proposed and alternative interventions on the three (economic, social and natural) subsystems and their intersystem relations. It attempts to identify beneficial interventions and to fully expose unavoidable trade-offs.

Therefore, both EIA-driven and objectives-led integrated assessment should not only consider the environmental, social and economic implications of proposals, but

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<sup>16</sup> These are integration of environmental concerns into governance, vertically integrated planning and management, and integration among assessment tools (Lee, 2002).

should also examine the interrelations between these three pillars of the triple-bottom-line. In the case of EIA-driven integrated assessment, this means that potential interlinkages between TBL impacts must be identified, while objectives-led integrated assessment also requires the identification of interlinkages between TBL objectives.

In what follows, we provide a more detailed definition of these two contemporary approaches to sustainability assessment. We discuss their origins, aims, contribution to sustainability, and limitations.

### ***2.3.5 Existing approaches to sustainability assessment***

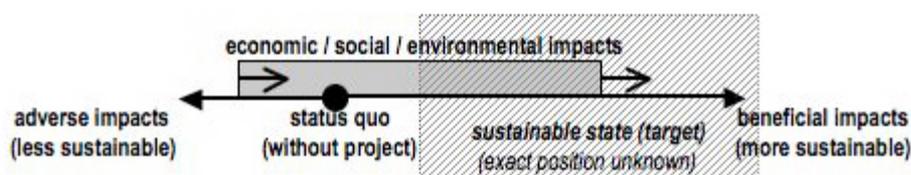
#### **EIA-driven integrated assessment**

EIA-driven integrated assessment has its origins in the 30 years of international experience with traditional, project-level EIA.

Like traditional EIA, it is defined by its reactivity, and tends to be 'applied' after a proposal has already been conceptualised. It aims to identify social and economic impacts of a proposal (in addition to traditional environmental impacts), and to compare these impacts with baseline conditions. It is then possible to determine whether or not the impacts are 'acceptable'.

George (2001, p96) describes the application of EIA-driven integrated assessment to international trade agreements, noting that "the prime aim of such an appraisal, often referred to as a sustainability impact assessment (SIA) is to identify mitigation measures through which adverse impacts might be minimised or avoided".

In terms of contribution to sustainability, EIA-driven integrated assessment reflects the 'three-pillar' or TBL model, which was conceptualised earlier as three intersecting circles representing the environment, society and the economy (Gibson, 2001). This approach to sustainability assessment aims to ensure that impacts are not unacceptably negative overall, meaning that the guiding acceptability criterion for a proposal is that it does not lead to a less sustainable outcome. This approach can be thought of as 'direction to target', where the exact position of a sustainable state for that particular proposal is unknown (Figure 2.1).



**Fig 2.1: EIA-driven integrated assessment approach to sustainability assessment (minimise adverse impacts)**

It is possible to foresee benefits from this way of thinking about sustainability assessment. In theory it can allow for a more transparent examination of the social and economic implications of proposals. Clearly in traditional EIA these aspects tend not to be examined in parallel. On the other hand, the literature and practical experience point to significant procedural and substantive limitations to this conceptualisation of sustainability assessment.

In relation to administrative procedure, jurisdictions which do assess the social and economic, as well as environmental impacts of proposals tend to conduct three separate assessment processes, and therefore inconsistencies in the methods and paradigms of different sectoral assessments may inhibit implementation of more integrated approaches (Lee, 2002).

To be truly integrated, the interrelations between the three 'pillars' of impacts must be considered (George, 2001), since it has been recognised that "the combined impacts, positive and negative, of the sets of measures as a whole, are likely to be more than the simple sum of the impacts of their constituent measures because of synergistic effects" (Lee & Kirkpatrick, 2001, p404).

If the respective impact assessment processes are not integrated effectively, then this form of 'integrated' assessment is reduced to three separate impact assessments, each generating data relating to the potential environmental, social and economic impacts of the proposal or initiative. The three sets of data must then be 'integrated' in some way after they have been collected in order to reach a decision as to whether or not the proposal or initiative is acceptable within a sustainability context.

This raises a substantive limitation, which is related to 'trade-offs' between the triple-bottom-line categories. Gibson (2001) suggests some trade-offs may be inevitable in EIA-driven integrated assessment, and the risk of environmental standards being traded off against socio-economic factors in such a process has been discussed extensively in the literature (Gibson, 2001; Jenkins et al., 2003; Lee, 2002; Sheate et al., 2003).

Fuller (2002, p3) summarises these concerns by suggesting that "where trade-offs between the economy and the environment are seen as legitimate in the pursuit of sustainability, sustainability assessment could be regarded as a means for economic requirements to override those of the environment or the social context". This concept of sustainability assessment can be seen to overly promote the prevailing economic agenda and thereby undermine 30 years worth of hard-won environmental policy gains.

This is a valid concern since there appears to be a perception, particularly from some industry quarters, that EIA-driven integrated assessment processes actually increases the chances of project proposals being approved, in spite of clear environmental detriment. In the jurisdiction that we work in – Western Australia – we have seen recent evidence of this. In relation to perceived delays in a Government approval process associated with extending an iron ore mine, the Managing Director of a mining company stated (Weir, 2003a):

It is a very stressful time. This is absolutely crucial to us, but as I've said all along I believe at the end of the day the Government will look at this with its triple bottom line approach of social and economic considerations as well as environmental considerations and make a sensible decision.

In this case the Government did approve this mine extension, despite the EIA process having concluded that this action was likely to result in the destruction of rare flora (Weir, 2003b).

Another recent case saw the Western Australian Government's two main environmental advice bodies<sup>17</sup> recommend that an offshore gas processing plant be

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<sup>17</sup> These are the Western Australian Environmental Protection Authority and the Conservation Commission of Western Australia.

refused approval on a sensitive island nature reserve. The Government undertook an EIA-driven integrated assessment for this project proposal, and approved the development when environmental impacts were clearly negative (Environmental Protection Authority, 2003)<sup>18</sup>.

Earlier we said that this approach to sustainability assessment aims to ensure that impacts are not unacceptably negative overall. This is akin to a 'weak' conception of sustainability, which states that a proposal can be considered to be overall positive as long as net assets are not degraded (Neumayer, 2003). Arguably this means that a proposal may have positive outcomes in one of the triple-bottom-line categories, but negative outcomes in the other two. As long as the overall ('net') outcome is still positive, then negative impacts in two of the categories would be acceptable.

Although Sadler (1999, p20) points out that the likelihood of win-lose scenarios can be reduced by the incorporation of minimum acceptability thresholds into the TBL model and requiring that any initiative at least meets these minimum thresholds, he also agrees that "beyond these boundaries, one set of criteria are either unduly promoted or unduly discounted against the others".

### **Objectives-led integrated assessment**

Objectives-led integrated assessment reflects a desire to achieve a particular vision or outcome defined by integrated environmental, social and economic objectives. It assesses the extent to which the implementation of a proposal contributes to this vision, in contrast with EIA-driven integrated assessment, which aims to ensure that triple bottom line impacts of a proposal are acceptable compared with baseline conditions.

Objectives-led integrated assessment has its origins in objectives-led SEA. The tools and techniques used to undertake this kind of sustainability assessment have been borrowed from policy analysis and appraisal (Sheate et al., 2001, 2003).

An objectives-led approach reflects a concept of sustainability as a goal, or series of goals, to which society is aspiring. As Gibson (2001, p1) notes:

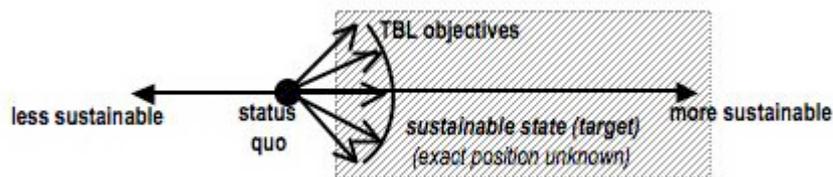
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<sup>18</sup> This is a reference to the Gorgon assessment, which is discussed in detail in Chapter 3.

Adopting contributions to sustainability as a key objective and test in environmental assessment clearly implies that minimization of negative effects is not enough.

Assessment requirements must encourage positive steps – towards greater community and ecological sustainability, towards a future that is more viable, pleasant and secure.

In our view, this means that it is a proactive approach, and has a 'direction to target' characteristic, although as for EIA-driven integrated assessment, the position of the sustainable state is unknown (Figure 2.2).



**Fig 2.2 Objectives-led integrated assessment approach to sustainability assessment (maximise objectives)**

Just as objectives-led SEA requires defined environmental objectives, objectives-led integrated assessment requires clearly defined environmental, social and economic objectives against which the assessment can be conducted.

We suggest that an objectives-led approach is more likely to result in 'win-win-win' outcomes between the three pillars of sustainability, and is therefore less likely to generate conflicts and trade-offs. This would require agreement on a broad set of objectives reflecting the needs of all stakeholders at the commencement of the process. According to Gibson (2001, p20):

For practical (environmental) assessment purposes, especially at the project level, it is usually desirable and often crucial to specify the relevant sustainability principles, objectives and criteria as fully and credibly as possible before proponents begin thinking about their purposes and options.

Since the objectives define the required outcomes of the proposal under development, specifying objectives at the commencement of the process places the onus of identifying and maximising 'win-win-wins' on those responsible for developing the proposal rather than those who may be conducting a reactive impact assessment once the proposal has been largely developed. The former are much better placed to do this, since they are involved at an earlier stage of the

decision-making process. There may be additional incentives if sustainability criteria have been applied that restrict a 'business as usual' approach.

An example of objectives-led integrated assessment is the UK Department of the Environment, Transport and the Regions (DETR) process requiring that regional plans be subject to 'sustainability appraisal' defined as:

a systematic and iterative process undertaken during the preparation of a plan or strategy, which identifies and reports on the extent to which the implementation of the plan or strategy would achieve the environmental, economic and social objectives by which sustainable development can be defined, in order that the performance of the strategy and policies is improved (George, 2001, p95-96; S. Smith & Sheate, 2001, p265).

Given the prevalent view that sustainability is about positive change rather than simply minimising the negative, objectives-led integrated assessment clearly has more potential to contribute to sustainability than EIA-driven integrated assessment. As Gibson (2001, p19) points out: "In most jurisdictions, the essential immediate effect of a shift to sustainability-based criteria is an expansion of central concern from avoidance of significant adverse effects to expectation of positive contribution to the achievement of sustainability objectives, however vaguely specified".

However, an objectives-led approach to sustainability assessment has its own challenges and limitations. Issues of tiering and its practical limitations apply to objectives-led integrated assessment as they do to objectives-led SEA. Furthermore, the objectives must be consistent and compatible with each other, which in itself represents a challenging task since it is not uncommon for strategic objectives to be conflicting (George, 2001; Thérivel, 1996).

Finally, the most important remaining question is whether the chosen triple-bottom-line objectives really reflect 'sustainability'. In his analysis of the UK DETR process, George (2001) recognises the important role of environmental, social and economic objectives within the decision-making process, but suggests that such objectives, which typically concern issues such as jobs, economic growth, housing, transport, services and so forth, relate to development that is not necessarily sustainable and therefore should guide the planning process rather than the sustainability assessment process.

### **Towards a new conception of sustainability assessment**

Our analysis so far has pointed to the possible benefits, and the main limitations of the current approaches to sustainability assessment. We have indicated that we believe EIA-driven integrated assessment approaches allow decision-makers to ask: Are the triple-bottom-line impacts acceptable? The focus in these approaches is on minimising negative triple bottom line impacts. We have also argued that objectives-led integrated assessment goes further to ask the question: Does this proposal make a positive contribution to triple bottom line goals?

Both of these conceptions of sustainability assessment can be described as 'direction-to-target' approaches. While these kinds of assessment have their place, it could be argued that they do not go far enough to make a significant contribution to sustainability. Fuller (2002) and Sadler (1999) discuss the need to measure 'distance from target' as well as 'direction to target'. George (2001)<sup>19</sup> goes even further by stating that proposals should not be assessed for their contribution to sustainability, but to determine whether or not they are, in themselves, sustainable.

In general, both approaches avoid attempting to define a condition of sustainability that a proposal should be required to meet. Even the earlier-mentioned UK DETR process - which does require assessment against "objectives by which sustainable development can be defined" - does not actually require that these objectives be achieved, requiring only that "the extent to which" the objectives of sustainable development would be met is identified (George, 2001, p96).

In the next section of this article, we present an outline of a new possible conception of sustainability assessment that we believe goes some way towards overcoming the concerns we have discussed above.

#### ***2.3.6 'Assessment for sustainability'***

In our view, and based upon the work of George (1999; 2001); Sadler (1999) and Gibson (2001), there is room for a new conception, where sustainability assessment can be defined as a process to determine whether or not a particular proposal, initiative or activity is, or is not, sustainable, and therefore effectively becomes a

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<sup>19</sup> Much of our argument has been influenced by the work of Clive George and the distinctions he has drawn between different models of 'sustainability assessment' (George, 2001).

yes/no question. Instead of asking: Are we heading in the right direction?, the alternative process allows us to ask: Are we there?

Based upon this discussion, it is suggested that the term 'sustainability assessment' should be reserved exclusively for those processes that have the aim of determining whether or not an initiative is sustainable. However, to avoid confusion between terms, this article will use the term 'assessment for sustainability' to distinguish it from other related forms of assessment that do not share this specific aim.

Table 2.2 compares the three conceptualisations of sustainability assessment that we have discussed in this article.

The notion of 'assessing for sustainability' implies that sustainability is a societal state, or perhaps more realistically a series of societal states, with particular characteristics or conditions, defined by sustainability criteria.

'Assessment for sustainability' could potentially be applied in a range of different circumstances, although there are no real-world applications that can currently be pointed to. It could be conducted reactively at the conclusion of decision-making, perhaps by regulators, to determine whether a proposal is sustainable, or proactively during the decision-making process to assess the sustainability of the various options proposed to meet a series of objectives. It could also be applied to existing practices and activities. In some cases it may be a stand-alone process, and in others it may be one component of a more complex decision-making process.

Perhaps one of its most important applications may be to the assessment of existing practices. Current impact assessment procedures only apply to new development proposals and often only to the (relatively) few proposals likely to have a significant effect on the environment. For example, in Western Australia, EIA is only applied for some 30-40 proposals each year. Ongoing land-use activities, such as natural resource management (fishing, agriculture, forestry and so forth.) or urban life (for example, use of private motor cars) are not subject to assessment processes.

Assessment for sustainability could be applied equally to existing and proposed land-uses or other human activities.

**Table 2.2: Comparison of three conceptualisations of sustainability assessment**

	<b>EIA-Driven Integrated Assessment</b>	<b>Objectives-Led Integrated Assessment</b>	<b>Assessment For Sustainability</b>
Origins	<i>Ex post</i> , project-based EIA	<i>Ex ante</i> , objectives-led strategic environmental assessment	Recently defined in theory, but not yet evident in practice
Aims	To identify the environmental, social and economic impacts of a proposal and compare these impacts with baseline conditions to determine whether or not they are acceptable	To determine the extent to which a proposal contributes to defined environmental, social, and economic goals, and to determine the 'best' available option in terms of meeting these goals	To determine whether or not an initiative is actually sustainable
Contribution to sustainability	Reflects a 'three-pillar' or 'triple-bottom-line' approach. Aims to ensure that impacts are not unacceptably negative in any of the three pillar-categories.	Reflects vision of sustainability as a series of societal goals and measures contribution to goals. Asks whether things can get better, rather than just whether they can be prevented from getting worse	Allows society to define what is meant by 'sustainability', and then to compare initiatives against this definition.
Treatment of impacts	Minimise negative triple-bottom-line outcomes	Maximise positive triple-bottom-line outcomes	Starts not from a 'trade-off' perspective between impacts, but from the idea that 'sustainability' may be more than the sum of parts
Relation to 'target'	Direction to target	Direction to target	Distance from target
Limitations	Most likely to result in 'weak sustainability' and trade-offs between categories	Do triple-bottom-line objectives really reflect sustainability?	Deciding upon a clear concept of what is meant by 'sustainability', and defining criteria

It has been suggested that to be effective and an instrument for change, assessment processes, including 'assessment for sustainability', must be applied:

- within a structured framework (Jenkins et al., 2003);
- to proposed new initiatives at all levels of decision-making (Noble, 2002a);
- to existing practices across all sectors (Jenkins et al., 2003);
- to the prevailing policy and legislative paradigm (Dovers, 2002);
- to any decision with the potential to impact on patterns of production and consumption; governance and settlement (Dovers, 2002); and
- by all sectors of society (Devuyst, 2001).

One of the main implications for this conception of sustainability assessment is that it necessarily requires a clear vision of what sustainability means. Further, this vision needs to be translated into context-specific sustainability criteria. Sustainability criteria should effectively separate sustainable outcomes from unsustainable ones for the purposes of the assessment process, which would then ask whether or not these criteria have been met.

### **Determining 'assessment for sustainability' criteria**

In our view there are two overarching approaches to the development of 'assessment for sustainability' criteria. One generates criteria by assuming that simultaneous achievement of a series of environmental, social, and economic goals or objectives defines a state of sustainability. This is effectively a 'bottom-up' approach in which objectives are defined in relation to baseline conditions. One problem with this kind of approach is knowing how to judge when the extension has reached far enough to achieve the goal of sustainability. Quoting George (2001, p96) again:

The extent to which an appraisal will achieve its aim depends critically upon the extent to which the chosen objectives do indeed define sustainable development. It is insufficient for them to be a combined set of environmental, economic and social objectives. They must be objectives 'by which sustainable development can be defined'.

The alternative approach to the development of assessment for sustainability criteria, and the one that we favour, assumes a 'top-down' generation of criteria. It begins

with the concept of sustainability as a state to which society aspires, and then moves on to define this state in terms of sustainability criteria.

The UK DETR process is an example of a process which seeks to define a condition of sustainability in terms of TBL objectives. The practical difficulties of developing a consistent and compatible set of environmental, social and economic objectives that truly define sustainability have already been discussed. In addition to the inherent difficulties of a 'bottom up' approach, we also suggest that the problems arise from the TBL conceptualisation of sustainability.

Firstly, as has already been discussed, the separation of the concept of sustainability into the three pillars of the triple bottom line tends to emphasise potentially competing interests rather than the linkages and interdependencies between them, making the task of integration extremely difficult and promoting trade-offs, often at the expense of the environment (Gibson, 2001; Jenkins et al., 2003; Lee, 2002; Sheate et al., 2003).

Furthermore, the TBL can be considered a reductionist approach to sustainability, and that dividing the holistic concept of sustainability into three pillars as a starting point invariably runs the risk of the sum of the parts being less than the whole. This is particularly true if the interrelations between the three pillars are not adequately understood and described, and therefore sustainability is reduced to a consideration of separate environmental, social and economic factors, the sum of which is less than the whole, that is, sustainability. Gibson (2001, p17) expresses this concern by pointing out that there are sustainability-related discourses that are: "not always incorporated in pillar-based sustainability literature and practice".

In addition, Gibson (2001, p7) points out that the three pillars of the triple bottom line, although recognised to be interconnected and interdependent, still: "reflect more or less conventional modern disciplinary categories" whereas sustainability should be "necessarily an attack on conventional thinking and practice" (Gibson, 2001, p6).

As an alternative to the triple bottom line, Gibson (2001) promotes the use of a principles-based approach to sustainability assessment, in which sustainability criteria are derived from sustainability principles rather than triple bottom line goals. He argues that a principles-based approach emphasises interconnections and

interdependencies between the pillar areas rather than promoting conflicts and trade-offs. Therefore, a principles-based approach could avoid some of the inherent limitations of the triple bottom line approach to sustainability.

In presenting his model, Gibson (2001, p8) states:

We have therefore chosen here to propose a slightly different approach – one that avoids constructing the edifice of sustainability criteria on the conventional pillars... The alternative, which is perhaps only superficially different from the pillar approach, is to begin not with categories based on the usual areas of concern (ecological, social etc.) but with a list of the key changes needed in human arrangements and activities if we are to move towards long term viability and well-being.

Similarly, in presenting the approach he calls 'environmental sustainability assurance' Sadler (1999, p17) discusses the establishment of "benchmark principles' which are robust enough to evaluate the 'sustainability contours' of development proposals and choices".

George (2001) also reaches the conclusion that a principles-based approach to developing sustainability criteria is the more appropriate, after recognising the limitations of the objectives-led approach in the UK. He recommends an approach to sustainability assessment based upon fundamental principles of sustainability as defined by the Rio Declaration and Agenda 21, as does Sadler (1999).

The use of the Rio Declaration principles is also supported by the International Association for Impact Assessment (IAIA) in its performance criteria for SEA where it is suggested that the ultimate objective of sustainability assessment should be to determine how proposals can best contribute "to the overall sustainable development strategy as laid down in Rio 1992 and defined in the specific policies or values of a country" (International Association for Impact Assessment, 2002).

Other principles-based approaches to the development of assessment for sustainability criteria include the Natural Step System Conditions (Sadler, 1999; The Natural Step, 2001).

The principles used to define sustainability will clearly depend upon the prevailing conceptualisation of sustainability in the context in which the assessment is

conducted. As we have discussed throughout this article, sustainability is not a simple concept to define and there are a large number of different interpretations.

In order to provide an example of principle-based criteria, Table 2.3 presents the sustainability principles that have been developed for Western Australia and the criteria for sustainability assessment that have been derived from the principles (Government of Western Australia, 2003b, p40). Clearly the criteria are generic and insufficiently defined to form the basis of an 'assessment for sustainability' process. The next stage in the process of defining criteria for the purposes of assessment would be to operationalise the criteria in Table 2.3 specifically for the assessment at hand.

### ***2.3.7 Summary and conclusions***

This article has reviewed the evolving concept of 'sustainability assessment' by firstly considering its origins as a member of the family of environmental assessment processes that includes environmental impact assessment (EIA) and strategic environmental assessment (SEA), where a distinction was made between EIA-driven, and objectives-led processes.

The potential for these processes to contribute to sustainability was then discussed. Typically, this has involved the expansion of the scope of environmental assessment processes to include social and economic considerations as well as environmental issues, reflecting the 'triple-bottom-line' or 'three-pillar' approach to sustainability and resulting in forms of integrated assessment. Examples of EIA-driven and objectives-led integrated assessment were provided, and the risks and challenges of these approaches discussed. In particular, the practical difficulty of integrating environmental, social and economic considerations in a way that fully recognises interactions and interlinkages, and that maximises 'win-win-wins' and minimises trade-offs was acknowledged.

These forms of integrated assessment were then reviewed for their contributions to sustainability. It was argued that EIA-driven integrated assessment tends to focus on minimising negative impacts and reducing unsustainable practices, but fails to address the concept of sustainability as a societal goal. Objectives-led integrated assessment was found to be far more compatible with the concept of sustainability,

since it assesses the contribution of a proposal to aspirational objectives, rather than against baseline conditions.

**Table 2.3: Western Australian sustainability principles and criteria**

Principles	Criteria
<i>Long-term economic health.</i> Sustainability recognises the needs of current and future generations for long-term economic health, innovation, diversity and productivity of the earth.	Provides both short and long-term economic gain.
<i>Equity and human rights.</i> Sustainability recognises that an environment needs to be created where all people can express their full potential and lead productive lives and that significant gaps in sufficiency, safety and opportunity endanger the earth.	Increases access, equity and human rights in the provision of material security and effective choices.
<i>Biodiversity and ecological integrity.</i> Sustainability recognises that all life has intrinsic value and is interconnected and that biodiversity and ecological integrity are part of the irreplaceable life support systems upon which the earth depends.	Improves biodiversity and ecological integrity and builds life support systems
<i>Settlement efficiency and quality of life.</i> Sustainability recognises that settlements need to reduce their ecological footprint (i.e. less material and energy demands and reduction in waste) while they simultaneously improve their quality of life (health, housing, employment, community...)	Reduces ecological footprint while improving quality of life
<i>Community, regions, 'sense of place' and heritage.</i> Sustainability recognises the significance and diversity of community and regions for the management of the earth, and the critical importance of 'sense of place' and heritage (buildings, townscapes, landscapes and culture) in any plans for the future.	Builds up community and regions, 'sense of place' and heritage protection
<i>Net benefit from development.</i> Sustainability means that all development, and particularly development involving extraction of non-renewable resources, should strive to provide net environmental, social and economic benefit for future generations.	Provides conservation benefits and net social-economic benefit
<i>Common good from planning.</i> Sustainability recognises that planning for the common good requires equitable distribution of public resources (like air, water and open space) so that ecosystem functions are maintained and a shared resource is available to all.	Increases 'common good' resources
<i>Precaution.</i> Sustainability requires caution, avoiding poorly understood risks of serious or irreversible damage to environmental, economic or social capital, designing for surprise and managing for adaptation.	Ensures there are acceptable levels of risk with adaptation processes for the worst case scenarios
<i>Hope, vision, symbolic and iterative change.</i> Sustainability recognises that applying these principles as part of a broad strategic vision for the earth can generate hope in the future, and thus it will involve symbolic change that is part of many successive steps over generations.	Brings change and a sense of hope for the future as it is linked to a broader strategic vision

However, it was pointed out that most applications of integrated assessment processes in practice, even objective-led processes that attempt to define sustainability in terms of TBL objectives, tend to limit themselves to measuring whether or not a proposal represents a positive or negative contribution to sustainability. In other words, they consider 'direction to target', where the target is a sustainable society. It has been pointed out that while this may be useful, it may not be sufficient to drive the kind of change required in the pursuit of this goal and that processes are needed that actually assess whether an initiative is, or is not, sustainable. For the purposes of this article, such processes have been termed "assessment for sustainability" approaches.

'Assessment for sustainability' requires a clear definition of sustainability and corresponding criteria against which the assessment can be conducted. While sustainability criteria could theoretically be developed through a triple-bottom-line interpretation of sustainability, this approach has practical challenges and conceptual limitations. Several writers have therefore recommended principles-based criteria for sustainability that avoid the problems of the TBL approach.

Furthermore, 'assessment for sustainability' does not replace all applications of EIA-driven impact assessment or objectives-led processes of decision-making. Rather, it is an additional tool that can be effectively applied within a decision-making framework to ensure that decisions are in fact sustainable. It can also be used retrospectively as a stand-alone process to evaluate existing practices for sustainability. It can and should be applied broadly, to both proposed and existing practices, and to all levels of decision-making.

The major conclusions drawn are therefore:

- Sustainability assessment should assess whether or not an initiative is sustainable, and not simply assess 'direction to target'. For the purposes of this paper, such processes have been termed 'assessment for sustainability';
- 'Assessment for sustainability' requires a clear concept of sustainability as a societal goal, defined by criteria against which the assessment is conducted and which effectively separate sustainable outcomes from unsustainable ones; and

- While a triple-bottom-line view of sustainability could theoretically be used as a starting point to develop these criteria, in practice this is unlikely to be successful, and principles-based approaches are recommended.

## 2.4 Conclusion

This chapter has described my own first attempts at making sense of sustainability assessment. It has drawn upon the impact assessment literature and my experiences with Government policy processes from 2002 to 2004. The first stage in the alleviation of my own confusion was the development of my conceptual framework for the application of sustainability assessment, which categorised as being internal or external, *ex post* or *ex ante*. The second was the heuristic framework proposed in the literature review, consisting of three models of sustainability assessment, distinguished by their embedded interpretations of sustainability and the processes with which each appeared to align<sup>20</sup>.

As I continued my research, becoming involved with several sustainability assessment case studies and also contributing further to Government policy development in 2004, I began to challenge my own conclusions as expressed in the literature review article. Writing this thesis has thus provided me with an opportunity to acknowledge some of the limitations and flaws in the article, as well as its strengths. These reflections emerge throughout my thesis and this chapter therefore provides the background against which the further learning and understanding can be described.

The range of the Working Group discussions exposed the complexities of what the group was collectively trying to achieve in implementing the Government's commitments to sustainability assessment. While my literature review focused on the nature of sustainability<sup>21</sup>, other Working Group themes remain to be discussed in detail. Of particular importance are process methodologies and institutional and governance structures for sustainability assessment, including the relationship between internal proponent processes and external, regulatory assessment. Both of these themes enter the discussion in Chapter 4 in the context of the Gorgon case

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<sup>20</sup> I revisit the relationships between interpretation of sustainability and process methodologies in Chapter 4.

<sup>21</sup> I will reconsider the nature of sustainability in detail in Chapter 7.

study and the discussion continues in Chapter 6 in relation to the SWY assessment. The potential role of deliberative processes and dialogue in sustainability assessment, first raised in the Working Group also emerges as an important theme in later discussions (see Chapters 6 and 7).

While Chapter 2 has been based in the impact assessment literature and in various mainly abstract discussions and activities, Chapter 3 moves into the first case study, the Gorgon assessment. This is appropriate in terms of the thesis structure, because although the Western Australian policy community's collective understanding of sustainability assessment was even more limited at the time than the conclusions of Chapter 2 would suggest, Gorgon can be usefully discussed in terms of these conclusions for the purposes of highlighting the tensions that arise when the concepts of traditional impact assessment are applied to sustainability assessment. Chapter 3 then provides a launch pad into new ways of looking at and thinking about sustainability assessment.



## Chapter 3: The Gorgon story

### 3.1 Introduction<sup>1</sup>

ChevronTexaco, in conjunction with its joint venture (JV) partners Shell and ExxonMobil, approached the Western Australian Government in 2001 seeking access to Barrow Island off the coast of Western Australia (see Figure 1.1) for the purpose of constructing a plant to process gas from the Gorgon gasfields. The proponent maintained that the island represented the only commercially viable location for the development.

This request represented a significant political challenge to Government, as described earlier, because the 23 500 hectare Barrow Island has been classified as an A Class Nature Reserve since 1910 by virtue of its significant conservation value, and industrial development on the island contravenes the pre-election platform of the incumbent Government. The island is home to a unique ecosystem, with endemic flora and fauna and species that are now extinct on the mainland. It is also free from many common vermin and weeds. Barrow Island, however, has also supported an operating oilfield since 1967, which is now managed by ChevronTexaco, the major partner in the Gorgon JV. Therefore, the proponent claimed extensive knowledge of Barrow Island and a good record of quarantine and environmental management.

In recognition of the conservation significance of Barrow Island, and the potential benefits that could flow to the State of Western Australia from gas development there, the Western Australian Cabinet agreed to assess the proposed development plan at a strategic level to determine whether an in-principle approval for access to Barrow Island could be granted to the Gorgon JV. The assessment process involved evaluation of the strategic, economic, social and environmental ramifications of the plan, as far as these could be determined at a strategic level based upon the available information, and represented the first attempt by the Government of Western Australia to conduct such an integrated assessment. Since there remains no legislative basis for such a process (see Chapter 1), the Gorgon assessment process was ‘custom-made’ in response to the Cabinet decision. On September 8<sup>th</sup> 2003, following the completion of the integrated strategic assessment of the proposed

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<sup>1</sup> Sections 3.1 and 3.2 are derived from Pope (2003b).

development plan<sup>2</sup>, the Government of Western Australia granted the proponent in-principle access to Barrow Island subject to the outcome of the statutory environmental impact assessment (EIA) process.

The purpose of this chapter is to describe in detail, from the perspectives of those involved, how the Gorgon assessment process unfolded leading up to the decision of 8<sup>th</sup> September 2003.

## **3.2 Background and context**

In this section I establish the background and context against which the detailed discussion of the Gorgon assessment process, which follows in Section 3.3, may be read. I commence with a brief overview of the development proposal itself; its broad strategic, environmental, social and economic implications; and its specific points of contention. I then provide some further detail of the Western Australian policy, legislative and institutional context within which the Gorgon assessment was conducted, and an overview of the assessment process.

### ***3.2.1 The proposed Gorgon gas development***

The Greater Gorgon Gasfields, located approximately 130 kilometres off the north-west coast of Western Australia, are among the largest ever discovered in Australia. The fields are estimated to contain over 40 trillion cubic feet of gas (ChevronTexaco, 2003a). At present, Australia uses and exports a total of about 1 trillion cubic feet of gas per year. ChevronTexaco is the operator of the Gorgon gasfields, and plans to develop them with its joint venture partners. Following 20 years of investigation into alternative development and marketing options, the Gorgon JV identified Barrow Island as the only commercially viable location for the initial stage of the development.

At the time of the Gorgon assessment, several options were available to the proponent for the development of the Gorgon gasfields. These included a liquefied natural gas (LNG) plant producing LNG for export, a range of Gas-to-Liquids (GTL) processes, a gas plant supplying natural gas to the Western Australian domestic gas

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<sup>2</sup> As discussed in Chapter 1, the integrated strategic assessment should not be confused with the statutory EIA process under Part IV of the *Environmental Protection Act* 1986, which is nearing completion at the time of writing in October 2006. The relationship between the two levels of assessment is discussed in Section 3.3.1.

market by connection into the existing transmission and distribution network, or combinations of these. Since the Gorgon assessment was conducted at a strategic level to determine whether in-principle approval could be granted for access to Barrow Island for an initial development, and was not a detailed impact assessment of a specific project proposal (the subject of the subsequent statutory EIA process), the proponent was not required to commit to a development concept at that stage. For the purposes of the strategic assessment, the Gorgon JV presented an illustrative reference case for the initial development of the resource.

This reference case was based upon a gas processing facility initially producing LNG for the international market, but with the potential to supply gas into the Western Australian domestic market, or to a GTL plant, in the future. The required infrastructure included offshore wells for gas production, corrosion resistant pipelines bringing the gas onshore to a processing facility to remove water and carbon dioxide, a single-train LNG process, and pipelines and other infrastructure for the injection of the stripped carbon dioxide into the deep (2000 metre) saline Dupuy aquifer in a process of geosequestration. The proponent requested access to 300 hectares of land on Barrow Island to meet both its immediate and future development needs. There was no commitment to future development options. The proponent's alternative sites analysis and the discussion of potential impacts were based upon this development reference case (ChevronTexaco, 2003a).

### ***3.2.2 Substantive issues and points of contention***

This section provides a brief description of the most controversial substantive issues associated with the Gorgon development proposal, which were common themes in the public submissions and were the main subjects of debates within Government during the data collection phase. It is not intended to explore the complexities of these issues, but simply to provide some context and substance for the ensuing discussion.

#### **Alternative Locations**

The proponent claimed that only Barrow Island represented a commercially viable option for its reference case development option, by virtue of its proximity to the gasfields. Several alternative locations, both on other islands and on the mainland, were potentially available to the proponent. None of these has conservation values as

significant as Barrow Island, but some have other constraints. For example the Montebello Islands were claimed to be commercially and socially unacceptable by the Gorgon Joint Venture, despite being economically competitive, because nuclear testing was conducted in the area in the 1950s.

The proponent stated its intention to inject carbon dioxide into the Dupuy saline aquifer beneath Barrow Island, a decision that had the effect of adding further weight to the selection of Barrow Island as the proponent's preferred location for the gas processing plant<sup>3</sup>. Other aquifers in alternative locations may have represented viable alternatives, but had not been investigated to the same extent as the Dupuy at the time of the assessment, and therefore were considered to have a higher order of technical risk.

The selected development reference case also had implications for the alternative sites analysis, and there was also criticism of the multi-criteria methodology applied by the proponent in its alternative sites analysis<sup>4</sup>.

### **State strategic issues**

Government recognised that the Gorgon development plan had the potential to deliver significant strategic, economic and social benefits to the State of Western Australia. These local benefits would, however, be considerably greater with Gorgon gas or gas products available on the domestic, rather than the export, market, an outcome that was not part of the proposed development plan submitted for assessment<sup>5</sup>.

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<sup>3</sup> It was suggested at Reference Group meetings that if the ability to geosequester into the Dupuy aquifer was the determining factor in the proponent's preference for Barrow Island, then a conscious choice should be made between the relative environmental significance of the geosequestration of the gas versus the conservation values of Barrow Island. It was argued by the EPA that the conservation values should have precedence and therefore the development should be moved to another location, even if that meant that geosequestration became infeasible (Environmental Protection Authority, 2003).

<sup>4</sup> The EPA commissioned an expert review of the multi-criteria analysis, which found the methodology to be deeply flawed (Environmental Protection Authority, 2003). The Expert Panel appointed to conduct the strategic, environmental and social assessment on behalf of DoIR (see Section 3.2.4) however, responded by saying that despite this it was convinced that the conclusion of the analysis that Barrow Island was the only economically viable location for the development was correct (Allen Consulting Group, 2003).

<sup>5</sup> Note that the requirement for 'gas to shore' was subsequently embedded in the *Barrow Island Act* 2004 and appended Agreement, the legislation enabling the Cabinet decision of 8<sup>th</sup> September 2003.

Of particular concern was the distribution of revenue from the project between the State and Commonwealth Governments. Economic modelling indicated that State Government revenue would increase by \$980 million over the life of the project, while \$17 billion would flow to the Commonwealth Government, mainly through the Petroleum Resource Rent Tax and corporate taxes (ChevronTexaco, 2003b).

### **Development reference case**

The development reference case of an LNG plant was used by the proponent as the basis for its analysis of costs and also the potential impacts of its proposal. It was known at the time, however, that various proposals for gas-to-liquid (GTL) plants were being developed, which could have become foundation customers of the initial Gorgon development.

Furthermore, although the proponent expressed a commitment to delivering gas to the domestic market at some point in the future, this was also excluded from the development reference case. Concerns were also raised that the costs of future pipelines to the mainland for the purposes of supplying the domestic gas market were not included in the cost comparisons of the alternative sites, thus biasing the analysis against mainland locations. The proponent responded that including these costs would not have affected the final ranking of the alternative sites (ChevronTexaco, 2003b).

Questions were raised as to what effect a fuller consideration of all of the options may have had on the analysis (ChevronTexaco, 2003b), and why these options were not discussed in the public domain<sup>6</sup>.

### **Quarantine**

Quarantine breaches represent the most significant environmental threat to Barrow Island, since the island is free from many feral competitors, predators and weeds found on the mainland that pose a risk to the unique ecology of the island.

Quarantine issues were, therefore, the subject of many public submissions that called for detailed risk assessments and information regarding quarantine management practices, particularly in light of the predicted numbers of vessel and personnel movements during the various phases of the project. Several submissions also

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<sup>6</sup> Gorgon interviews - Community groups (12).

challenged the proponent's claims of effective quarantine management in the past, citing examples of previous weed infestations (ChevronTexaco, 2003c).

### **Net conservation benefits**

The proponent was required to demonstrate net conservation benefits (NCBs) associated with the plan, whereby it would contribute to the enhancement of conservation values, over and above any values that might be lost, similar to those of Barrow Island, in a different location<sup>7</sup>. At this time Western Australia did not have a policy for green offsets or NCBs<sup>8</sup> and therefore a proposal was developed specifically for the Gorgon case. Issues discussed by the Reference Group and in the public submissions related to what types of benefits would be considered acceptable, what their monetary value should be, and who should be responsible for managing them.

### **Other environmental issues**

While the proponent claimed that environmental impacts resulting from the proposed development could be mitigated and managed, there was strong feeling from some sectors of Government and the community that industry and conservation values are inherently incompatible and therefore, that Barrow Island should be protected as a nature reserve with no additional industrial development.

A wide range of environmental issues were discussed throughout the data collection phase, including the climate change implications of the use of fossil fuels, waste disposal, existing soil and groundwater contamination, the lack of detailed knowledge about many aspects to the island's ecosystem, wildlife 'road kill' as a result of vehicle movements, and the potential environmental impacts of gas leaks and fires. The credibility and thoroughness of many of the ecological studies undertaken by the proponent were also challenged, particularly those concerned with migratory birds and stygofauna. It is important to note, however, that potential environmental impacts are the subject of more detailed analysis in the subsequent EIA process.

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<sup>7</sup> This requirement was stated in the Minister for State Development's letter of 20th November 2001, which is discussed in Section 3.2.4.

<sup>8</sup> The EPA has subsequently released a draft position statement of environmental offsets (Environmental Protection Authority, 2005) and it is generally considered that the Gorgon case provided the impetus for this action.

### **Geosequestration**

The proponent stated its intention to inject the 12 per cent carbon dioxide separated from the gas into a deep saline aquifer, a process known as geosequestration. Without geosequestration, the project would contribute significantly to Australia's greenhouse gas emissions. The Gorgon JV proposed the Dupuy aquifer, located beneath Barrow Island, as it had increased knowledge of this aquifer compared with others by virtue of its existing oil operations on Barrow Island, as well as its favourable characteristics.

Concerns raised about geosequestration related to the lack of proven technology at this scale, the lack of knowledge about the likely behaviour of the stored gas and particularly whether it might cause geological fracturing, the potential impacts on other oil and gas wells in the area, and the possibility of gas 'leaking' in the future and whose responsibility this would be (ChevronTexaco, 2003b).

#### ***3.2.3 A closer look at the context***

Against the backdrop of the broader Western Australian legislative and policy context, two competing views on the Gorgon proposal could be discerned within the community.

### **Mining in National Parks**

The proponent's claim that Barrow Island represented the only potentially commercially viable location for the gas processing plant represented a significant political challenge to the Western Australian Government due to the island's status as an A Class Nature Reserve. The political sensitivity that would have surrounded the proposal anyway was greatly intensified by the election platform of the incumbent Labor Government of Western Australia stating that it would "prohibit mineral and petroleum exploration and mining in National Parks and nature reserves" (Australian Labor Party Western Australian Branch, 2001).

It was initially argued by some that the proposed gas processing plant did not constitute mining (see Box 3.1), and furthermore that this statement was an election promise and not Government policy. However, political realities ensured that this argument did not persist, and it was eventually conceded that that most members of

the public would have considered a development such as Gorgon located within a National Park or nature reserve to be counter to the spirit of this election promise<sup>9</sup>.

### Box 3.1: Gorgon and the Western Australian mining legislation

Section 8 of the *Western Australian Mining Act 1978* includes the following definitions:

“**mine**”, as a noun, means any place in, on or under which mining operations are carried on;

“**mining**” includes fossicking, prospecting and exploring for minerals, and mining operations;

“**mining operations**” means any mode or method of working whereby the earth or any rock structure, stone fluid or mineral bearing substance may be disturbed, removed, washed, sifted, crushed, leached, roasted, distilled, evaporated, smelted or refined or dealt with for the purpose of obtaining any mineral therefrom whether it has been previously disturbed or not and includes:

- (a) the removal of overburden by mechanical or other means and the stacking, deposit, storage and treatment of any substance considered to contain any mineral;
- (b) operations by means of which salt or other evaporatives may be harvested;
- (c) operations by means of which mineral is recovered from the sea or a natural water supply; and
- (d) the doing of all lawful acts incident or conducive to any such operation or purposes;

“**minerals**” means naturally occurring substances obtained or obtainable from any land by mining operations carried out on or under the surface of the land, but does not include —

(a) soil;

(b) a substance the recovery of which is governed by the *Petroleum Act 1967* or the *Petroleum (Submerged Lands) Act 1982* ;

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<sup>9</sup> As already described in Chapter 1, there is a common perception that the ‘green vote’ won Labor the 2001 election, particularly due to their stance on the protection of old-growth forests in the South West of Western Australia.

- (c) a meteorite as defined in the *Museum Act 1969* ; or
- (d) any of the following substances if it occurs on private land —
  - (i) limestone, rock or gravel;
  - (ii) shale, other than oil shale;
  - (iii) sand, other than mineral sand, silica sand or garnet sand; or
  - (iv) clay, other than kaolin, bentonite, attapulgite or montmorillonite

The strong environmental platform upon which the Government was elected in February 2001 sat alongside the culture of resource development policy (see Chapter 1) that supports the development of State resources to deliver economic prosperity and social benefits to the people of Western Australia. In this context and following several years of informal discussions with Government, the Gorgon JV approached the Western Australian Government in 2001 seeking approval in principle for access to Barrow Island. At this point, the proponent was unwilling to submit a formal proposal for EIA under the *Environmental Protection Act 1986* without some degree of certainty that it would not be rejected immediately on policy grounds, since the State Government environment and conservation agencies had already recommended against a previous proposal. For this reason, the proponent was seeking in-principle approval of access to Barrow Island to enable it to continue its marketing efforts with more certainty and justify the commencement of front-end engineering design for the development. If in-principle approval were granted, a more detailed project proposal would be subject to EIA at the State and Federal levels<sup>10</sup>.

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<sup>10</sup> The Gorgon development plan also triggered the Commonwealth of Australia's *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)*, which includes provisions for both strategic environmental assessment and EIA by virtue of its potential impacts on matters of 'national environmental significance', specifically 'listed threatened species and ecological communities', and 'the Commonwealth marine area'. However, although it would have been possible to conduct a strategic assessment under the s146 of the *EPBC Act*, the Commonwealth environmental agency, Environment Australia, agreed that provided it remained involved on an informal basis, the Western Australian process under s16e of the *Environmental Protection Act 1986* would provide sufficient information and therefore a formal process under the *EPBC Act* would not be necessary at the strategic level.

### The 'pro-development' view

The pro-development view of the Gorgon proposal is perhaps best illustrated by a comment piece that appeared in the *Weekend Australian* newspaper on 8<sup>th</sup> February 2003, which is reproduced in Box 3.2.

#### Box 3.2: The 'pro-development' case for Gorgon

Harry Butler, legend of natural history television, first visited Barrow Island as a young naturalist and stayed on as an environmental consultant when a licence to drill for oil was granted in the mid-1950s.

It is his efforts, and the cooperation of Wapet (Western Australian Petroleum), now part of ChevronTexaco, that turned a scrubby, low-lying piece of unrelieved dirt into an internationally renowned icon of conservation.

Without the involvement of the oil industry, Barrow Island would not have an inventory of 15 land mammals, seven marine mammals, 110 species of birds and 40 reptiles (including the perentie, a fabulous-looking lizard), making it a genetically important island.

It is a simple issue for the developers: if they don't get access to Barrow, Australia loses an initial \$6 billion investment and a further \$5 billion in downstream activity by 2020.

But for the WA Government the issue is far more complex.

The governing Labor Party dumped on some of its traditional worker support before the last election, sacrificing timber worker jobs in a bid to pick up part of the conservation vote and win green preferences.

Partly as a result, the WA Upper House is controlled by Green MPs who remain to be convinced that an LNG plant on Barrow Island is such a good idea.

For Canberra, in a year when the Prime Minister is determined to make energy a political winner, Gorgon gas could be an important contributor to changing the national energy mix.

The economic argument is relatively simple. Whether it wins out against soft furry animals and prowling perenties remains very much an open question.

**Source: Wilson (2003)**

### The 'green' view

The 'green' view of the proposed Gorgon gas development is illustrated by the extract from the website of the Conservation Council of Western Australia (Conservation Council of Western Australia, 2003) in Box 3.3.

#### Box 3.3: The 'green' case against Gorgon

ChevronTexaco, ExxonMobil and Shell (the Gorgon partners) are currently proposing to put over \$6 billion worth of industrial gas processing plant and equipment on the Barrow Island infrastructure that could be located offshore, on the mainland or on less important islands nearby.

According to Gorgon the proposal is likely to involve:

- Liquid Natural Gas processing;
- Gas to liquids processing; and
- A compressed domestic gas capability.

#### *Workers swarming over Australia's ark?*

A huge workforce will be required to build the proposed facilities – a manifold increase in the level of human industrial activity presently occurring on Barrow Island. This activity is one of the central threats posed to the 24 known types of animals (including five types of mammal) that live nowhere else but Barrow – put simply, with people comes the risk of weeds and disease that could wipe out the island's environmental values forever.

Presently, only 150 barge movements occur per year and only 150 people live on Barrow Island at any one time. Yet this relatively low level of activity has led to 27 recorded breaches of quarantine. These breaches resulted in the introduction of eight known species of environmental weed, four of which remain on Barrow. In recent years it has also been necessary to implement eradication programmes for black rats, house mice, and European bees.

The Gorgon proposal estimates that 861 barge movements and 52,307 personnel movements per year will be required to build the new facilities. This will dramatically increase the probability of pests and weeds arriving on the island – indeed, the Environmental Protection Authority considers that weed or pest invasion is “virtually certain”.

*Threats posed by a temporarily contracted workforce*

Gorgon proposes that the bulk of the work done in the construction phase will be done by temporary contractors. The EPA warns that this transitory workforce will be unable to meet appropriate quarantine standards – standards that even the current permanent employees on Barrow Island have been unable to meet.

*What would happen if there was further invasion?*

Barrow Island has existing infestations of Buffel Grass (*Cenchrus ciliaris*) and Kapok (*Aerva javanica*). Thus far these weeds have proved impossible to eradicate.

The eradication of further invasive species, such as ants, mice and rats, could prove impossible to undertake without irreversibly damaging Barrow Island's native species and ecosystems.

The potential for disease-causing pathogens that could kill native animal and plant species is also very worrying. A disease like the virus that caused kangaroo blindness disease would have the potential to quickly devastate Barrow Island.

*Climate threat*

Gorgon gas is very dirty! Gorgon gas has a reservoir carbon dioxide content of 14%, compared with other gas sources, where 3% is the usual level. If allowed to proceed the proposal could cause the annual emission of approximately 8 million tonnes of climate-threatening greenhouse gases.

**Source: Conservation Council of Western Australia (2003)**

### **3.2.4 Overview of the Gorgon assessment process**

In response to the proponent's request for access to Barrow Island, the Minister for State Development stated in a letter dated 20th November 2001 (ChevronTexaco, 2003a, Appendix 1):

Against this backdrop and without any guarantee of outcome, the Government is prepared to give consideration, after the relevant environmental, social, economic and strategic ramifications have been examined and the results made available, to the restricted use of Barrow in relation to the initial development of the Gorgon project, provided that there are net conservation benefits associated with the proposed development. I would anticipate that the reports relating to environmental, social, economic and strategic ramifications would include comparisons with outcomes that would occur if alternative locations were used for the project.

This was also enshrined in a Cabinet decision conveying the context within which the Government would consider the proposed development plan<sup>11</sup>. The Gorgon assessment process was developed in response to this decision.

### **Designing the process**

Although both the *State Sustainability Strategy* (Government of Western Australia, 2002a, 2003b) and the *Keating Review* (Government of Western Australia, 2002b) recommend that sustainability assessments be conducted on projects of State significance, neither of these studies was complete in late 2001 when the Gorgon JV approached the Western Australian Government. There was a need, therefore, to develop a suitable, ‘custom made’ process specifically to meet Government requirements with respect to the strategic assessment of the Gorgon development plan in order to meet the time requirements of both the proponent and Government.

Responsibility for devising the process rested with DoIR, which collaborated with the DoE to establish the following principles as the basis for the Gorgon assessment process (Pope, 2003b):

- The assessment process should be managed through a whole of Government approach;
- The environmental assessment should be conducted under s16e of the Environmental Protection Act 1986, which allows the EPA to provide environmental advice to the Minister for the Environment on strategic matters, following the Administrative Procedures for EIA undertaken under Part IV of the Act (Environmental Protection Authority, 2002);
- The social, economic and strategic assessment should mirror and be synchronised with the process for the environmental assessment;
- The assessments should incorporate public review and comment;
- The process should provide Government with sufficient information to make an in-principle decision regarding access to Barrow Island from a high level, strategic perspective, recognising that if this in-principle approval were to be granted, a detailed EIA under Part IV of the *Environmental Protection Act*

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<sup>11</sup> Cabinet documentation in Western Australia is not publicly available and therefore the Cabinet decision cannot be reproduced here.

(1986) and the *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)* would be subsequently conducted.

### **Process overview**

As the first stage of the scoping process, DoIR produced the *Economic and Social Evaluation of Petroleum Proposal Guidelines*, which defined the factors, other than environmental factors, that the Gorgon JV was required to consider in its proposal and impact statement. The EPA's Administrative Procedures for EIA under the *Environmental Protection Act 1986* (Environmental Protection Authority, 2002) require the proponent to initiate an environmental scoping process, to be subsequently approved by the EPA. This same approach was applied to the strategic-level assessment of Gorgon. In this context, the proponent elected to conduct its own scoping process encompassing the full range of the assessment, and produced the *Environmental, Social and Economic Review Scoping Document* through an internal process incorporating stakeholder consultation. In turn, DoIR commissioned a review to assess the extent to which the proponent's *Scoping Document* encompassed the requirements of its *Guidelines*.

The Gorgon JV then prepared its project documentation entitled *Environmental, Social and Economic Review of the Gorgon Gas Development on Barrow Island*, hereafter referred to as the *ESE Review* (ChevronTexaco, 2003a). The *ESE Review* document was released for a six-week public comment period on 24<sup>th</sup> February 2003 and submissions were received to which the proponent was required to publicly respond.

At this point an Expert Panel<sup>12</sup> appointed by DoIR gained access under a confidentiality agreement to commercially sensitive information provided by the proponent, in order to complete a review of the veracity and robustness of the proposed development plan, and particularly the Gorgon JV's claim that Barrow Island was the only commercially viable location for the gas processing plant. This was the first stage of the strategic, economic and social assessment.

Drawing upon the findings of this review, together with information gathered through the public submissions process and the *ESE Review* itself, the Expert Panel

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<sup>12</sup> Comprising representatives of The Allen Consulting Group.

prepared its advice to Cabinet in the form of a *Strategic, Economic and Social Bulletin* (Allen Consulting Group, 2003). The EPA prepared a corresponding *Environmental Bulletin* under s16e of the *Environmental Protection Act 1986* (Environmental Protection Authority, 2003) and the Conservation Commission of Western Australia prepared separate advice (Conservation Commission of Western Australia, 2003).

It was then the responsibility of the Standing Interagency Committee of Chief Executive Officers (SIAC), the committee of government agency Chief Executive Officers (CEOs), to consolidate the extensive and sometimes conflicting data-set for Cabinet, a task that was undertaken in two stages. The first stage was the preparation of a brief *Overview Report* entitled *Consideration of access to Barrow Island for gas processing: Advice for Government's environmental, social, economic and strategic deliberations* (Standing Interagency Committee of CEOs, 2003), which was released for a six-week public comment period, and to which the two bulletins plus Conservation Commission advice were appended. The second stage was the preparation of the *Outcome Report* for Cabinet that reflected comments received on the *Overview Report*, but which was not itself made publicly available. The *Outcome Report* also formed the basis of the formal Cabinet Submission (also confidential) presented on 7<sup>th</sup> September 2003.

To ensure that the proponent's and Government's timeframes could be met, drafting of the enabling legislation and negotiation of the terms of the agreement between the State of Western Australia and the Gorgon JV occurred simultaneously with the final stages of the ESE process.

Finally, on 8<sup>th</sup> September 2003, Cabinet determined that the Gorgon JV should be granted access to Barrow Island for the purposes of gas processing<sup>13</sup>. The *Barrow*

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<sup>13</sup> A detailed project proposal based upon the development plan reference case has subsequently been prepared, and the proponent is currently seeking to obtain the full range of usual project approvals, including those conducted under Part IV of the *Environmental Protection Act 1986*, the *EPBC Act*, other legislation, and licences to construct and operate. These, however, are outside the scope of this research project.

*Island Bill* and appended *Gorgon Gas Processing and Infrastructure Project Agreement*<sup>14</sup> were introduced to Parliament on 16<sup>th</sup> September 2003.

### **Roles and responsibilities**

Overall responsibility for coordinating the Gorgon assessment process across Government rested with SIAC, and the SIAC Reference Group comprising members of the represented agencies. The agencies involved were DoIR (Chair), DoE, which provides support to the EPA in the EIA process, the Department of Conservation and Land Management (CALM), the Department of the Premier and Cabinet (DPC), the Office of Energy (OoE), the Department of Planning and Infrastructure (DPI), the Department of Indigenous Affairs (DIA), and the Department of Treasury and Finance (DTF).

Project management of the Gorgon assessment process was the responsibility of the Office of Major Projects (OMP) within DoIR, which was also responsible for conducting the strategic, economic and social assessment, for which it appointed the Expert Panel so that some degree of independence was maintained<sup>15</sup>. The EPA was responsible for conducting the corresponding strategic environmental assessment under Section 16e of the *Environmental Protection Act* 1986. The Conservation Commission of WA, as the authority in which Barrow Island is vested, also had a key role in providing advice to the Minister for the Environment, as the minister responsible for the Barrow Island Nature Reserve. The Cabinet of Western Australia, as representatives of elected Government, was responsible for making the final decision as to whether the Gorgon JV would be granted in-principle access to Barrow Island for the purposes of gas processing.

In June 2002, which was the time at which I became involved in the Gorgon assessment, the Minister for State Development issued a press release summarising the Gorgon proposal and the principles of the assessment process, entitled ‘Gorgon gas development possibility’. This is reproduced in Box 3.4.

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<sup>14</sup> The *Gorgon Gas Processing and Infrastructure Project Agreement* was developed under the *Western Australian Government Agreements Act* 1979, which is the standard means by which large infrastructure developments are legitimised in Western Australia, as mentioned in Chapter 1.

<sup>15</sup> The representatives of the Allen Consulting Group had extensive and high-level experience within the oil and gas sector. While this was the reason the group was appointed, some questioned the extent to which it was really independent, a point to which I return.

**Box 3.4: 'Gorgon gas development possibility' press release 28 June 2002<sup>16</sup>**

The Western Australian Government has agreed to examine proposals for development of the huge Gorgon gas reserves offshore from Dampier, including the possible use of a small area on Barrow Island.

State Development Minister Clive Brown said today the Government had been advised of efforts to harness the large Gorgon gas reserves, including a possible development scenario using a restricted area of the Barrow Island 'A' Class Nature Reserve.

The development proposal had come from ChevronTexaco.

"The Government would only consider this development after a rigorous, accountable and transparent examination of the environmental, social, and economic ramifications were undertaken," Mr Brown said.

"Recognising the important and complex issues such a proposal raises, we have not presumed or guaranteed any outcome at this time," he said.

The State Government has requested the Environmental Protection Authority conduct a strategic environmental evaluation of the proposal and report back.

As the vesting authority for the Barrow Island Nature Reserve, the Conservation Commission of WA will also be advising the Government on nature conservation matters relating to the nature reserve.

The Department of Mineral and Petroleum Resources would report to the Minister for State Development on the social and economic aspects.

The Government had therefore developed an integrated environmental, social and economic process to examine the proposal.

This evaluation was modelled on the usual environmental impact assessment processes of Part Four of the Environmental Protection Act and included a six-week public comment period.

Mr Brown said this did not mean that the Government would approve the use of Barrow Island for this purpose. However, it would keep an open mind.

The Government supported sustainable development of resources and believed the

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<sup>16</sup> Media release. Available online URL <http://www.mediastatements.wa.gov.au/media/media01-05.nsf> [Accessed 22nd June 2005]

extensive reserves of natural gas off the WA coast could provide significant clean energy benefits to the wider community.

Mr Brown said that even with a 40-year history of industry and conservation coexisting on Barrow Island, the Government was especially aware that additional development on the island raised environmental concerns.

It therefore considered the best way to deal with these matters was through the rigorous and public processes it has developed for this proposal.

"We recognise and support the rigour of the State's environmental impact assessment process," Mr Brown said.

"The crucial role of CALM, the examination of alternative potential sites, and quarantine, are among the issues that will be addressed through this process, together with the economic and social benefits for the people of WA that would come from sensitive and responsible development of our natural resources."

### **3.3 What happened? The Gorgon ESE process as it unfolded**

Section 3.3 describes how the Gorgon ESE assessment process unfolded through 2002 and 2003, drawing on my own observations, documentary records and interviews conducted with many of those involved in the process. It is not intended to be a comprehensive retelling of all of the events that took place during the Gorgon ESE process, and indeed can not be, since given the highly political nature of the decision, it is fair to assume that much happened 'behind closed doors' of which I was not aware. Furthermore, my data is shaped by my interview questions, which in turn reflect my own personal views and interests, so this version of events cannot be considered 'objective'. My intent then is to chronicle the story as I saw it, exposing the ambiguities and challenges of the ESE process, mainly through the reflections of those involved, and in a way which provides the context for reflection and analysis.

Sections 3.3.1 to 3.3.7 present events chronologically, as far as this is practical; Section 3.3.8 reflects upon the purpose of the ESE process; Section 3.3.9 briefly examines the 'for' and 'against' campaigns that ran alongside the ESE process and raises the question of the role of the community in sustainability assessments; Section 3.3.10 examines the roles and relationships of the various players that

underpinned and shaped the process; and Section 3.3.11 reviews the time and cost implications for both proponent and Government.

### 3.3.1 *In the beginning*

There remains some ambiguity about where the idea to conduct an integrated environmental, social, economic and strategic assessment of Gorgon actually came from, and how this decision related to the commitments to sustainability assessment made in the *Keating Review* and the *State Sustainability Strategy*. For example, it has been variously recalled that the suggestion of trialling a sustainability process on a case study such as Gorgon emerged directly from the *Keating Review* (DoIR, 2004); that the proposal to conduct an integrated assessment of the Gorgon development plan came from DoIR officers<sup>17</sup>; that it was suggested by the EPA in response to a draft Cabinet submission prepared by DoIR that recommended the Gorgon JV be allowed access to Barrow Island<sup>18</sup>; that it was made by DPC during early discussions of the Gorgon case within Government<sup>19</sup>; and that it was put forward by the Gorgon JV itself<sup>20</sup>. It seems that the concept of sustainability assessment emerged simultaneously within different corners of Government and converged on the Gorgon case.

While it was recognised by those involved that the Gorgon assessment process would have many characteristics of a sustainability assessment process, it was considered that this ‘special case’ process should not necessarily be perceived as a precedent for future sustainability assessment processes in Western Australia. To avoid possible confusion, therefore, the Gorgon assessment process was referred to as an ‘integrated strategic environmental, social and economic (ESE) assessment’, rather than a sustainability assessment. It was believed, however, that many of the experiences gained and the lessons learnt through the Gorgon process would provide useful input to the development of these future processes<sup>21</sup>.

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<sup>17</sup> Gorgon interviews -DoIR (9).

<sup>18</sup> Gorgon interviews -EPA/DoE (1).

<sup>19</sup> Professor Peter Newman - *pers. comm.*

<sup>20</sup> Gorgon interviews -EPA/DoE (14).

<sup>21</sup> For this reason, the Gorgon process was well represented in the Sustainability Assessment Working Group (discussed in Chapter 2), and was the subject of a joint presentation between ChevronTexaco and DoIR at the second meeting of the group.

One of the main strengths of an integrated assessment was its potential to make transparent many of the social and economic implications of a proposal that would otherwise be considered only ‘behind closed doors’. In the words of one interviewee<sup>22</sup>:

One of the real advances of this ESE process is that we have put the economic data on the table, made it transparent and we’re having a robust debate about it. I think that’s a real advance.

This increased transparency of social and economic information was seen by many to be of particular benefit to the proponent, since the ESE process provided “a vehicle, a process that would allow issues other than the ecological and conservation values of Barrow as part of the conservation estate to be aired on the same platform”<sup>23</sup>. The opposing view was also put forward: since the Gorgon gasfields are located in Commonwealth and not State waters, and so the royalties and therefore the majority of the economic benefits would pass to the Commonwealth Government, some believed that the transparent process would demonstrate that the benefits to the State of Western Australia would not be great, particularly in the context of the potential environmental risks associated with the proposal.

As well as including economic, social and State strategic considerations, the assessment was conducted at a more strategic level than statutory EIA and therefore did not require a detailed project proposal. This was also of benefit to the Gorgon JV, which was reluctant to further develop their proposal without in-principle access to Barrow Island. The distinction between strategic- and project-level assessment was articulated as being that the ESE process should determine *whether* the proponent should be allowed access to Barrow Island, while the subsequent Part IV assessment should determine *how* that could be done in an environmentally acceptable manner should the decision be made to grant access, and as such the ESE process should represent 80 per cent of a standard Part IV EIA process<sup>24</sup>. This interpretation, however, did lead to some ambiguity with respect to the actual purpose of the assessment, a point that is considered in more detail in Section 3.3.3.

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<sup>22</sup> Gorgon interviews -EPA/DoE (14).

<sup>23</sup> Gorgon interviews –ChevronTexaco (5).

<sup>24</sup> Gorgon interviews -EPA/DoE (1).

What is clear is that following this decision it was agreed early on that the Gorgon assessment should mirror the existing statutory EIA process, and the design of the process was led by DoIR and the EPA/DoE. Despite later discussions about whether or not the rigorous Western Australian EIA process model was really appropriate for a strategic level assessment, the broad consensus was that it was reasonable for Government to have fallen back on familiarity in the absence of a formal process or any local precedent, and that familiarity would result in wider acceptance of the approach and would ensure that the focus of future debates remained on the question at hand and not the merits of the process itself<sup>25</sup>. Even representatives of the Conservation Commission/CALM, which was to become possibly the most disenchanted with the process later, conceded, “Initially...it was a good process...it was fine for a while”<sup>26</sup>.

Several parties made the point that it was courageous of Government to embark on developing a new assessment process, particularly one that embodied a higher than usual degree of transparency<sup>27</sup>. There was also a strong sense of Western Australia having entered a ‘brave new world’ of impact assessment, particularly in the early stages of the ESE process. A representative of a community group conceded, “I think there was a genuine attempt to try to look at it a bit differently”<sup>28</sup>.

### 3.3.2 Scoping

The *Guidelines for the social, economic and strategic evaluation of the Gorgon gas development proposal* prepared by consultants on behalf of DoIR (dated 30 May 2002) identified social and economic factors, issues, objectives and tasks that the proponent was required to address in its *ESE Review* document. While the distinction between these categories is somewhat unclear in some cases, essentially the *Guidelines* required the proponent to provide the results of 32 social and 13 economic studies. Examples of these, selected at random for purposes of illustration, include, “Predict potential population changes resulting from the Proposal”, “Discuss how the Proposal meets policy objectives”, and “Quantify the impact on domestic

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<sup>25</sup> Gorgon interviews -DoIR (9).

<sup>26</sup> Gorgon interviews -CALM (6).

<sup>27</sup> Gorgon interviews -DoIR (9); Gorgon interviews – ChevronTexaco (8).

<sup>28</sup> Gorgon interviews – Community groups (12).

industry resulting from the addition of a further major gas supply source, including regional, state and national benefits resulting therefrom”.

The Gorgon JV incorporated the requirements of these *Guidelines* into its own document *The Gorgon gas development environmental, social and economic review scoping document* (dated 5 July 2002)<sup>29</sup>. The broad approach to the environmental studies was also outlined in this document, including commitments to “describe the existing biophysical environment”, “broadly identify the significant (environmental) issues”, “identify and broadly describe the type of magnitude of potential impacts” and their significance, and “identify likely mitigation strategies”.

The social and economic ‘nets’ were thus cast broadly with very little specificity in terms of goals or criteria, perhaps at least partly due to the lack of experience in Western Australia with conducting such assessments (see Chapter 1). In retrospect, this somewhat tentative approach to scoping the Gorgon ESE process probably significantly influenced the process as a whole and generated several points of conflict – particularly in relation to the nature of a strategic assessment compared with a project-level assessment, and the question of what data was required to enable Cabinet to make its decision.

In turn, the scoping was probably the result of a general lack of clarity around what the ESE process was actually intended to achieve, and at the time of the scoping process there had been no clear articulation of the question that the ESE assessment was designed to answer. The first attempt to provide some clarity was at the meeting on 10<sup>th</sup> February 2003 to brief the Expert Panel hired to undertake the strategic, economic and social assessment on behalf of DoIR. This purpose was subsequently refined to cover the whole ESE process, by extending it to the environmental and conservation issues that were outside the mandate of the Expert Panel (Pope, 2003b, p2)<sup>30</sup>:

In essence, the Gorgon assessment process aims to answer the following questions:

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<sup>29</sup> The Reference Group was somewhat affronted by this, and noted in the minutes of the Initial Client Briefing meeting on 10<sup>th</sup> February 2003 that “ChevronTexaco appear to have largely ignored these Guidelines and instead based the scope of their investigations on their own Scoping Document. This document does not have WA Government endorsement”.

<sup>30</sup> Although I was the sole author of this paper, DoIR and the EPA/DoE had a considerable amount of input into its development, and this clarification of the purpose of the ESE assessment process was provided by the Gorgon Project Manager within DoIR.

1. Why Barrow Island? In other words, is the Government satisfied with the veracity of the proponent's analysis of alternative locations, which demonstrates that Barrow Island represents the only viable option for the initial stages of the development of the Gorgon gasfield?
2. If granting access to Barrow Island is indeed the only way that the Gorgon gasfield may be developed in the foreseeable future, the questions to be answered are:
  - a) What are the potential impacts of the proposed development on the conservation values of Barrow Island, and what is the likelihood of these impacts occurring?
  - b) What are the potential strategic, economic and social benefits of the proposed development to the people of Western Australia?
  - c) Is the Government convinced that the environmental risks are sufficiently low, and the strategic, economic and social benefits sufficiently high, to justify allowing the proponent access to Barrow Island?
  - d) Can the proponent demonstrate net conservation benefits associated with the development plan?

In simple terms the question can be phrased, "Are the potential impacts of constructing a gas processing plant on Barrow Island acceptable?" However, the implications of this question remain ambiguous, as discussed further in Section 3.3.8.

### **3.3.3 The ESE Review document**

Members of the SIAC Reference Group received copies of the Gorgon JV's draft *ESE Review* document (Version B) for review on Christmas Eve 2002. Their response was not favourable; in the words of one interviewee, "Their first attempt in the draft ESE thing was bloody hopeless"<sup>31</sup>. The general feeling amongst the Reference Group was characterised by the question from another member, "Are they taking this thing seriously?"<sup>32</sup>

I commenced my role with the SIAC Reference Group when I was also asked to provide comments on the proponent's document in early January 2003, so that these could be compiled along with responses from other members of the group and submitted back to the proponent. I was informed by members of the Reference

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<sup>31</sup> Gorgon interviews -Conservation Commission/CALM (7).

<sup>32</sup> Reference Group Meeting 13<sup>th</sup> January 2003.

Group that my views were consistent with those of the group in general, and for purposes of illustration an extract from my document is reproduced in Box 3.5.

**Box 3.5: Personal views on the draft ESE Review (January 2003)**<sup>33</sup>

To me, the ESE Review reads like a corporate public affairs document, and as such is unconvincing and trite in many areas. It is thin on detail in relation to many potential environmental and social concerns and has an over-riding tone of paying lip service to the issue of sustainability.

Playing Devil's Advocate, the overwhelming message I received from the proponent in reading this document was, "We really want to develop this gas field because we are going to make loads of money and we just need Government to say yes to this issue of access to Barrow Island so we can get on with it. We really can't see what the big deal is, but we've been forced to go through this assessment process to make everyone feel better about it all so we've done as little as we think we can get away with. We've done some environmental work and we know we can manage the issues based on previous experience. We'll do what we have to do, including demonstrating net conservation benefit, and we might do some other things, like CO<sub>2</sub> re-injection as long as it doesn't cost too much, because our profit is the most important thing after all. The social issues, like training and indigenous partnerships, we'll figure out later – no big deal, we'll throw some money at it, don't you worry about that."

I hasten to point out that I don't believe that this is the true attitude of ChevronTexaco, but there is little in this document which reflects the extent of soul-searching which I know has been undertaken at least by some members of the organisation in relation to the moral dilemmas represented by this development proposal.

Fundamentally, this process is about the Government of Western Australia deciding whether the benefits of this development, as promised by the proponent, are sufficient to warrant granting access to a Class A Nature Reserve. As a member of the public, I want to feel that this corporation shares my concerns with respect to global sustainability, that it is committed to creating a better world and respect to global sustainability, that it is committed to creating a better world and that it has put real effort into finding ways to do that. Why else would I, as a citizen of Western

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<sup>33</sup> I use this extract as an example of the sentiment of the Reference Group as I was not privy to the formal submission made by the Reference Group to the Gorgon JV. It is taken from a document I submitted to the SIAC Reference Group on 8<sup>th</sup> January 2003, entitled "*Gorgon draft ESE Review-comments from Jenny Pope*".

Australia, sit back and watch my Government hand over access to Barrow Island just to make an oil company even richer and more powerful?

To accept the proposal, I particularly need to be convinced that Barrow Island really is the only feasible location option, and this document completely fails to convince me of that. There is a fundamental problem here, in that site analysis for the gas processing facility has been conducted assuming that re-injection is to be conducted on the northern end of Barrow Island (Section 4.1.4), while the analysis of appropriate re-injection sites has been made by assuming that the gas production facilities are to be on Barrow Island (distance from gas processing facilities identified as one of the factors in site selection as discussed in Part 11). Clearly, the two site selection processes should have been conducted together. Furthermore, there is insufficient data provided in the Review document to enable the reader to follow the logic of selection of the two sites.

The bottom line is that, as a member of the public concerned about sustainability issues, I don't get the sense of assurance and confidence in the proponent from reading this Review document that I would need in order to fully support the proposal.

**Source: Unpublished document entitled *Gorgon draft ESE – Review comments from Jenny Pope***

The draft *ESE Review* document was discussed at the Reference Group Meeting of 13<sup>th</sup> January 2003 and the minutes of this meeting list the specific concerns of the Reference Group before concluding that<sup>34</sup>:

There was a general consensus that:

- Gorgon needs to fully justify its 'preferred option' - Barrow Island - over other locations;
- Government needs to be assured that the draft ESE has sufficient information for an assessment to be undertaken;
- SIAC Reference Group can only agree with the release of draft ESE document if sufficient information is provided. This advice to be sent to Gorgon through the Chair.

Extensive comments were provided by the Reference Group and member agencies back to the proponent and the subsequent Version C was considered to be 'just over

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<sup>34</sup> Minutes of the SIAC Reference Group meeting 13 January 2003.

the line' in terms of quality. The draft report of the retrospective review suggested that the proponent's own timing constraints prevented them from achieving the desired level of acceptability of the document prior to its release (DoIR, 2004).

There was a perceived resistance by the proponent to accommodate feedback made by the government agencies on the *ESE Review*, as evidenced by comments such as, "ChevronTexaco was not a very good listener<sup>35</sup>" and<sup>36</sup>:

You think about how they've been dragged forward kicking and screaming and they've still got something that is inadequate, you think well, Government is making a big commitment to try to get these guys over the line and they're not very helpful.

As a result, many of the criticisms of Version B expressed by the Reference Group were carried over into Version C<sup>37</sup>, which also retained a positive flavour. One Gorgon JV interviewee reflected that, "I guess that was a product of the process that the boundaries weren't set and this could be anything we wanted it to be and Government allowed it to be" and<sup>38</sup>:

Maybe something else that didn't help was that the document was pretty much 100 per cent positive, and there wasn't that acknowledgement that hey we're really confident about this, we're less confident about this and we've got more work to do on this. There was a 'trust us we can do anything' kind of flavour, and it might have helped if there had been that kind of doubt presented, or slightly less confidence or whatever.

The Gorgon JV's *ESE Review* was released for public comment on 10<sup>th</sup> February 2003 for a six-week period concluding on 24<sup>th</sup> March 2003.

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<sup>35</sup> Gorgon interviews -Conservation Commission/CALM (4).

<sup>36</sup> Gorgon interviews -Conservation Commission/CALM (7).

<sup>37</sup> For example, the chapter on social issues was not significantly changed between revisions and detail remained sparse; an example from this chapter states, "The Gorgon Venture would work with the State Government education institutions to assess the education and training requirements of the development and to cooperate in designing programs that would meet these requirements. The Gorgon Venture would also seek to support existing Indigenous education programs" (ChevronTexaco, 2003a, p225). Other concerns discussed at the Reference Group meeting of 13 January 2003, such as the LNG focus of the document, the lack of detail regarding net conservation benefits, the alternative sites analysis, and the lack of unequivocal commitment to supply the domestic gas market, remained recurring themes throughout the ESE process and were reflected in many of the public submissions received.

<sup>38</sup> Gorgon interviews -ChevronTexaco (5).

### 3.3.4 Public submissions

The opportunity for stakeholders and the general public to comment on the *ESE Review* document supplemented the many processes of consultation and engagement carried out by the proponent throughout the ESE process that focused mainly on targeted stakeholders (ChevronTexaco, 2003a). These are described in Section 3.3.9. By the close of the period of public comment on the *ESE Review* on 24<sup>th</sup> March 2003, a total of 43 public submissions had been received by the EPA Service Unit of the DoE<sup>39</sup>, including seven from industry organisations, five from members of the public, eight from government agencies, eight from community groups and non government organisations (NGOs), thirteen from individual businesses, one from a research and development organisation, and one from a Member of Parliament<sup>40</sup>.

The submissions were processed by converting the concerns raised into questions that the proponent was required to formally address. A list of general comments to be considered in the preparation of the *Bulletins* was also included<sup>41</sup>. The proponent would have preferred to have responded directly to each submitter, believing that interpretation of submissions by Government was not in the spirit of openness and transparency and that the proponent case would have been served by debating the issues in the context of the whole proposal directly with the submitters<sup>42</sup>.

Government, however, did not agree to this.

In all, 408 questions were compiled. These were separated into two sets: one put forward by DoIR and the other by the EPA<sup>43</sup>. There was overlap between the two sets, since issues such as geosequestration as a method of greenhouse gas management were relevant to both agencies. There was considerable criticism of the

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<sup>39</sup> The EPA Service Unit of the DoE acted as a ‘clearing house’ for the submissions, as it was felt that the public was familiar with this process from statutory EIA.

<sup>40</sup> The source for these statistics is an unpublished report I wrote for DoIR entitled “*Summary of public submissions on the ESE Review of the Gorgon gas development on Barrow Island*” dated 2<sup>nd</sup> April 2003.

<sup>41</sup> The latter were mainly positive comments, which were collated separately in recognition of the standard process for receiving and handling public submissions (for example in an EIA process) tending to focus upon negative comments and questions and therefore that submissions from supporters of a proposal are generally ‘lost’.

<sup>42</sup> Gorgon interviews -ChevronTexaco (5).

<sup>43</sup> The proponent was affronted when the EPA placed the questions on its website at the same time they were sent to the ChevronTexaco, complaining that without the responses they presented the proposal in an unnecessarily negative light (Gorgon interviews -ChevronTexaco (11)).

level of detail and the confrontational nature of many of the questions<sup>44</sup>. One proponent interviewee said<sup>45</sup>:

I don't think they did us any favours in just regurgitating sections from the submissions. There was no intelligence provided to that, no review, no balance, so the stupid left field questions came in as well.

The proponent responded to the questions posed in two separate documents that were placed on the EPA and DoIR websites as well as the proponent's own (ChevronTexaco, 2003b, 2003c). There was criticism, however, that the submissions themselves were not made public in their entirety, particularly as the proponent had stated in the *ESE Review* that submissions would be considered public unless stated otherwise<sup>46</sup>. Some argued that making the submissions public as they were received may have limited the number of identical 'form letter' submissions and also stimulated debate in the public arena<sup>47</sup>.

Many of the questions received, particularly in the environmental area, requested a level of detail that was unavailable, or possibly even inappropriate, at the time of the strategic-level assessment. However, the proponent believed that it could not simply respond in the spirit of 'this will be addressed in the subsequent EIA process' and made a valiant attempt to provide meaningful answers by indicating how the particular concern would be managed<sup>48</sup>:

And I guess one of our strategies for responding to that...was to try not to fuel the fire of deferring the decision to the [EIA], the natural response, and I had to pull people up for writing it. So we need more information on turtles, yep, no worries, it'll be in the [environmental impact statement under the subsequent EIA process]... We have to take a

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<sup>44</sup> The task of processing of the public submissions and converting them into questions and comments was given to me during my time at DoIR, and therefore these criticisms were aimed at my work. I did indeed convert every single (negative) comment made in a submission into a question, for fear of omitting anything and in acknowledgement of the amount of work that had gone into preparing the submissions. Due to the tight time schedule that required the processing to be completed within two weeks and the proponent to respond within one, there was no time for the questions to be reviewed or even removed in the case of those that could be considered vexatious and unnecessarily confrontational. (An illustrative example of the latter was, "By reference to what criteria can it be suggested that \$10m for biodiversity research 'offsets' this sort of footprint on an A Class Nature Reserve, let alone the massive greenhouse emissions associated with the project?").

<sup>45</sup> Gorgon interviews -ChevronTexaco (5).

<sup>46</sup> Gorgon interviews -ChevronTexaco (5).

<sup>47</sup> Gorgon interviews -DoIR (9).

<sup>48</sup> Gorgon interviews -ChevronTexaco (5).

step back and say fundamentally do we have enough information to make a decision or not? Well, we do. Do we think we can manage it? Yes, we can.

The larger questions about the data collection process in general are considered in the following section.

### 3.3.5 Data, detail and debates

The proponent's *ESE Review* document and the public submission process described in the previous sections were two of many mechanisms by which Government gathered data about the proposal. Others included independent studies commissioned by the EPA<sup>49</sup>, the work of the Expert Panel in reviewing commercially confidential documents in order to test the veracity of the proponent's financial analysis, and responses to specific requests of the proponent for information made by the SIAC Reference Group. As one DoIR interviewee said, "This is a Government process and the Gorgon document is one data input. The advantage of the process is that Government is at liberty to seek answers elsewhere"<sup>50</sup>. The purpose of the data collection phase, and indeed of the ESE process itself was "to provide the most complete and most robust data set... to go before Cabinet so that they can make the most fully informed ...decision", and specifically to provide information that Cabinet might not otherwise have had<sup>51</sup>.

Under the terms of the process and consistent with the approach to EIA in Western Australia, it was the proponent's responsibility to provide data requested by Government, although some considered that Government had been forced to invest resources to gather its own data in some cases and to 'rework' what it perceived was inadequate data provided by the proponent<sup>52</sup>. Comments were also made about the degree of power that the proponent had in determining what data would be provided and how it would be presented. These issues, combined with a level of discomfort with the overly positive tone of the proponent's *ESE Review* document, led to some

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<sup>49</sup> These included the independent review of the multi-criteria analysis undertaken by the proponent in its alternative sites analysis, discussed previously, and a review of quarantine risks.

<sup>50</sup> Gorgon interviews -DoIR (9)

<sup>51</sup> Gorgon interviews -DoIR (9).

<sup>52</sup> Gorgon interviews -EPA/DoE (13).

discussion of alternative approaches to data collection, with one interviewee explaining<sup>53</sup>:

There's a range of options. One option is for the steering committee (which is SIAC) to put in place a process and to define a process that effectively has a proponent engaging consultants who are approved by the steering committee, with independent reference panels, so when it actually comes to us it doesn't have to be reanalysed or redigested, because you've analysed and come to a view about it. So that certainly is one way of doing it, and probably in many ways the most effective way, because to say Government should do it, Government doesn't have the commercial information that the proponent's got access to, so it's impossible for Government to do it. I think we need to make sure though that there's a little bit more objectivity in this, rather than it just being a sales document<sup>54</sup>.

The main point of debate with respect to the data collection phase, however, was not who should bear the responsibility and cost, but rather the question of 'how much data is enough to enable a decision about access to Barrow Island to be made?'

In the midst of the data collection phase, which included the labour-intensive preparation of responses to the public submissions, the proponent questioned whether the ever-increasing levels of detail for which they were being asked were appropriate for a strategic-level assessment. They recalled the idea that the ESE process should be 80 per cent of an EIA and considered that they "should have pushed back on this because 80 per cent of an [EIA] is just about an [EIA]"<sup>55</sup>. Reflecting on the scoping process and the breadth of issues that were included in both DoIR's *Guidelines* and its own *Scoping Document*, the proponent suggested that in retrospect the scoping process should have identified those issues that would be relevant to Cabinet in making these decisions and those that would not. Therefore, the focus during scoping should have been on defining "the critical issues that are

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<sup>53</sup>Gorgon interviews -EPA/DoE (13).

<sup>54</sup> The same interviewee gave an example of this approach, "Now, there are precedents for that in part, in that in various locations in Australia, Part V and in some cases Part IV has been handled that way. And the most recent one in WA was Cockburn Cement with their problems. They put together a reference panel approved by the EPA, they put together a technical advisory group approved by the EPA, and by the time the report came to the EPA there was no big work required, just interpretation and judgement".

<sup>55</sup>Gorgon interviews -ChevronTexaco (5).

fundamental to the decision...so we agree that it's not turtles and it's not jobs in Onslow, whatever it might be"<sup>56</sup>.

The proponent also pointed out that the critical issues and potential 'show-stoppers' were known well before the formal scoping process began and therefore the scope of the ESE process could have been limited to only these<sup>57</sup>:

I'm sure I could go into our electronic files and find a presentation that [ChevronTexaco representatives] would have given in January 2002 or November 2001 that listed critical issues. And on that list would have been appropriate management of CO<sub>2</sub>, management of quarantine, gas to shore....

A similar point was made by an interviewee from the EPA/DoE who expressed concern about the quality of data presented in the *ESE Review* with respect to some of the critical issues<sup>58</sup>:

If we had said perhaps more emphatically, look quarantine is the issue – if you've got a million bucks to spend on this thing, spend \$800 thousand on quarantine and the other \$200 thousand on everything else. Then we might have got better data.

Others argued in response that there is always the potential for new critical issues and risks to become apparent through the assessment process and therefore it may not have been appropriate to limit the scope of the ESE assessment too early<sup>59</sup>:

I guess my nervousness is how sure are we that we can identify the 'show stoppers'? If counting turtles had identified that the eastern shore of Barrow was in fact by far the most important turtle nesting site from the southern regions of turtle nesting to Indonesia or something, then we might not have known that before they started counting turtles.

Correspondingly, the Chairman of the EPA's comment that the ESE assessment should be 80 per cent of an EIA and therefore that the strategic level decision was about whether the proposal should go ahead, meant that "they really needed to look at almost everything that wasn't simply the nuts and bolts of the buildings"<sup>60</sup>.

However, there was some ambiguity about what the 80 per cent actually meant, and particularly whether it was intended that 80 per cent of the issues should be

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<sup>56</sup>Gorgon interviews -ChevronTexaco (5).

<sup>57</sup>Gorgon interviews -ChevronTexaco (5).

<sup>58</sup>Gorgon interviews -EPA/DoE (14).

<sup>59</sup>Gorgon interviews - Conservation Commission/CALM (4).

<sup>60</sup>Gorgon interviews -EPA/DoE (1).

addressed in detail, or whether all of the identified issues should be investigated to 80 per cent of the depth that would normally be required in an EIA process. The proponent acknowledged the latter may have been assumed<sup>61</sup>:

We sent flora and fauna guys out there and they counted plants and those sorts of things. They just did less of it than you would have done for an [EIA], but they wrote it up like it was an [EIA].

They also acknowledged that this may have invoked requests for more detail from the environmental agencies<sup>62</sup>:

I don't know whether it's the nature of scientists that they need more certainty, so we've been moving further and further down the path of what is it you want to put on there and what the emissions would be, and we've got away from the strategic process into the weeds.

Once on this roller coaster, it appeared to the proponent that there was no way off<sup>63</sup>. Another interviewee said<sup>64</sup>:

What we've provided was detail, and if you look at process that if we had delivered a punchy, sophisticated 40-page document it would have stayed at the [senior officer] level, you deliver a 350-page document and it gets way down the levels and you get CALM's stygofauna graduate-type expert commenting on it, and that's not where we should have been. Because the only guidelines when you get down to that technical level of assessment that you've got, is [EIA]-type guidelines, so they open up the document and it's not what they wanted, not what they expected, and inadequate to fit what they see as the picture so it gets a cross.

It was also suggested, however, that it was probably in the proponent's best interests to address a wide range of issues in detail in the ESE process and not be restricted to a narrow scope, since by responding to every issue or concern raised they could 'keep a lid' on the issue. Furthermore, providing more information was a good strategic move because "it's human nature that if you don't have the information

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<sup>61</sup> Gorgon interviews -ChevronTexaco (5).

<sup>62</sup> Gorgon interviews - ChevronTexaco (8).

<sup>63</sup> Gorgon interviews -ChevronTexaco (5).

<sup>64</sup> Gorgon interviews -ChevronTexaco (5).

you'll make a conservative decision" and therefore the proponent "probably owe(s) Government a debt of gratitude for having flushed out all the issues for them"<sup>65</sup>.

Government also wrestled with the issue of 'how much is enough', and the view of some was that by the end of the data gathering phase there was probably considerably more information on the table than was necessary for Cabinet to make its decision<sup>66</sup>. Some defended this approach by saying that detail was necessary since "if you don't have some definition of the detail you are fighting with gossamer" and<sup>67</sup>:

You need to have a level of detail that allows you to actually come to some understanding of what the form is of the issue, and without that detail it is very difficult to make strategic decisions, because not everybody has the ability to conceptualise without that level of information.

Although the proponents perceived that too much had been asked of them, the counter view, often from the 'green' side of the debate, was also expressed. It was suggested that the data set was insufficient because the proponent did not provide detailed analysis of the environmental, social, economic and strategic implications of the alternative locations<sup>68</sup>. Others challenged both the quantity and the quality of the data, calling it 'exceedingly patchy'<sup>69</sup>.

Others within Government were more comfortable with the data collection process<sup>70</sup>:

From my perspective ...the internal processes of Government are to make sure that the right amount of information of an appropriate quality is available to Cabinet to enable them to make a good quality decision. Whether the community agrees with that is a different issue. I would argue that that process achieved that outcome. It was expensive and resource hungry, but at the end of the day, Cabinet got good quality information upon which they could make a decision, good economic information, good budget impact information, good conservation information, good environmental overview information at the high level. So from that point of view the process yielded what I saw as the

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<sup>65</sup> Gorgon interviews -EPA/DoE (14).

<sup>66</sup> Gorgon interviews -DoIR (2).

<sup>67</sup> Gorgon interviews -DoIR (9).

<sup>68</sup> Gorgon interviews -Conservation Commission/CALM (4).

<sup>69</sup> Gorgon interviews -Conservation Commission/CALM (7). Similar comments were made by interviewees from community groups (12); EPA/DoE (13); EPA/DoE (14), noting that this was the reason the EPA/DoE commissioned several consultancy reports as already discussed.

<sup>70</sup> Gorgon interviews -EPA/DoE (13).

outcome. And the outcome wasn't a 'yes' or 'no' decision, it was about good information to enable Cabinet to come to a decision.

There was a sense expressed in the interviews, however, that while the original concept of the Gorgon assessment process was sound, the implementation had resulted in it becoming something of a 'worst of both worlds', in that it was not a true strategic assessment, and neither was it adequately detailed for a project assessment<sup>71</sup>. The confusion over its process, where the lack of consensus as to the purpose of the assessment, and therefore what information was required to answer the question, is described in Section 3.3.8.

### 3.3.6 Preparation of advice for Cabinet

At the conclusion of the data collection phase of the ESE process, the Expert Panel (acting on behalf of DoIR) prepared its *Social, Economic and Strategic Bulletin*, the EPA produced its *Environmental Bulletin*, and the Conservation Commission prepared separate advice in its role as the authority in which Barrow Island is vested<sup>72</sup>. SIAC subsequently prepared its *Overview Report* and *Outcome Report* as described previously.

Both the *EPA Bulletin* and the Conservation Commission advice were structured in two parts. Part A in each case addressed the issues of industry on Barrow Island, alternative locations, and threats to the environmental and conservation values of Barrow Island. Part B addressed the plans to manage the risks to the environmental values of Barrow Island, and net conservation benefits, in the event that the proponent was granted 'in-principle' access to Barrow Island. Both advised against the proposal on the grounds of excessive environmental risk (Conservation Commission of Western Australia, 2003; Environmental Protection Authority, 2003). An extract from the *EPA Bulletin* is presented in Box 3.6.

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<sup>71</sup> Gorgon interviews – EPA/DoE (14) and community groups (12).

<sup>72</sup> In preparing its Bulletin, the Expert Panel circulated several draft versions for comment by the reference Group and also the proponent. In contrast, the EPA conformed to its normal EIA procedures and did not consult on the conclusions of drafts of its Bulletin, for which it was criticised by some during the interviews (Gorgon interviews -ChevronTexaco (8) and Expert Panel (3)).

**Box 3.6: Extract from the *EPA Bulletin 1101***

Given the very high environmental and unique conservation values of Barrow Island, which are reflected in its status as a class A Nature Reserve, it is the view of the EPA that, as a matter of principle, industry should not be located on a nature reserve and specifically not on Barrow Island.

The EPA considers that, from an environmental point of view, alternative sites to Barrow Island could be found acceptable in the sequence (most to least desired location) of brown-fields mainland sites, green-fields mainland sites and Thevenard Island. Trimouille Island could be considered, provided marine values could be adequately protected.

Having weighed the environmental values, the limited available data about risks, and the current level of knowledge on their management, the EPA is of the view that the proponent has failed to demonstrate that establishing a gas processing complex on Barrow Island could achieve an acceptably low level of risk to Barrow Island's outstanding environment and unique conservation values.

**Source: Environmental Protection Authority (2003)**

In contrast, the *Social, Economic and Strategic Bulletin* prepared by the Expert Panel advised in favour of the development by virtue of its forecasted socio-economic benefits to the State<sup>73</sup> (Allen Consulting Group, 2003). The conclusion of the *Bulletin* is presented in Box 3.7.

**Box 3.7: Extract from *Expert Panel Bulletin***

The fact that the GJV has put forward a substantial proposal for the development of the Gorgon Gas Fields is to be welcomed. The experience of the last two decades since its discovery is that there are significant technical and commercial impediments to the development of this very important resource. The current proposal would allow the Australian community to benefit from the monetising of a substantial national asset, the value of which otherwise may not be realised in the foreseeable future.

The GJV's proposal would produce a very high level of economic benefits, with GDP

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<sup>73</sup> Social impacts were mentioned in passing in the bulletin, to the effect the demonstrated economic benefits of the proposal would result in positive social outcomes, and that a more detailed social impact assessment should be conducted "once the project has progressed to a feasibility stage" (Allen Consulting Group, 2003).

and consumption raised significantly above their projected levels under a business-as-usual situation. Although the GJV is foreign-owned, major community benefits would be delivered by the taxes appropriately levied on the profits and rents accruing from the development of an Australian resource. The benefits to the Commonwealth's budget, however, would be much higher than the projected budgetary gains for Western Australia.

Although the GJV is seeking in-principle approval to establish gas-processing facilities on Barrow Island, the final form of the development has yet to be determined. While the LNG/DOMGAS operation proposed by the GJV offers major economic benefits, these would be even greater if a GTL facility, such as that proposed by Sasol Chevron, were incorporated into the project.

Finally, on the key question of location, Barrow Island possesses clear commercial advantages over the alternatives. Trimouille Island is ruled out for commercial reasons as a consequence of past nuclear contamination. A site on Thevenard Island would only be viable if very high levels of government assistance were provided. While we cannot rule out the possibility that, at some time in the future, commercial circumstances could change and agreement could be reached to share facilities on the Burrup Peninsula, on the basis of existing cost information this would be very difficult to achieve. In the current circumstances, therefore, and on the basis of the information available to us, we conclude that Barrow Island represents the only commercial option for monetising the substantial national asset represented by the Gorgon resource.

**Source: Allen Consulting Group (2003)**

Despite attempts to consider the proposal within a sustainability context, the debate was effectively reduced to the traditional stand-off of economic development versus environmental protection<sup>74</sup>, with the champions of each side defending their positions. Neither did SIAC address this divide in its *Overview Report*, which simply provided the context to the decision and a description of the ESE process. Similarly, the SIAC *Outcome Report* (which was not released publicly) did not attempt to reconcile the two opposing views, and simply presented the 'for' and the 'against' cases. As one interviewee said, "It was really a more extensive version of the *Overview Report*, summarising arguments put forward by others and leaving

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<sup>74</sup> The 'State strategic issues' included in the scope of the work of the Expert Panel were in actuality a subset of the economic considerations.

decision, basically unadvised, to Cabinet”<sup>75</sup>. Another, when asked what form SIAC’s integration of the range of sustainability considerations took, replied, “A staple”<sup>76</sup>.

Some considered that this lack of integration of economic, social and environmental considerations was a fundamental weakness of the ESE process, since it did not provide Cabinet with a clear basis for its decision as to what would be in the best interests of the State of Western Australia<sup>77</sup>. There was little consensus, however, on what ‘integration’ might mean in this situation, where the two opposing views (which might crudely be described as ‘pro-development’ versus ‘green’) were so clearly delineated. As one proponent interviewee said<sup>78</sup>:

There are two camps. There’s a CALM/DoE/EPA camp, and I’m not sure within that camp who’s doing what but they are obviously in a different camp from the DoIR camp, the social and economic side, and I think that’s not a good thing for the future. If we’re really serious about an integrated view, then everyone’s got to be able to subscribe. I mean DoIR should be as aware of the environmental impacts and environmental concerns and issues and how they’re going to be managed as the EPA should be aware of the social, economic impacts and benefits for the State. I think until everyone has that cross appreciation it won’t work, because it’s just divisive.

The challenges posed by the institutional arrangements dividing the ESE process into environmental and conservation on one hand and social, economic and strategic on the other were also recognised by an interviewee from within Government, but who found it appropriate that agencies should stick to their areas of expertise<sup>79</sup>:

It was quite clear that that *Outcome Report* was never going to have a single agreed outcome because positions were so different. It then had to represent different views from different quarters and it also had the difficulty perhaps, or the challenge anyway, that the view of people dealing with the economics was pro, but they couldn’t comment on the environment or the conservation, and the view of the people doing environment and conservation was anti but they couldn’t comment on the economic... although I think there was pretty good discipline in getting people to stick to their area of expertise and

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<sup>75</sup> Gorgon interviews -Conservation Commission/CALM (4).

<sup>76</sup> Informal conversation – DoIR (9).

<sup>77</sup> Gorgon interviews -Expert Panel (3).

<sup>78</sup> Gorgon interviews -ChevronTexaco (8).

<sup>79</sup> Gorgon interviews -EPA/DoE (14).

stick to their views backed up by factual argument, under the microscope of the other players challenging statements that were made.

It was suggested that some kind of agreed weighting factors could have been applied that assigned relative values to the various considerations, and it was recalled that weighting had been the subject of some very early consultation on the process undertaken by DPC, but had never been progressed<sup>80</sup>. As was also pointed out, “I don’t think there’s any really easy way to try to rationalise those dollars against unquantifiable values”<sup>81</sup>. In the words of another interviewee<sup>82</sup>:

I don’t think you will ever have a clear equation in people’s minds where three units of strategic benefit are worth one unit of environmental risk. You’re talking about contingent pricing, and as far as I know contingent pricing has never worked and personally I wouldn’t want to go down that track. I am quite comfortable with recognising these as values which are quite different values, and... would never enter an equation saying ‘doubling security of gas supply is worth losing one species to extinction’. Never. What I think you do, is say, ‘I value doubling gas supply a bit, moderately, highly, having more jobs, I value that a bit, moderately, highly, increasing environmental risk, I value a bit, moderately, highly’ and different people will value those things differently because have different personal values. And we have an elected Cabinet process to duke all that out.

Another interviewee suggested this meant that all of the impacts had to be considered in the context of all the others, and that this in turn implied that the direct relationship between the level of acceptable environmental risk and the socio-economic benefits should be recognised (that is, that a higher level of environmental risk should be considered acceptable when the socio-economic benefits are greater) because otherwise “we’d just be doing environmental risk assessment”<sup>83</sup>.

Others expressed reservations about this view, which was seen by some as an attempt to validate the erosion of environmental values in the guise of sustainability<sup>84</sup>:

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<sup>80</sup> Gorgon interviews – Community groups (12).

<sup>81</sup> Gorgon interviews -Conservation Commission/CALM (7).

<sup>82</sup> Gorgon interviews -EPA/DoE (14).

<sup>83</sup> Gorgon interviews -Expert Panel (3).

<sup>84</sup> Gorgon interviews -Conservation Commission/CALM (4).

I think it's going to be a long time before sustainability is a check on those who've traditionally been under [the] economic [banner] and start making them social and environmental, whereas it's already a check on those who are environmental.

Most were of the view that it would never be possible to reconcile the 'yes' or 'no' divide and that SIAC's role was to present a robust, unfettered data set to Cabinet<sup>85</sup>, and that it was appropriate to allow representatives of elected Government to make a decision, rather than forcing agencies to back a position they weren't comfortable with<sup>86</sup>.

It was suggested that SIAC's task of consolidating the data on behalf of Cabinet might have been easier had there been clear State objectives and assessment criteria to provide the context within which to discuss the costs and benefits of the Gorgon proposal, and would also have resulted in a more certain process. In particular, the lack of clear environmental objectives and 'goalposts' was raised as an issue<sup>87</sup>. One EPA/DoE interviewee, however, responded to the call for fixed environmental goalposts as follows<sup>88</sup>:

What you find over and over and over again in assessments is industry, and particularly industry advocacy bodies like Chamber of Mines, or Chambers of Commerce saying 'we like fixed goal posts'. And actually, at the time they do, they want things to be the same for everybody, they want a level playing field with fixed goal posts, and they use both of those, but as soon as you get into a case, a project: well, actually, we just want to change this a little bit, and that's OK isn't it? And it's a bit like you're playing a game of footy, to use the analogy, and you say you want fixed goal posts, and you kick the ball and you realise there's a side wind and the ball's not going to quite go through the goal. And you'd just like to move them a bit to ensure that it goes through the goal. Well, sorry guys, you should have thought about the side wind beforehand. So, you get used to everybody saying they should have fixed goal posts and level playing fields. The world doesn't work that way. Things do change, community aspirations change, and that's the biggest driver, political imperatives change, knowledge changes<sup>89</sup>.

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<sup>85</sup> Gorgon interviews - DoIR (2 and 10) and EPA/DoE (14).

<sup>86</sup> Gorgon interviews -EPA/DoE (14).

<sup>87</sup> Gorgon interviews -DoIR (9) and Expert Panel (3).

<sup>88</sup> Gorgon interviews – EPA/DoE (14).

<sup>89</sup> A DoIR interviewee (9) noted that the EPA's environmental objectives may be different from the Government's, since "Government does have a degree of balance and pragmatism that the EPA has the luxury of ignoring; the terms of its charter are to give unfettered environmental advice". It was

Some within DoIR took the somewhat optimistic view that an integrated consensus view to which all players subscribed could have been reached, but that this opportunity was lost about half way through the ESE process. Achieving a consensus would have required the EPA and Conservation Commission to “stick to their mandate” and cast aside their philosophical opposition to the proposal since Cabinet had already stated that access was not to be refused merely on policy or philosophical grounds, and the focus should have been on achieving consensus on conditions for access<sup>90</sup>.

An important observation was made by an interviewee from outside the Reference Group who noted that there actually were opportunities to achieve a consensus viewpoint, but that it would have required a different framing of the assessment process to allow the possibility of finding an alternative location<sup>91</sup>:

Our understanding of how we’re supposed to be going about sustainability is not necessarily trading one against the other, and I know in some circumstances it’s very difficult, but in this situation they actually could have done it pretty well. If they’d been prepared to look for alternative sites, they could have done much better for the environment and also economic and social, triple bottom line<sup>92</sup>.

A factor that many believed played a significant part in these final stages of the ESE process (commencing with the preparation of advice for Cabinet) was that the responsibility for project management changed hands within DoIR at the time of the preparation of the *Outcome Report*. It was considered by many of those outside DoIR that this resulted in a change in direction, and an eroding of the respect for others’ points of view that had previously characterised the process. The decision that the *Outcome Report* would not be publicly released was also seen as indicative of a change in attitude<sup>93</sup>. As one interviewee recalled, “We began to see people’s and

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also suggested by an EPA/DoE interviewee (14) that a lack of clear up-front objectives is an advantage, since ‘small ‘p’ policy’ can be developed through the process of conducting assessments. The example given was that the Gorgon ESE process was a primary driver for the development of a state-wide policy on environmental offsets, or net conservation benefits.

<sup>90</sup> Gorgon interviews -DoIR (9).

<sup>91</sup> Gorgon interviews -Community groups (12).

<sup>92</sup> The alternatives sites discussion was effectively closed prior to the ESE process commencing by the proponent putting forward its ‘Barrow or nothing’ position. This point is discussed in more detail in Chapter 4.

<sup>93</sup> Gorgon interviews -EPA/DoE (14).

agencies' true colours and their prejudices about what should happen. Debates became disappointingly personal at this time"<sup>94</sup>.

An example of a display of DoIR's 'true colours' during the preparation of advice to Cabinet was the perceived manipulation of the advice provided by other agencies. An EPA/DoE representative said<sup>95</sup>:

I would put in...that the EPA found the project to be fatally flawed and the editors over at DoIR took that out, it must have been four or five times they took it out and I put it back in and they took it out and I put it back in. I said, 'look this is in the EPA's report, you can't take it out' but they didn't like it, they took it out. And that illustrates one of the mechanics of the process that I guess pulling the *Outcome Report* together was always in the control of DoIR and its basic politics, if you want to manage something you control the resources and the pen.

### ***3.3.7 Enabling legislation and Cabinet decision***

Prior to and in anticipation of the Cabinet decision of 8<sup>th</sup> September 2003, negotiations were conducted between the State of Western Australia and the proponent to agree to the terms of the approval. The necessary enabling legislation was drafted, in the form of the *Barrow Island Bill 2003* and the appended *Gorgon Gas Processing and Infrastructure Project Agreement*. The *Bill* covers matters pertaining to the management of industry on Barrow Island in general, while the *Agreement* specifically addresses the Gorgon development.

The negotiations and drafting of legislation were timed so that if the Cabinet decision was 'yes' the legislation could be immediately introduced into Parliament and both Government and proponent time frames with respect to the project could be met. It was also suggested that the negotiations needed to be complete by the time Cabinet debated the issue and made a decision, since the draft legislation was part of the information that went to Cabinet, containing as it did the general shape of what the company was agreeing to with respect to net conservation benefits, gas to shore

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<sup>94</sup> Gorgon interviews -EPA/DoE (14).

<sup>95</sup> Gorgon interviews -EPA/DoE (14).

and other critical issues. The outcomes of the negotiations were an important part of the context in which Cabinet was required to make its decision<sup>96</sup>.

In introducing the *Bill* to Parliament on 16<sup>th</sup> September 2003, the Minister for State Development described the purpose of the *Bill* as being to<sup>97</sup>:

- ratify and authorise the implementation of an agreement, scheduled to the *Bill*, between the State and the Gorgon joint venturers for a gas processing and infrastructure project, to minimise environmental disturbance on Barrow Island, and to provide for the support of conservation programs in similar bioregions;
- with the approval of the appropriate ministers, allow the granting of titles, totalling no more than 300 hectares of uncleared land on Barrow Island for gas processing project purposes, over the A-class nature reserve - No 11648 - that covers the island; and
- allow the underground injection and disposal of carbon dioxide on Barrow Island.

Both the Conservation Commission/CALM and the EPA/DoE expressed a number of concerns relating to the negotiations and drafting of the legislation, which was undertaken by DoIR on behalf of SIAC. These included their increasing sense of marginalisation, the haste with which the negotiation and drafting processes were conducted, and the outcomes of the negotiation itself. In the words of one CALM/Conservation Commission interviewee, “As the proponent, the Minister for State Development and DoIR started to negotiate, that marginalised everybody else” and “in this process, when it came to the detail of legislation, [we were] totally marginalised at the end of the day”<sup>98</sup>.

While the negotiation was unquestionably the responsibility of the Minister for State Development and DoIR, the environmental agencies<sup>99</sup> felt that their views were not taken into consideration. Comments included, “So the process of generating the *Agreement Act* and *Bill*, while it was consultative, it was consult and ignore rather than consult and accommodate”<sup>100</sup> and similarly, “[It was] a classic case of being asked to comment on multiple drafts, with little change occurring between drafts,

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<sup>96</sup> Gorgon interviews -DoIR (10).

<sup>97</sup> From first reading speech, *Western Australian Hansard*, p11272b.

<sup>98</sup> Gorgon interviews -Conservation Commission/CALM (6).

<sup>99</sup> Referring collectively to the Conservation Commission, CALM, the EPA and the DoE.

<sup>100</sup> Gorgon interviews -EPA/DoE (14).

and reiterating the same point time and time again”<sup>101</sup>. One EPA/DoE interviewee summarised the situation<sup>102</sup>:

So that all became a lot less consultative and a lot less transparent when the real power broking was going on as opposed to the front end stuff, which was about sharing information but wasn't about decision-making. So the information-sharing stuff was good...but when it got down to the real nuts and bolts of where the power lay, which is in drafting the legislation it became a lot worse and everyone resorted to good old fashioned methodologies.

These complaints from the environmental agencies, however, were received with little sympathy from at least one DoIR representative, who viewed the comments and proposed amendments submitted by these agencies as a strategy to undermine the overall process<sup>103</sup>:

If you have people who really don't agree that the project should go forward at all, then they're very unlikely to come forward with practicable amendments to legislation...And you also start to get suggestions very late in the day when the negotiation is basically closed, Cabinet is to all intents and purposes signed off, and people are still coming in with what they think are really useful suggestions...This isn't realistic, but then if you really don't want the thing to happen at all, then you don't care if it's not realistic do you?...Right at the end particularly, people probably felt disenfranchised because they would come in and say we fundamentally don't agree with some of this stuff, here's a long list of changes we want, and we'd say well this doesn't go in the direction that the Ministers have agreed. This isn't something which we can agree with the company because we'd have to reopen everything. So, guys, sorry, with the greatest respect, we're closing this off. So yes, we did feel empowered at times! We didn't have a choice! What can you do?

Apart from a sense of being ignored, there was also a strong belief within the environmental agencies that the time frame was inappropriately short for the preparation of the legislation and consequently they were given inadequate time (less than 24 hours in some instances) to comment on or respond to drafts that related to very fundamental issues<sup>104</sup>. There were also rumours of “draft legislation supposedly

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<sup>101</sup> Gorgon interviews -Conservation Commission/CALM (4).

<sup>102</sup> Gorgon interviews -EPA/DoE (14).

<sup>103</sup> Gorgon interviews -DoIR (10).

<sup>104</sup> Gorgon interviews -Conservation Commission/CALM (4); EPA/DoE (14).

being walked into Cabinet...draft legislation being amended right up to the 12th hour”<sup>105</sup>. One DoIR interviewee responded to this criticism by reiterating that the time schedule for the ESE process was set by Cabinet and that therefore time was extremely tight throughout<sup>106</sup>.

The final result was dissatisfaction with the ultimate contents of the legislation by some parties, with the handling of NCBs in the legislation being of particular concern to several interviewees<sup>107</sup>. The general perception among the environmental agencies was that the legislation and *Agreement* did not represent a ‘good deal’ for Western Australia and that it was DoIR’s responsibility to ensure that the development of this resource delivered the greatest possible benefit to Western Australia<sup>108</sup>. One interviewee said<sup>109</sup>:

I remain perplexed and disappointed that the last few weeks were so rushed and what could have been a better deal for the state in all senses, but particularly a conservation sense, was foregone.

Possible reasons for the perceived ‘bad deal’ were also discussed. One interviewee considered that the proponent had undue power in the negotiating process<sup>110</sup>:

It’s hard to say what role DoIR, the Minister and the JV had in the development of the legislation, but I would say the JV had significantly greater control over that process than any agency in Government. That’s the feeling.

One DoIR interviewee also questioned Government’s ability to negotiate such agreements with large corporations<sup>111</sup>:

Governments just haven’t got the wherewithal to negotiate with these large corporations. It would have been a tough negotiation, there’s no doubt about it. These corporations

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<sup>105</sup> Gorgon interviews -Conservation Commission/CALM (6).

<sup>106</sup> Gorgon interviews -DoIR (10).

<sup>107</sup> Gorgon interviews -Conservation Commission/CALM (4 and 6).

<sup>108</sup> Gorgon interviews -EPA/DoE (14).

<sup>109</sup> Gorgon interviews -Conservation Commission/CALM (4).

<sup>110</sup> Gorgon interviews -Conservation Commission/CALM (6). Similarly, another interviewee said: “I suspect what we have seen is the ‘pro’ forces got a sniff of the yes a long while before the decision and all of the deal started to go backwards from that point. The amount of the NCB went down, the term of the agreement went up, all of the controls and outcomes that the state got went backwards from the point that it started to become apparent what the outcome was going to be” (Gorgon interviews -EPA/DoE (14)).

<sup>111</sup> Gorgon interviews -DoIR (9).

send their people that they have negotiating, they send them to negotiating school, whereas these are mere public servants at all levels and the Ministers of the Crown.

On 8<sup>th</sup> September 2003, after consideration of the information before them, including the draft *Bill and Agreement*, the Western Australian Cabinet granted the Gorgon JV in- principle access to Barrow Island for the purposes of gas processing. The State Premier of Western Australia issued a press release the following day entitled ‘Gorgon gas development to deliver groundbreaking environmental benefits’. It is reproduced in Box 3.8.

**Box 3.8: Western Australian Premier’s press release (9<sup>th</sup> September 2003)<sup>112</sup>**

Groundbreaking environmental benefits will flow to the North-West following the signing today of the State Agreement for the \$11billion Gorgon gas development.

Under the agreement, the Gorgon Joint Venture will contribute payments totalling \$40million towards conservation projects to protect native plants and animals in environments similar to Barrow Island.

"This is the first time any State agreement has provided for special environmental benefits outside of the project area paid by the developers of a project," the Premier said today."

The money will be paid to the Department of Conservation and Land Management (CALM) and allocated to major new conservation projects by the Executive Director of CALM, acting on the advice of a special advisory board.

"The money will begin to flow within a month of the Gorgon development gaining Parliamentary approval, with an initial \$3million payment by the Gorgon Joint Venture to flow to major new conservation projects."

In addition to the initial \$3million payment, the conservation package will include:

- \$2million on Stage 1 of the development gaining approval;
- \$5million on approval of Stage 2 of the project; and
- \$1million per year for 30 years following the approval of Stage 1.

All payments will be indexed to protect their value against the effects of inflation.

The Premier said the \$40million conservation benefits package was in addition to commitments the Government had secured for the Joint Venture to fund the

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<sup>112</sup> Media statement issued by the Premier Dr Geoff Gallop on 9<sup>th</sup> September 2003. Available online URL: <http://www.mediastatements.wa.gov.au/media/media01-05.nsf> [Accessed 22nd June 2005]

monitoring of its quarantine protections on Barrow Island by officers from CALM.

Under conditions contained in the State Agreement, the Joint Venture will fund:

- seven full-time CALM officers during the construction phase to a maximum of \$1million per annum; and
- five full time CALM officers during operations to a maximum of \$750,000 per annum.

This would ensure that a minimum of two CALM officers would be deployed on the island at all times.

The Premier said the Government had delivered on its commitment to sustainability by securing funding by the Joint Venture for key biodiversity conservation projects and the independent monitoring of its operations on Barrow Island Nature Reserve. Monitoring would particularly focus on quarantine arrangements for the whole island to be operated by ChevronTexaco, which the Government was requiring to be above current world's best practice standards.

"The Gorgon development is a win for the environment, as well as being a win for both the State and national economies," Dr Gallop said.

State Development Minister Clive Brown said the project also had global environmental benefits.

"The global environment will benefit greatly from the Gorgon development, with LNG exports being used to produce clean energy for the world," Mr Brown said.

"In addition, the reinjection of carbon dioxide from Gorgon gas will result in the Gorgon gas development being the most greenhouse friendly LNG operation in the world

### **3.3.8 The purpose of the ESE process<sup>113</sup>**

Reflection upon the Gorgon experience has highlighted the lack of a common understanding between the various participants and stakeholders as to what the purpose of the ESE process actually was and what the Cabinet decision based upon the assessment process would mean. The ambiguity was recognised by a representative of the Expert Panel at a Reference Group Meeting in April 2003, who

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<sup>113</sup> Section 3.3.8 is derived from a short report I prepared for DoIR as a contribution to the retrospective review.

opened the meeting by asking what exactly the ESE process was designed to achieve<sup>114</sup>.

A common response to this question from interviewees during the research interviews was: ‘The objective of the process is to provide Cabinet with a robust data set so that they can make the most informed decision’<sup>115</sup>. The process was certainly successful in generating large quantities of data relating to a wide range of issues associated with the proposed development plan, as was discussed in Section 3.3.5.

Whether or not the data gathered was appropriate to facilitate Cabinet’s decision clearly depends upon the nature of the decision itself, and therefore it becomes important to clearly articulate the purpose of the assessment and the actual question facing Cabinet. It has been suggested that the ultimate decision could be simplistically defined as ‘to determine whether or not the Gorgon gas development on Barrow Island is, on balance, a good thing for Western Australia’. Such statements, however, are of little value without a clear understanding of the function of the process and its relationship to other processes and decision points.

A closer examination of the original Cabinet decision not to exclude Barrow Island as a matter of policy<sup>116</sup>, which was the initiation of the ESE process, finds it somewhat ambiguous. One interviewee described this decision as implying that industrial development in National Parks may be acceptable to the Government under certain circumstances, and inferring that the purpose of the ESE process was therefore to determine whether the circumstances were acceptable, or could be made acceptable, in this case<sup>117</sup>. Another interpreted it as Cabinet deciding whether or not to reverse a previous policy decision<sup>118</sup>. It was also pointed out that in making this decision Government also reserved the right to decide that there are no circumstances in which industrial activity in National Parks is acceptable, particularly if the suggestion should prove unpalatable to the community<sup>119</sup>. Despite

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<sup>114</sup> Reference Group Meeting 11 April 2003.

<sup>115</sup> Gorgon interviews – DoIR (9).

<sup>116</sup> The DoIR retrospective review process subsequently pointed out the original Cabinet decision actually said ‘as a matter of priority’ not ‘as a matter of policy’. The word ‘policy’, however, was considered to be more meaningful and consistent with Cabinet’s intent and was used in discussions throughout the ESE process.

<sup>117</sup> Interviews - Conservation Commission/CALM (4).

<sup>118</sup> Gorgon interviews -DoIR (2).

<sup>119</sup> Gorgon interviews – DoIR (9).

this reservation, however, the Cabinet decision apparently did open a door that had previously been closed.

It was suggested by another interviewee that the Cabinet decision to not reject access ‘as a matter of policy’ should have curtailed any further ethical, philosophical or values-based discussion as to the appropriateness of development on Barrow Island, “Cabinet in their original decision had already decided that Gorgon’s desire to use Barrow Island for gas processing was not to be excluded as a matter of policy, i.e. not as a matter of philosophy”<sup>120</sup>. This interviewee was later critical of the *EPA Bulletin* and Conservation Commission advice that both opened with a statement of opposition in principle to an industrial development in an A Class Nature Reserve<sup>121</sup>:

Now if you read the Conservation Commission and EPA bulletins, their opening statements disregard that Cabinet decision and directive. They go beyond the mandate and the charter.... whether they agree with the Cabinet decision or not, it was not their role or their mandate in this process to actually reopen that debate.

Others took the view that the philosophical debate was essential to the ESE process and a significant component of its purpose, although often qualifying this by stating that it should be a philosophical debate based upon facts and data and not emotions<sup>122</sup>. Despite the ambiguity as to whether there was room at this stage of the process for arguments based upon value considerations, it was pointed out that the facts and data were necessary to aid in the conceptualisation of a complex and controversial policy issue and to support the philosophical debate<sup>123</sup>. Consequently, the ESE process did focus on the collection and evaluation of data relating to the site selection, the environmental risks and the potential economic, strategic and social benefits of the proposal in order to provide Cabinet with as complete a data set as possible upon which to base its decision.

It was perceived by many that the purpose of the ESE process was to identify any potential fatal flaws in the proposed development plan. There were differing views, however, as to what the implications of that were for the subsequent Part IV environmental assessment. One proponent interviewee believed that a ‘yes’ decision

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<sup>120</sup> Gorgon interviews -DoIR (9).

<sup>121</sup> Gorgon interviews -DoIR (9).

<sup>122</sup> Gorgon interviews -DoIR (9).

<sup>123</sup> Gorgon interviews -DoIR (9).

by Cabinet which was subject to the outcomes of the Part IV assessment would be of no value at all<sup>124</sup>, while another stated after the Cabinet decision that the decision had been interpreted to mean that the gas processing plant would definitely be built<sup>125</sup>. The EPA, however, strongly reserved its right to ‘have another bite of the cherry’, highlighting that fatal flaws may only become apparent at a late stage in the approvals process and pointing out that the EPA could again recommend against the project should it feel the proposed environmental management practices (and particularly quarantine controls) were of an inadequate standard<sup>126</sup>.

Three broad categories of issues rose to the surface as being of most concern to the Reference Group and to the public through the comment process:

- The veracity of the proponent’s claim that Barrow Island is the only economically viable site;
- Quarantine risk;
- Strategic implications.

These can be considered to relate to the three potentially fatal flaws that could have resulted in the Government refusing Gorgon access to Barrow Island:

- Another site being found to be economically viable<sup>127</sup>;
- Quarantine risk being deemed to be unacceptably high; and
- Lack of strategic and economic benefits to WA, for example, lack of a firm commitment to bring gas to shore and that royalties from the project would go to the Commonwealth rather than the State under current arrangements.

The point was made that the bi-level ESE plus subsequent EIA route was the only one available to the proponent since the engineering work was not sufficiently advanced for a Part IV assessment alone. Consequently, the assessment was conducted on a development reference case and not a defined project. Concerns were raised about the difficulties of identifying fatal flaws and also of applying appropriate management controls without full project definition, and hence the risks

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<sup>124</sup> Gorgon interviews -ChevronTexaco (5).

<sup>125</sup> Gorgon interviews - DoIR (2).

<sup>126</sup> Gorgon interviews -EPA/DoE (14).

<sup>127</sup> Gorgon interviews - DoIR (9).

associated with placing too much emphasis on the strategic level assessment to the detriment of the subsequent Part IV assessment<sup>128</sup>.

This discussion formed part of the larger debate about whether or not the ESE process could actually be considered a strategic assessment. In the field of environmental assessment, the term ‘strategic’ is used to refer to an assessment process conducted at a level above a specific project, typically an assessment of a policy, plan or programme (see Chapter 4). Since the ESE process was conducted on a development concept and not a detailed project proposal, it could be considered a strategic assessment. Others pointed out that it could be considered a strategic assessment because it included examination of strategic issues for the State, particularly the issue of providing an alternative source of domestic gas, although it was not strategic in an environmental sense<sup>129</sup>.

It was also suggested that the main purpose of the ESE process was to provide a means of gauging public opinion and therefore the political implications of the Gorgon proposal<sup>130</sup>, and not necessarily to make decision based on a logical and transparent weighing up of all of the factors.

The above discussion highlights some of the ambiguity around the purpose of the ESE process. To summarise, points of discussion included:

- Whether the debate should have been based solely upon analytical information and data with respect to environmental risks and potential strategic, economic and social benefits, or whether there was also room for a debate around the less tangible concerns of values, ethics and philosophy;
- Whether the ESE process was designed to identify fatal flaws in the proposal, and if so, the practicalities of conducting such an assessment on a partially conceptualised proposal;
- Whether the ESE process effectively amounted to a full assessment of a partially conceptualised project and therefore to what extent the Cabinet

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<sup>128</sup> Gorgon interviews - Conservation Commission/CALM (4).

<sup>129</sup> Gorgon interviews - Conservation Commission/CALM (4).

<sup>130</sup> Gorgon interviews – DoIR (9).

decision of 8<sup>th</sup> September 2003 was ‘subject to the outcomes of the Part IV assessment’;

- Whether the assessment was sufficiently strategic, given that its boundaries were largely defined by the proponent’s strategic objectives rather than the State’s;
- To what extent the Cabinet decision was based on analysis of the available data and considered weighing up of the implications in all areas versus the outcomes of a public opinion poll.

### 3.3.9 Consultation, community and campaigns

The release for public comment of the proponent’s *ESE Review* document, and then SIAC’s *Overview Report*, including the appended bulletins and advice, were two of the formal mechanisms for consultation within the ESE process. The Gorgon JV, however, undertook extensive consultation of its own commencing before the initiation of the ESE process and extending right through to the Cabinet decision. A ChevronTexaco representative described three phases of consultation undertaken by the proponent<sup>131</sup>:

The first phase was to make them aware of the proposal, the sustainability proposal. Then secondly, once the scope of work had gone out, to talk to them about their views about the scope of work. Then once the document had been produced to go out and talk to them, as we are now, about the document itself, and I guess we’re now in a situation in phase three where we’re honing in on particular issues raised by key stakeholders and basically trying to resolve those issues in a way that meets their aspirations and doesn’t jeopardise the future of the project.

It was considered by some that there was a fine line between consultation and lobbying, and that the latter strategy was pursued particularly vigorously since the Gorgon JV, as a powerful multinational corporation, had privileged access to political leaders at both State and Commonwealth levels. The Gorgon JV did not attempt to hide the importance of lobbying to its campaign<sup>132</sup>:

I guess when I say we’ve gone around consulting with stakeholders, you can call it lobbying, that’s what it is. We’ve been making a point of talking to every Cabinet

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<sup>131</sup> Gorgon interviews -ChevronTexaco (8).

<sup>132</sup> Gorgon interviews -ChevronTexaco (6).

member. We've already given Cabinet collectively a briefing at a Cabinet meeting, but we're also going out to individual Cabinet members and I guess I always think of lobbying as almost undue influence, but some of them won't even know what Gorgon is. I doubt if [some Ministers] would know what Gorgon is...there's half of them who probably don't know anything about it, and yet they'll be sitting in a Cabinet meeting, and I don't know how those Cabinet meetings really work when it comes to making a decision, on the basis that they do it in a democratic way then I want to make sure that each Cabinet member has had the opportunity to talk to us.

The political power of the Gorgon JV was viewed with suspicion by some who described their behaviour as “virtually blackmailing the State Government, saying if we don't get Barrow [Island] we won't be bringing this massive project here”<sup>133</sup>.

There were further criticisms made by the community sector regarding consultation on the Gorgon proposal, with one interviewee pointing out that community groups had not been given access to all of the available information (citing the proposed GTL plant as an example)<sup>134</sup>, and that the lack of consideration of alternative locations within the ESE process made consultation a farce in any case<sup>135</sup>.

The Conservation Council of Western Australia (CCWA), a peak environmental NGO, launched a campaign called ‘*Rescue Barrow Island*’, which was launched on National Threatened Species Day, 7<sup>th</sup> September 2003, with a well-attended public meeting in Perth. It was ‘too little, too late’, however, particularly as the Cabinet decision to grant the Gorgon JV access to Barrow Island was made on the following day<sup>136</sup>. While the EIA of the detailed project proposal is still incomplete at the time of writing in October 2006, there was a sense that the favourable in-principle

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<sup>133</sup> Gorgon interviews -Conservation Council of WA (12).

<sup>134</sup> In fact information about a possible GTL plant was not available widely within the government agencies either.

<sup>135</sup> Furthermore, while environmental NGOs were accustomed to commenting on the environmental issues associated with proposals, they were at a disadvantage when required to comment upon social and economic issues. It was acknowledged that this was an issue that these organisations should address, perhaps by forming links with relevant experts and by exploring further the concepts of ecological economics (Gorgon interviews -Community groups (12)).

<sup>136</sup> The *Rescue Barrow Island* campaign, and indeed the Gorgon decision itself, should be viewed in the context of the Ningaloo Reef case. A very successful and well-supported ‘Save Ningaloo Reef’ campaign had been mounted against a proposed resort development that was seen to threaten parts of the pristine reef, which is a popular holiday destination. The Government of Western Australia ultimately rejected the proposal in July 2003. There was a sense among the green community that perhaps Government was ‘hedging its bets’ with regard to environmental issues, rejecting the Ningaloo resort in the face of strong public opposition but sacrificing Barrow Island, which had less public support, to a multi-national oil company.

decision at the strategic level meant that approval had already been granted and perhaps because of this, the Rescue Barrow Island campaign lost momentum<sup>137</sup>.

The CCWA acknowledged that the lack of general public awareness of Barrow Island, due to its isolation and distance from major population centres, and the fact that access to the island is restricted, made it difficult for the environmental NGOs to mobilise community support for their campaign. To be successful, a comprehensive education campaign, designed to increase awareness of the conservation values of Barrow Island in the broader community would have been required<sup>138</sup>.

In discussing the community engagement within the ESE process, a representative of the EPA/DoE made an important point regarding the broader issue of the role of community in sustainability<sup>139</sup>:

There really was no community engagement about the whole process. It was very much a Government-driven process and a proponent-driven process, whereas if we're going to argue that sustainability is about reflecting community values and then working towards those values, we need to find ways to meaningfully engaging the community much more thoroughly.

There were a number of different views expressed in the interviews as to the purpose of stakeholder engagement and its role in decision-making. Several of these views were based on the concept of the right of interested members of society to be informed. One DoIR interviewee said, "Society has evolved as a questioning society. It's a luxury that we have because we are a well-educated, inclusive society that has the luxury of expectations"<sup>140</sup>.

The same interviewee also discussed the advantages of the public debate<sup>141</sup>:

We have gained a great deal of public debate. There is greater public awareness, and perhaps greater public recognition of the breadth of the debate and the need to have a comprehensive debate rather than a myopic debate, that these are not simple considerations...It has been a debate within society.

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<sup>137</sup> It is however retained on the CCWA website URL:  
<http://www.rescuebarrowisland.org.au/index.htm> [Accessed 22nd June 2005]

<sup>138</sup> Gorgon interviews -Community groups (12)

<sup>139</sup> Gorgon interviews -EPA/DoE (13).

<sup>140</sup> Gorgon interviews -DoIR (9).

<sup>141</sup> Gorgon interviews -DoIR (9).

The advantage of this to the politicians is that they are made aware of public sentiment about the decision. Furthermore, there is a view that public outrage is lessened as a result of consultation processes, since “it makes it more difficult for them to mount a [Save Barrow Island] campaign now when they have been given the opportunity to state their case here and now”<sup>142</sup>.

The primary focus of the consultation conducted by the proponent was keeping the stakeholders informed. Part of this process was attempting to address particular concerns raised, although the proponent’s response appears to have been to provide further information in order to clarify issues rather than to modify the proposal in any significant way. This somewhat limited role of stakeholders in shaping the process or its outcomes was also reflected in the comments of one DoIR interviewee<sup>143</sup>:

It’s about level of inclusiveness, ensuring that people have the opportunity to be heard, but it’s also about managing their expectations, but notwithstanding their right to be heard they do not necessarily have a right, or they do not have a mortgage on what is right, and the judgement of what is right.

One community representative also perceived that stakeholders were given limited opportunity to influence the process, highlighting issues of the way in which information was presented<sup>144</sup>:

Looking back now in hindsight I think that a lot of what they did was rhetoric so they could be seen to be consulting. They haven’t seriously changed their proposal. What they were on about all the time was to locate on Barrow, was quite clear. You look at some of the analysis that [a consultant] has done, and he’s quite firmly of the opinion that their site was always going to be Barrow and it wasn’t genuine assessment of alternative sites. ....Those sorts of things just make a farce of adequate community consultation.

There was also a sense that greater forces were at work, which further diminished the influence of community stakeholders<sup>145</sup>:

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<sup>142</sup> Gorgon interviews -DoIR (9). The importance of consultation in managing and limiting ‘public outrage’, and the political significance of this was also discussed by a proponent interviewee (Gorgon interviews -ChevronTexaco (8)).

<sup>143</sup> Gorgon interviews -DoIR (9).

<sup>144</sup> Gorgon interviews -Community groups (12).

<sup>145</sup> Gorgon interviews -Community groups (12).

And particularly when you started seeing stuff in the media, virtually blackmailing the state Government, saying if we don't get Barrow we won't be bringing this massive project here. So it does make you feel like, what's the point in talking to them?

One DoIR interviewee raised the issue of the advantageous position of the proponent compared with Government as a result of the public consultation process, "And the other thing talking in terms of process that I think has emerged through this process is that Gorgon is the one who has been out there engaging with stakeholders", and<sup>146</sup>:

I think that the proponent has developed a sense of public opinion that is not available directly to Government, which is then reliant on the proponent's articulation of public opinion rather than having its own understanding. Through this process, we in Government agencies think that we understand what the public is thinking, but we don't have the same strength of understanding that perhaps Gorgon has.

In summary the consultation was viewed by both the proponent and members of government agencies as being a process of providing information to stakeholders and addressing concerns raised, so that they felt engaged and were therefore less likely to mount a high-profile campaign against the proposed development; to enable the Government to gauge the public reaction to the proposal and therefore to evaluate the political implications of its decision; and to allow the proponent to manage the potential effect of the development on its reputation.

### **3.3.10 Roles and relationships**

This section firstly examines the broad issue of interagency cooperation in the Gorgon ESE process, and then explores the roles of each of the main players: DoIR, the EPA/DoE, the Conservation Commission/CALM, and the proponent ChevronTexaco.

#### **Interagency cooperation**

Particularly in the early stages of the ESE process, prior to the preparation of advice for Cabinet and negotiations between Government and proponent, there was regular favourable comment about the higher than usual level of interagency cooperation,

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<sup>146</sup> Gorgon interviews -DoIR (9).

which was reflected in the interviews. In particular, the degree of cooperation between DoIR's Office of Major Projects (OMP) and the EPA/DoE was noted<sup>147</sup>.

There was a correspondingly high degree of optimism about what could be achieved through such interagency cooperation. One EPA/DoE interviewee said early in the process<sup>148</sup>:

The other real advance that I think is, and whether it's the personalities, or the political climate or just timing, I am seeing a lot more cooperative whole-of-Government consideration of the issue than I've seen on a lot of other things. At least at this stage, and we're still in middle, the rubber hasn't hit the road yet, and people haven't had to take hard decisions, but at least at this stage we've found people prepared to listen to the economic argument, people prepared to listen to the environment argument rather than getting in their corners and duking it out with environment on this side and economic on the other, this is Government people, bureaucrats. That's a fantastic advance. Whatever happens with Gorgon, that will be a legacy of this process that I think will be valuable for years to come. I hope I'm still saying that at the end<sup>149</sup>.

The same interviewee also made the point that effective cooperation did not necessarily mean agreement, since each agency had its own mandate and role to play in the process. He said of DoIR<sup>150</sup>:

It's not your job to worry about whether environment is protected, we don't expect you to, we expect you to acknowledge it as an important issue, like we acknowledge that economic development is an important issues, but it's not your job to advocate. We expect you to listen to us and to have a fair process".

Another implied, however, that advocating for a particular position was indicative of a lack of trust between agencies<sup>151</sup>, trust being a recurring theme in the interviews<sup>152</sup>.

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<sup>147</sup> Gorgon interviews -DoIR (2 and 9); EPA/DoE (14). One example provided of this cooperation was that DoIR and EPA/DoE worked together to select the Expert Panel that conducted the social, economic and strategic assessment on behalf of DoIR.

<sup>148</sup> Gorgon interviews -EPA/DoE (14).

<sup>149</sup> Note, however, that this same interviewee five months later was not saying the same thing, making the comment, "but when it got down to the real nuts and bolts of where the power lay, which is in drafting the legislation it became a lot worse and everyone resorted to good old fashioned methodologies" (see Section 3.3.7).

<sup>150</sup> Gorgon interviews -EPA/DoE (14).

<sup>151</sup> Gorgon interviews -DoIR (2).

<sup>152</sup> Interviews - Conservation Commission/CALM (7); DoIR (2 and 9).

As the process progressed towards the negotiation of the agreement between the proponent and Government and the final Cabinet decision, however, various groups began to feel disenfranchised and suspicious of DoIR's behaviour<sup>153</sup>. One interviewee said<sup>154</sup>:

I think there was some potential and some good interaction with agencies and different levels, but I think probably that as time has gone on, people recognise the self-interest of the agencies that they're working for at the core of it and it's probably become less constructive. Some of the initial interaction was probably better than lately.

This perceived lack of trust and increasing levels of conflict between agencies was variously discussed in terms of 'bureaucratic turf issues'<sup>155</sup> and 'bad blood and bad history'<sup>156</sup> rising to the surface. One DoIR interviewee, however, painted a positive picture of the whole ESE process, including the final stages<sup>157</sup>:

[The interdepartmental relationships] were very professional. I've got very high regard for the people. The people from the other agencies were extraordinarily generous with their time. They really put a lot of effort in. The agencies that you would expect us to disagree with over this, we did maintain our sense of humour, we maintained our relationships, we probably got a bit snappy at times, but ... everything is perfectly amiable. I think [there's] a view that we've burnt a few bridges and I disagree completely.

### **Department of Industry and Resources**

The Office of Major Projects (OMP) within the DoIR was responsible for the project management of the Gorgon ESE process. As articulated by one interviewee within the agency, DoIR is traditionally the agency that "helps developers to make investments in WA in the context of compliance with all the laws and aspirations of the State Government" and as such is "not routinely, formally involved in doing evaluations"<sup>158</sup>. Consequently, DoIR's adoption of the project management role, and

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<sup>153</sup> One interviewee recalled a particular Reference Group meeting at which "there were some remarks made in the heat of battle about 'you'll be hearing from us about this and that and something else'" (Gorgon interviews -EPA/DoE (14)).

<sup>154</sup> Gorgon interviews -Conservation Commission/CALM (7).

<sup>155</sup> Gorgon interviews -Expert Panel (3).

<sup>156</sup> Gorgon interviews -DoIR (9).

<sup>157</sup> Gorgon interviews -DoIR (10).

<sup>158</sup> Gorgon interviews -DoIR (2).

hence responsibility for the coordination of the Government response to the proposed development, raised a number of issues:

- The credibility and actual or perceived conflict of interest in having a traditional industry advocate managing the assessment process (the 'fox in charge of the henhouse' scenario);
- The extent to which DoIR retained its role as the proponent's advocate in Government;
- The capacity of the DoIR to coordinate the Government response;
- The behaviours exhibited by DoIR in its project management role and the perceived impacts of these behaviours on the integrity of the process.

DoIR was also responsible for coordinating the drafting of the *Barrow Island Bill* and associated *Agreement* between the State and the proponent, as would normally be the case for any project development. Issues associated with this role have already been discussed in Section 3.3.7 and the following discussion therefore relates to the project management of the ESE process.

The sensitivity of DoIR taking the role as project manager was acknowledged by most of those involved in the process, both internal and external to the agency. From outside the government agencies came the comment<sup>159</sup>:

I think DoIR are in a very difficult position. [When you have] whole of Government coordination responsibility ...on approvals or whatever, you live and die by the credibility which you bring to it. Now that's credibility as a coordinator of the whole of Government effort, which was part of DoIR's job in this process. That's a hard one...at some stage when it gets tough, someone will take your authority and credibility on...I've seen the tussle sitting there, where parts of them had an advocacy hat on: 'but we're the advocates for the development'. It's a very hard thing to maintain a whole of Government, coordination, to take a 'clean hands', rise above it all approach, which stands at the centre of the success of the process one way or another. At the same time, schizophrenically saying there's a Chinese wall between us and the other guys who are advocates. Organisationally you're straddling a very, very nasty barbed wire fence.

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<sup>159</sup> Gorgon interviews -Expert Panel (3).

Sensitivity to the ‘fox in charge of the henhouse’ criticisms, and commitment to ‘playing clean’ led to DoIR’s hiring of the Expert Panel to conduct the strategic, economic and social evaluation on its behalf. In acknowledging this, one DoIR interviewee reflected on the prevailing perceptions, saying<sup>160</sup>:

You can’t trust an economic champion to rationally and dispassionately look at economic aspects. But conversely, you are allowed to have a green zealot and expect them to look dispassionately at the green elements. It’s hypocrisy, but you have to live with the perception.

This interviewee considered that “moving people forward with a belief in the process and continually having to fight the perception that we have approached this with pre-conceived ideas and a pre-conceived outcome” had been DoIR’s greatest challenge as project manager.

Some parties outside DoIR remained unconvinced by DoIR’s efforts to remain impartial managers of the ESE process and questioned its credibility, given its traditional pro-development stance. One interviewee said, “[DoIR] is unashamedly [pro-development]... unashamedly, that’s their job. It’s understandable<sup>161</sup>”. Some believed that pro-development sentiments therefore had a powerful influence over the ESE process, “[The Reference Group process] was useful but it was DoIR controlled and it was contrived to some extent” and<sup>162</sup>:

While all the agendas are really all being constructed by DoIR, it’s always going to have that flavour and you can envisage that the public perception, the conservation stakeholders’ perception will be not that great about how things are done<sup>163</sup>.

Another interviewee went much further in saying, “Frankly there’s obviously been manipulation of the outcome of meetings and so it’s not a really balanced process that you would really need”<sup>164</sup>.

The conservation movement perceived a distinct power imbalance and believed that DoIR and its Minister were clear advocates for the proponent, particularly in the

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<sup>160</sup> Gorgon interviews -DoIR (9).

<sup>161</sup> Gorgon interviews -Conservation Commission/CALM (6).

<sup>162</sup> Gorgon interviews -Conservation Commission/CALM (6).

<sup>163</sup> Gorgon interviews -Conservation Commission/CALM (6). Similar sentiments were also expressed by a representative of community groups (12).

<sup>164</sup> Gorgon interviews -Conservation Commission/CALM (7)

media. Comments were made that, “the very agency that’s pushing it so bloody hard is the very agency that is coordinating the assessment? I don’t think that’s right!”<sup>165</sup> Similarly, “One of the problems is you have a government agency being advocate for the development, but you don’t get the same level of advocacy from the environmental agencies and the conservation agencies, and that always puts you at the rough end” and “[DoIR has] become essentially the proponent for this development, or as good as. Gorgon does a bit of media, but it’s [DoIR] and [the Minister for State Development] who are the spokespeople for this development, and that’s extremely disappointing and not appropriate”<sup>166</sup>.

Within DoIR, there were debates about the agency’s appropriate role in the ESE process, particularly during discussions relating to the nature of the proposed DoIR submission during the first public consultation process. Some internal parties put forward their case that the advocacy voice had been diluted by the project management role and therefore the agency’s submission should be pro-development. Others believed that taking such a position would undermine the credibility of the ESE process and therefore that the DoIR submission should seek clarification and further information on certain issues, consistent with the aim of the ESE process to provide Government with as complete and robust a data set as possible<sup>167</sup>.

Ultimately, the opposing views were somewhat reconciled by noting that DoIR could best support the proponent by managing an open and robust process and giving no-one cause to question its integrity<sup>168</sup>, or in other words, “the best thing we can do is to run this thing as cleanly as possible, squeaky clean”<sup>169</sup>. The comment was also made that<sup>170</sup>:

Being an advocate probably means being their worst enemy, in other words, testing those sorts of assertions almost to breaking point by saying to them if we...later find out that there’s spurious rubbish, we look stupid and you’ve lost an advocate inside Government [and] you’ve probably lost our confidence and your own reputation is history, pal.

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<sup>165</sup> Gorgon interviews - Community groups (12).

<sup>166</sup> Gorgon interviews -Community groups (12).

<sup>167</sup> Internal DoIR Gorgon team meetings.

<sup>168</sup> OMP Gorgon Team Meeting 19/3/03. Note that it was ultimately decided that DoIR would not prepare a public submission.

<sup>169</sup> Gorgon interviews –DoIR (2).

<sup>170</sup> Gorgon interviews -Expert Panel (3).

While there were those within DoIR who claimed, “We dumped the role of project advocate, we just dropped it”<sup>171</sup>, others perhaps more realistically conceded that “we haven’t abandoned our advocacy role, but to some extent have suppressed it because of the bigger picture”<sup>172</sup>.

This partial suppression of DoIR’s traditional advocacy role was perceived by the proponent as abandonment<sup>173</sup>:

To be honest, we’re battling the agencies, the EPA, the Conservation Commission, the Conservation Council, some members of public, some other agencies and we’re battling [DoIR] as well. All they’re doing is putting up problems for us to solve. They’re not solving things for us and they’re not advocating for us, and they were standing on the line and saying well we are not necessarily supportive of this project, we want to be the impartial broker, but everybody views them historically as supportive of the project, so we didn’t have anybody who was for us in Government, and it wasn’t until the last, after our responses to submissions, it wasn’t until the last month or 6 weeks that DoIR actually realised that unless they came out supportive it was going to fall over I think. And I was really disappointed that it took so long because it meant that the people here took a significant burden”.

The proponent’s feelings of abandonment did not engender sympathy from DoIR<sup>174</sup>:

Yeah well, we just said to them, mate, we’re just doing the information, we’re not going to be out there advocating for the project. We cannot, because it’s going to compromise the whole Cabinet system... We can’t afford to start getting compromised in this... We just cannot be an advocate.

However, this interviewee also commented that “if there is to be this kind of process again...it seems to me that there is a risk [if DoIR can not take an advocacy role]. I mean there [are] plenty of people out there lobbying against industry development, some of them are well informed and others aren’t”.

Despite the external questioning of its credibility, DoIR believed firmly in their ability to undertake the project management role, pointing out that they had the

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<sup>171</sup> Gorgon interviews -DoIR (10).

<sup>172</sup> Gorgon interviews -DoIR (3).

<sup>173</sup> Gorgon interviews -ChevronTexaco (11).

<sup>174</sup> Gorgon interviews -DoIR (10).

resources and expertise to take the project management role<sup>175</sup> and that they had done “this sort of ‘honest broker’ stuff before” since “we’re not just industry advocates, we’re a coordinating agency. That’s what we do”<sup>176</sup>. Having highlighted DoIR officers’ credentials in industrial and economic matters, the same interviewee also commented that:

I do hope that we understand, or we have an adequate understanding of the green agenda too, because it’s pretty important. If you don’t understand what the EPA’s trying to do, or the Conservation Commission’s trying to do, then you really can’t pretend that you’re going to be involved in any sort of balanced decision.

Another suggested that DoIR, being “unshackled by statutory confinement” is “able to take a broader, almost societal view” when considering development proposals, and in fact have always done so in their role in negotiating State Agreements<sup>177</sup> since “most *State Agreements* have an [environmental] enhancement [component], additional reporting, and accountability and not an erosion of the environmental bottom line”<sup>178</sup>.

One ‘green agency’ interviewee acknowledged the increasing recognition by the development agencies of the need to take a broad range of factors into consideration<sup>179</sup>:

The world has changed a hell of a lot. There used to be a time when [DoIR’s] successes were: knock off a Cabinet Minute, show it to nobody, get it through Cabinet, and all of a sudden we’d have an industrial estate on the Burrup<sup>180</sup>, for example...it got a lot of developments up fast, you can’t argue about there being economic and social values. We wouldn’t be where we are today if it wasn’t for the Charlie Court<sup>181</sup> era, but we’ve got some environmental legacies because of it. And some process legacies that are finally

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<sup>175</sup> Gorgon interviews -DoIR (2 and 10).

<sup>176</sup> Gorgon interviews -DoIR (10). The example provided was DoIR involvement in a controversy involving the Collie River, Western Power and the Water Corporation (the State owned electricity and water utilities respectively).

<sup>177</sup> Referring to the agreements generated under the *Government Agreements Act 1979* discussed earlier.

<sup>178</sup> Gorgon interviews -DoIR (9).

<sup>179</sup> Gorgon interviews -EPA/DoE (14).

<sup>180</sup> The reference is to the Burrup Peninsular, near Karratha in the Pilbara region of Western Australia (see Fig 1.1). Woodside Petroleum’s operations are located on the Burrup and a proposal for a large industrial estate there is currently being considered.

<sup>181</sup> The reference is to a former Liberal Premier of Western Australia, under whom the resource sector boomed.

working their way out by people on the development side coming to the realisation that they do have to work within the one Government. They can't just bulldoze stuff through because the community won't let them do it.

The suggestion from within the agency that DoIR is perhaps more holistic in its views than other agencies and therefore able to fully appreciate and take account of other agency agendas, particularly environmental and conservation agendas, met with some reservations from the 'green' side of Government. In the words of one interviewee, "I'm absolutely gobsmacked" and "it's not DoIR's job to decide whether the environment is adequately protected"<sup>182</sup>.

### **Environmental Protection Authority and Department of Environment**

As an independent statutory body, the role of the EPA in the ESE process, as is the case for any assessment process, was to provide advice to the Government decision-makers on the environmental implications of the proposed development. The EPA, with the support of the DoE, considers itself a pragmatic body, as expressed by one interviewee, "I don't know, maybe people see us as being just obstructionist, green and impractical, and trying to stop everything, but I certainly don't have that philosophy"<sup>183</sup>. Discussions with the proponent also indicated that the company expected the EPA/DoE to take a pragmatic approach to environmental management and occupy the middle ground between the polarised views of DoIR and the Conservation Commission/CALM. One proponent interviewee expressed this as<sup>184</sup>:

EPA/[DoE] I guess were seen partially as being the impartial judge that was going to weigh pros and cons and so forth and the general feeling is that they've been more towards the Conservation Commission/CALM position, that they've been more than keeping the bastards honest, they've been, not making it tough for us, but they certainly haven't made it easy. Unreasonably, probably unreasonably so.

Examples were provided of ways in which the proponent believed the EPA/DoE had 'made it tough for them', most of which related to the handling of public submissions arising from the first comment period (see Section 3.3.4). In contrast,

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<sup>182</sup> Gorgon interviews -EPA/DoE (14).

<sup>183</sup> Gorgon interviews -EPA/DoE (14).

<sup>184</sup> Gorgon interviews -ChevronTexaco (5).

the conservation movement felt that the EPA/DoE was not a strong enough public advocate for the environment during the ESE process<sup>185</sup>:

[DoE], I always got the feeling they were a bit on the back foot, under a lot of pressure, that they were on the back foot which is where they often are, weren't running a proper, strong, proactive...let's put it this way, we need an environmental advocate as a Government agency in the same way development needs an advocate like they've got in State Development. They weren't doing that".

This interviewee also described both the EPA and the Conservation Commission as being 'petrified small players' in comparison with the DoIR but was pleasantly surprised by the strength of the *EPA Bulletin*, "although they qualified some of their stuff, they came out pretty strongly. I didn't expect that either of them would come out that strongly"<sup>186</sup>.

The view was expressed that the strength and philosophical nature of the *EPA Bulletin* (discussed in Section 3.3.8) was due to factors including the political context and the change in the Chairmanship of the EPA in March 2003. In the words of one DoIR interviewee<sup>187</sup>:

One of the points that I think that was unfortunate, but you've just got to deal with it, was the fact that we had a change in the Chairmanship in the EPA partway through and a change in the membership of the EPA, that those who had lived with it up to a point were no longer there ... And I think that at that point there was a distinct change in the understanding of what the process was about and perhaps there was a change in the perception of the EPA as to what its role in this was. They'd not lived with it to that point<sup>188</sup>.

Immediately following the Cabinet decision of 8<sup>th</sup> September 2003, concerns were raised by other organisations about the position in which the EPA subsequently found itself, that of preparing to assess under Part IV of the *Environmental Protection Act* 1986 a project proposal which it believed was fundamentally flawed and to which it is philosophically opposed. However, EPA/DoE did not view this as

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<sup>185</sup> Gorgon interviews -Community groups (12).

<sup>186</sup> Gorgon interviews -Community groups (12).

<sup>187</sup> Gorgon interviews -DoIR (9).

<sup>188</sup> The impact of the change in EPA Chairpersonship, however, was refuted from within EPA/DoE on the grounds that "none of the real decision-making had been started" by the time of the change (Gorgon interviews -EPA/DoE (14)).

a problem and were comfortable with switching focus to consider how environmental issues such as quarantine should best be managed, rather than whether or not the development should go ahead<sup>189</sup>.

### **Conservation Commission and CALM**

CALM and the Conservation Commission participated in the ESE process as members of SIAC and the Reference Group, and the Conservation Commission also prepared separate advice to Cabinet, alongside the two bulletins prepared by the EPA and the Expert Panel on DoIR's behalf. In practice, the two organisations worked effectively as one, mainly due to the limited resources available to the Conservation Commission, which is a relatively new body<sup>190</sup>.

The respective roles of the Conservation Commission/CALM and EPA/DoE were distinguished between the strictly conservation mandate of the former and broader environmental concerns of the latter<sup>191</sup>. Not unexpectedly considering its mandate, CALM/Conservation Commission expressed their opposition to the development proposal consistently throughout the ESE process. This, however, was viewed by most as quite a reasonable response since, "it's their role [and] they're charged with that responsibility and they're carrying it out and keeping us honest. It's not seen as a bad thing"<sup>192</sup>.

The Conservation Commission/CALM felt very much marginalised by DoIR throughout the ESE process. This sense of 'being treated with contempt'<sup>193</sup> is validated to some extent by the following discussion, in which a range of interviewees question Conservation Commission/CALM's motivations and behaviours during the ESE process in general and the NCB discussions in particular.

Because the original Cabinet Minute indicated that the proposed development would need to demonstrate net conservation benefits (NCBs) and since there was no

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<sup>189</sup> Gorgon interviews -EPA/DoE (1, 13 and 14).

<sup>190</sup> Although the observation was not made in interviews by anyone outside the Conservation Commission/CALM, there was an internal awareness of the potential implications of the Gorgon decision on the reputation and credibility of the Conservation Commission in particular, because of its position as a new statutory body. The Gorgon process was therefore seen internally as "a bit of a line in the sand for the Commission" (Gorgon interviews -Conservation Commission/CALM (7)).

<sup>191</sup> Gorgon interviews -EPA/DoE (14).

<sup>192</sup> Gorgon interviews -ChevronTexaco (5); DoIR (9).

<sup>193</sup> Gorgon interviews -Conservation Commission/CALM (6).

existing Government policy on the subject, discussions about NCBs began early in the ESE process and continued throughout. This placed Conservation Commission/CALM in the position of being fundamentally heavily involved in the process of negotiating the NCB ‘deal’ should Cabinet grant access to Barrow Island while at the same time maintaining a position of fundamental opposition.

One interviewee found this situation to be entirely inappropriate<sup>194</sup>:

Well they can’t put their hat on and then say, 'Oh by the way we’ve taken that [high moral ground, but] now we’re actually going to take off these robes and put on a sharp suit and get into a negotiation'. Doing the latter potentially demeans the currency of the former. That’s a tough ask. Take the high moral ground and then run down into the pit with the rest of the bears and start duking about.

There was a high degree of cynicism from outside the environmental agencies on NCBs and CALM/Conservation Commission’s motivations in the Government discussions. One interviewee said<sup>195</sup>:

Quite frankly ...if I was a harsh judge and being particularly provocative on a bad day, I would watch the nature of some people in CALM [who say], 'Yeah, we’ll let you develop on Barrow, but we want our 30 pieces of silver, in fact it’s not about 30, we’re talking about a little bit north of 30’...I thought that was very, it was brazen almost for me, when I heard them talk in those terms at this stage.

From within DoIR came the remark, “There are those cynics who would suggest that the whole concept of Net Conservation Benefits or NCBs is about Net CALM Benefits”<sup>196</sup>. This sentiment was also echoed by a proponent interviewee who expressed the proponent’s disillusionment with the NCB process<sup>197</sup>.

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<sup>194</sup> Gorgon interviews -Expert Panel (3).

<sup>195</sup> Gorgon interviews -Expert Panel (3).

<sup>196</sup> Gorgon interviews -DoIR (9).

<sup>197</sup> Gorgon interviews -ChevronTexaco (11). This argument was also extended to the CALM’s cost recovery for its duties in monitoring the development, “[A State Agreement provides an] income stream for CALM. That’s all they are interested in. They want to manage the island. They want funds to support their activities and they want more money than treasury is prepared to give to them, a ‘treasury by-pass’. Treasury, in the normal course of events, takes society revenue and decides on behalf of society how it will allocate society’s priorities in terms of funding. CALM obviously has a belief that that does not provide them with the necessary resources to deal with Barrow Island and it would be better if they could have that quarantined, for want of a better word, into a separate ‘piggy bank’” (Gorgon interviews -DoIR (9)).

The suggestion was also made on several occasions that Barrow Island had been better managed by industry than it would have been by CALM<sup>198</sup>, a view strongly refuted by the Conservation Commission/CALM<sup>199</sup>. This debate also alludes to a power struggle between the Conservation Commission/CALM and ChevronTexaco over Barrow Island. The comment was made from outside the government agencies<sup>200</sup>:

[CALM has] been the manager of the estate out there for 40 years. I think there's an issue about them trying to entrench that as much as ChevronTexaco is trying to entrench their ownership and control as a leaseholder, whereas CALM is trying to entrench their position as a manager. It might be an unfair thing to say, but I'd probably say it to them just to see the look on their faces when they're challenged.

The belief was expressed by some interviewees that the Conservation Commission/CALM attitudes and behaviours were at least partly due to history and the context in which the ESE process was conducted. One interviewee said<sup>201</sup>:

I think [the Gorgon proposal] has reopened old wounds. [It] has focused the less-than-perfect circumstances that we find ourselves in in relation to Barrow Island, it has refocused the frustration that CALM does have in relation to Barrow Island, since Government in its wisdom fettered their ability to manage Barrow Island notwithstanding that it had been a nature reserve since 1910 and the values had been recognised since [that time]. Government chose, rightly or wrongly, to grant a petroleum lease and then to vest with Conservation Commission as it is now and then to fetter that vesting, making it subservient to the rights and entitlements of the petroleum lessee.

One proponent interviewee questioned the Conservation Commission/CALM's tactics in terms of the level of detail in their public submission, which led to the large number of questions the proponent was required to answer<sup>202</sup>. One proponent interviewee said<sup>203</sup>:

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<sup>198</sup> Gorgon interviews -ChevronTexaco (5). The main argument put forward here was the presence of the oil operation has meant that access to barrow island has been restricted since the 1960s, and that the oil company is better funded than the government agency.

<sup>199</sup> Gorgon interviews -Conservation Commission/CALM (6).

<sup>200</sup> Gorgon interviews -Expert Panel (3).

<sup>201</sup> Gorgon interviews -DoIR (9).

<sup>202</sup> Gorgon interviews -ChevronTexaco (5 and 8).

<sup>203</sup> Gorgon interviews -ChevronTexaco (5).

And we've recognised that there's obviously fundamental opposition from CALM, we understand the reasoning and we understand that one strategy is to sow seeds of doubt in Government's mind that this isn't a good enough basis, we haven't got all the information, you can't make this decision, is, if I was in their shoes, I'd probably be saying the same thing, it's a reasonable strategy for them to adopt to delay, defer etc.

Another ChevronTexaco representative disagreed<sup>204</sup>:

For sustainability to work, we've got to trust each other, and if there's going to be a whole level of technocrats using this stuff to potentially undermine the project, and I'm not saying that's what they're doing, but one could interpret it that way, that's got to change.

### **The proponent: ChevronTexaco on behalf of the Gorgon JV**

In addition to a certain frustration amongst the Reference Group regarding the proponent's approach to the process of information gathering (see Sections 3.3.3 to 3.3.5), the other concern expressed in relation to ChevronTexaco was the degree of influence the proponent had over the ESE process and its outcomes. This influence was acknowledged by one proponent interviewee, who believed strongly that the process was "collectively our process, ours and Government's process" and that "I think that Chevron was adequately able to influence the process...I think we had the power, the ability, the resources, the willingness of Government to listen"<sup>205</sup>.

Another said that the ESE process "[had] the potential to be more strongly influenced by political lobbying and pressure" than a Part IV EIA process<sup>206</sup>.

One DoIR interviewee expressed particular resentment about this situation. When questioned about the proponent's behaviour during the process, the interviewee responded, "Their' process? ... They will always try to project manage the process to what they see as their best ends"<sup>207</sup>. The proponent's access to Cabinet members<sup>208</sup>

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<sup>204</sup> Gorgon interviews -ChevronTexaco (8).

<sup>205</sup> Gorgon interviews -ChevronTexaco (5). Interestingly, another proponent interviewee had a different view: "I don't know that we had a lot to do with the process but we did get copies of draft documents, particularly from DoIR (Gorgon interviews -ChevronTexaco(11)).

<sup>206</sup> Gorgon interviews -ChevronTexaco (5).

<sup>207</sup> Gorgon interviews -DoIR (9). In support of this statement, the example was provided of "the timing of the release of the review of the draft of the document. It was provided to Government on Christmas Eve, which kept government to a very tight time frame through the holiday period, and put enormous pressure on government to deliver. It was amazing dedication by government to live up to its end of the bargain".

<sup>208</sup> Gorgon interviews -Community groups (12).

and the media<sup>209</sup>, particularly in comparison with Government agencies, were causes of concern for some. Another perceived that there had been an attempt to manipulate Government by a strategy of “divide and conquer by the proponents, playing both ends off against the middle”<sup>210</sup>. As discussed previously, there was concern over the degree of influence the proponent had over negotiations around the legislation and *Agreement*<sup>211</sup>.

### 3.3.11 Resources

All parties agreed that the ESE process was expensive, time-consuming and slow, and it was noted that different agencies were affected to varying degrees. A CALM/Conservation Commission interview said, “The drain is huge on this Department”<sup>212</sup>. A DoIR representative questioned whether the department had committed enough resources to the process<sup>213</sup>. An EPA/DoE representative pointed out the disparity between the resource available to the proponent and those available to the government agencies, “There’s only [two of us] in here and they have a team of 60 and God knows how many millions of dollars have been spent on consultants”<sup>214</sup>.

This was also acknowledged by the proponent<sup>215</sup>:

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<sup>209</sup> Gorgon interviews -EPA/DoE (14).

<sup>210</sup> Gorgon interviews -DoIR (9). The interviewee went on to suggest that this could have been overcome by ensuring adequate resources to maintain “a universal attendance at all (proponent) dealings with government, to be present to understand what is being said at the different forums so that there can be some sense that different messages aren’t being used for different purposes in different forums or that the same message is being presented differently in different forums and being imparted to the audience, which leads to distortions”. It was pointed out that “quite often a company will go and have briefings that we have not been invited to, whether on purpose or otherwise. It would be generous to say that they are always oversights. We would do exactly the same thing if we were in their shoes”.

<sup>211</sup> Gorgon interviews -Conservation Commission/CALM (6).

<sup>212</sup> Gorgon interviews -Conservation Commission/CALM (6). This interviewee went on: “I estimated 11 (full time equivalent people), to get to the point of something being approved, and there’s more afterwards”.

<sup>213</sup> Gorgon interviews -DoIR (2).

<sup>214</sup> Gorgon interviews -EPA/DoE (14). The same interview also presented a different perspective: “I’m sure from their side of fence they would say that ‘we have the entire public service to convince, this is unfair”.

<sup>215</sup> Gorgon interviews -ChevronTexaco (11). This interviewee also acknowledge that the ESE was “a process that places a significant burden on the state as well, the amount of time and money that DoIR, EPA and the Conservation Commission, CALM and others have put into it is not a light burden”.

I guess it was probably what big companies are able to...we just poured on lots and lots of resources, and the people we have here worked extremely hard and long hours and did lots of preparation so we could meet timetable.

One DoIR interviewee suggested that had there been a statutory process in place, the process may not have been so resource-intensive, “I believe that a statutory process ought to be a little quicker than that and certainly you wouldn’t have had to design it from scratch, sit there and design the process and then implement it”<sup>216</sup>.

While there was also a general belief that the drain on agency resources in particular was appropriate due to the scale of the proposed development and the importance of Barrow Island to the conservation estate<sup>217</sup>, the question was also raised as to whether the resources had been well spent. As previously mentioned, an EPA/DoE interviewee pointed out that a large proportion of the resources were used to “effectively rework what could have been provided the first time around”<sup>218</sup> to ensure that Cabinet received the most thorough and highest quality data possible.

### 3.4 Conclusion

It was always anticipated that the Gorgon ESE process, while not necessarily providing a model for future sustainability assessments in Western Australia, would be an important trial for some of the concepts and would provide vital input to the future development of such processes, to meet commitments made in the *Keating Review* and the *State Sustainability Strategy*. The important questions, therefore, are what has been learnt, who has learnt and how have they learnt?

One important mechanism for reflecting upon and capturing lessons learnt from Gorgon was the retrospective review process undertaken by DoIR, and with which I assisted by providing some of my research interview data (DoIR, 2004). This process identified many of the problems, challenges and ambiguities of the process design, such as those highlighted in Section 3.3 and also explored some of the substantive issues. Unfortunately, the review report was never released, so the influence of these lessons, particularly within DoIR as the agency responsible for the implementation of the recommendations of the *Keating Review*, remains to be seen.

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<sup>216</sup> Gorgon interviews -Gorgon (10).

<sup>217</sup> Gorgon interviews -Conservation Commission/CALM (7).

<sup>218</sup> Gorgon interviews -EPA/DoE (13).

The Gorgon ESE process was watched with great interest, however, by officers within Government, industry and the broader community and perceptions were formed with or without a formal report. This is evidenced by the design of subsequent sustainability assessment processes, such as those applied to the South West Yarragadee Water Supply Development, which is the subject of Chapter 6.

In the following chapter, I review the Gorgon experience beginning by identifying the common threads and themes that emerge from the story as presented in Chapter 3. I then explore these themes through the lens of the impact assessment literature in an attempt to shed light on the forces at play and to consider how they might best be harnessed in the interests of meaningful future sustainability assessments.



## Chapter 4: Learning from Gorgon

### 4.1 Introduction

What could be considered as ‘Phase 1’ of the sustainability assessment learning process in Western Australia is the subject of this chapter, whereby the focus is on Gorgon and the year is 2004. The learners in this case are both myself as an individual and the broader policy community involved in sustainability assessment. The mechanisms of learning include both reflection on practice and analysis of the Gorgon assessment process in the context of the impact assessment literature.

Much of the content of this chapter emerged from the events of 2004 and my roles within them. The first of these was the retrospective review of the Gorgon process undertaken by the Department of Industry and Resources (DoIR) early in 2004, to which my contribution was the consideration of the Gorgon assessment as a model for future sustainability assessment (DoIR, 2004)<sup>1</sup>. The second was the preparation of a conference paper for the International Association for Impact Assessment (IAIA) conference in Vancouver, Canada in April 2004, which analysed Gorgon against the three conceptual models presented in the literature review of Chapter 2 (Pope, 2004a; Pope et al., 2005). The third was my role in the second half of 2004 within the Sustainability Policy Unit (SPU) of the Department of the Premier and Cabinet (DPC), where I developed a *Sustainability Assessment Framework* for government agencies and an accompanying background paper (Pope, 2004b). Here in particular, the experience of attempting to put my own thoughts and theories into practice led to some significant reflection and revisions to the conceptual model, which are outlined in the course of the discussion. The focus of this reflective self-critique is on the practicalities of ‘operationalising’ sustainability, and appropriate process frameworks for sustainability assessment<sup>2</sup>.

The purpose of this chapter is to contribute to the development of principles for effective sustainability assessment. While various sets of what have been generally

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<sup>1</sup> As already mentioned in Chapter 3, the report of the retrospective review was never finalised or issued.

<sup>2</sup> My role with DPC also provided me with an opportunity to bring together members of the informal, ‘sustainability assessment learning community’ that had begun to develop in Western Australia by this time. This group of people reflects the willingness of proponents, representatives of government agencies and community representatives to engage with this trial period for sustainability assessment in Western Australia, and share reflections in the interests of learning.

termed ‘effectiveness criteria’ have been developed for strategic environmental assessment (SEA) (T. B. Fischer, 2006; International Association for Impact Assessment, 2002), equivalent sets of principles or criteria for sustainability assessment are only recently beginning to emerge (see for example Gibson, 2006; Gibson et al., 2005). While I had developed a conceptual framework for sustainability assessment in the process of conducting my literature review (see Chapter 2) during the period in which the Gorgon assessment was conducted, this was limited to distinguishing between different conceptualisations of sustainability, with which possible process methodologies were linked.

While it may be that SEA effectiveness criteria naturally extend to sustainability assessment, there is ongoing debate about the relationship of the two tools (Pope, 2006b). Furthermore, it has been noted by others that generic effectiveness criteria may prove to be dependent upon the level of decision under assessment (T. B. Fischer, 2002) and the jurisdiction in which it is conducted (T. B. Fischer, 2006). In attempting to be universally relevant, they tend to adopt the language of ‘motherhood’ statements, which requires significant interpretation to make them useful and in some cases precludes meaningful analysis altogether (T. B. Fischer, 2006). In light of this, coupled with the previously noted lack of generally accepted criteria for effective sustainability assessment, an inductive or ‘bottom up’ methodology has been applied (see Chapter 1). I believe that grounding the analysis in practice in this way ultimately facilitates the development of principles that are both practical and universally relevant.

My process of reflecting upon the Gorgon experience thus took place over time and was focused by practice. A number of themes or focal points emerged from the data, in this case the ‘thick description’ of the Gorgon assessment process in Chapter 3. These were:

*The question.* The framing of ‘the question’, “Are the potential impacts of constructing a gas processing plant on Barrow Island acceptable?” did not permit any reconciliation between the opposing viewpoints.

*Influence on the final proposal.* The assessment process followed an EIA model and was, therefore, essentially reactive to the proponent’s proposal. There was little

opportunity for the assessment process or the consultation and engagement it encompassed to influence either the development of the proposal or the Cabinet decision.

*Basis for sustainability decision-making.* The basis for the Cabinet decision whether to grant the proponent access to Barrow Island was unclear.

*Integration and trade-offs.* The process was not successful in demonstrating an integration of environmental, social and economic issues.

*'Facts' and 'values'.* Despite its emphasis on the collection of scientific and other technical data to aid Cabinet's decision, the Gorgon process was characterised by a value-clash between those in favour of the development on Barrow Island and those opposed to it, which could not be reconciled by recourse to 'the facts'.

*Policy context.* The Gorgon assessment highlighted areas of policy gaps and deficiencies.

*Institutional arrangements.* The Gorgon assessment highlighted aspects of the institutional and regulatory arrangements in Western Australia that are unsupportive of sustainability assessment.

*Politics, power and interests.* Some participants in the process considered that power was unevenly distributed between the parties and therefore that politics played too great a role in what was intended to be a process grounded in technical knowledge and rationality.

I now consider what might be learnt from the Gorgon experience with respect to each theme. Since I have located my research within the field of impact assessment (see Chapter 1) it is to this literature that I predominantly turn as a basis for the analysis. At times I also pose my own solutions to some of the issues raised, drawing from ideas I developed through my practice during 2004. In the process, I reflect upon the three conceptual models developed in Chapter 2, this self-critique being important to the overall spirit of reflection and learning that underpins my research at many levels.

## 4.2 Exploring the themes<sup>3</sup>

In this section I explore the Gorgon themes in more detail. The spirit of this discussion reflects the prevailing concern in Western Australia in 2004 of learning how to do ‘better’ sustainability, as reflected in the retrospective review of Gorgon undertaken by DoIR.

### 4.2.1 Framing ‘the question’

The ‘question’ framing an assessment determines the boundaries of what can be discussed and addressed within the process and what cannot. The Gorgon question can be most simply articulated as, “Are the potential impacts of constructing a gas processing plant on Barrow Island acceptable?” This is a ‘threshold’ question relating to the acceptability or otherwise of the proposal as it was presented, which provided no opportunity to discuss alternative locations<sup>4</sup> and consider what might be required to make them acceptable to the proponent<sup>5</sup>. In fact, any meaningful discussion of alternatives was deliberately excluded from the charter of the Gorgon assessment process<sup>6</sup>.

As one interviewee said<sup>7</sup>:

I think the key thing that wasn’t on the table was the prospect of having your cake and eating it too. From a whole raft of perspectives, almost as with a classic Part IV project assessment, there was no genuine consideration of alternatives. [The consultant who reviewed the alternative sites analysis] will tell you that, most people will tell you that. I think certainly ChevronTexaco didn’t, [DoIR] wasn’t prepared to contemplate the possibility of offering the Government a third option. Now it may be that there is no third option that would meet the company’s requirements, but in a sense that’s an example of decision being made on the basis of insufficient information. There wasn’t a sufficient analysis of ways of how the development could go ahead without touching Barrow [Island].

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<sup>3</sup> This section draws from Pope and Grace (2006).

<sup>4</sup> The proponent was required to justify its ‘Barrow or nothing’ position, but independent analysis of the multi-criteria analysis applied for this purpose exposed methodological weaknesses (EPA 2003).

<sup>5</sup> For example, the possibility of a government financial ‘stump up’ as compensation to the proponent was informally and hypothetically raised in these discussions.

<sup>6</sup> Gorgon interviews – DoIR (9).

<sup>7</sup> Interviews – Conservation Commission/CALM (4).

This was somewhat ironic, since as it was pointed out by several interviewees, both sides of the debate within Government would have preferred the development to have been located on the mainland, the DoE/EPA and Conservation Commission/CALM because of the risk to Barrow Island, and DoIR because Gorgon could have provided the incentive for other industries to locate in a new mainland industrial estate<sup>8</sup>. These different perspectives allude to the values and philosophical divide between those who believed that some places, including Barrow Island, should be held sacred and protected accordingly, and those who believed that resource development is inherently a good thing for society and the threshold question provided no means by which they could be reconciled (Pope et al., 2005).

Furthermore, threshold questions tend to frame very technical assessment processes, as was the case with Gorgon, which sideline the ‘softer’ issues that the community often believes are important to sustainability<sup>9</sup> (Bradbury & Rayner, 2002). For this reason, calls have been made for the definitional and framing stages of assessment to be more participatory (Enserinck, 2000; Petts, 2003)<sup>10</sup> (see Section 4.2.2). The notion of ‘acceptability limits’ or ‘thresholds’ also has its place, particular in relation to the protection of environmental values. I discuss this further in Section 4.2.3.

The boundaries of the proposal and therefore the assessment process were defined by the proponent’s strategic objectives rather than the State’s (Pope et al., 2005), making Government’s role in the assessment entirely reactive to the proponent’s preferred (for commercial reasons) option of Barrow Island. This reflects the model of environmental impact assessment (EIA) in Western Australia upon which the Gorgon process was based. It ultimately also reflects the prevailing pro-development policy discourse in Western Australia, whereby the approvals process serves to establish the conditions upon which a development may proceed rather than to question the need for or appropriateness of the development. A more open question might have been, “What is the best way of developing the Gorgon gasfield?” This would have permitted discussions on alternative locations in a way that

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<sup>8</sup> Gorgon interviews - Conservation Commission/CALM (4) and Community groups (12)

<sup>9</sup> Bradbury and Rayner (2002, p23) conclude from their case study research that “residents’ concerns were much broader than the narrow definition of the problem in terms of concerns about technology that the research had been commissioned to address”.

<sup>10</sup> Petts (2003) suggests that Enserinck’s (2000) quick scan screening method might be an appropriate vehicle for this purpose.

acknowledged different views and values, and potentially led to more creative and mutually beneficial solutions being found (Pope et al., 2005).

Noble (2002a), however, would argue that this variation is still ‘unstrategic’ since it is framed by the higher level assumption that developing the Gorgon gasfields is a desirable goal. This question would, therefore, only generate ‘option alternatives’ and not the potentially more powerful ‘alternative options’ that might emerge from even more strategic questions, such as: “What is the best way to manage Western Australia’s energy reserves and future energy requirements?” This question would enable strategic policy issues that are relevant to a sustainable future (such as energy policy) to be debated. It is also noted, however, that such issues are the responsibility of Government and therefore will remain well outside the scope of sustainability assessments of private project proposals. I discuss the interaction between projects and their policy contexts further in Section 4.2.6

#### ***4.2.2 Influence on the final proposal***

There was little evidence that the Gorgon assessment process had any significant influence on the final proposal. This observation is related to the previous discussion, since the framing of the question did not permit significant rethinking of the fundamental concepts of the proposal such as the location of the development, and also reflects the late stage in the process at which the sustainability assessment commenced. Furthermore, although the proponent consulted extensively with a number of stakeholders throughout the process and the broader community was given two opportunities to make submissions on the proposal (ChevronTexaco, 2003a), there was a perception that this too had little effect.

Clearly there is an argument arising from the Gorgon experience for a sustainability assessment process methodology that is more proactive and integrated with the process of developing the proposal and that incorporates more meaningful forms of community engagement. My co-authors and I made this point in our review of the Gorgon assessment against the conceptual framework presented in Chapter 2 (Pope et al., 2005). Further reflections, however, have led me to question the basis of our argument and to search once again in the impact assessment literature for guidance. This process is the subject of the following discussion, which is followed by a brief review of the role of community engagement in impact assessment.

## Reflections upon previous research

As my co-authors and I concluded in our evaluation of Gorgon against the three conceptual models of sustainability assessment (Pope et al., 2005, p295):

The Gorgon case study provides a clear, real-life example of an EIA-driven integrated assessment approach. The assessment process was borrowed deliberately from the established project-based EIA process in Western Australia ... It focused on identifying and evaluating the social, economic and environmental impacts of the proposal and attempting to determine whether or not these impacts were acceptable. It was also conducted reactively, after many key decisions relating to the development had already been made. The EIA-driven approach highlighted some of the issues and inherent difficulties associated with this form of assessment, especially in relation to integration and trade-offs.

That is, both the framing of the question and the forms of consultation applied are the result of the late stage in the history of the development<sup>11</sup> of the proposal at which the assessment process commenced. By this time, major decisions had already been made by the proponent, including the selection of the preferred location, and the 'Barrow or nothing' position was firmly held. We argued instead that a proactive assessment process, guided by an articulation of the State's sustainability objectives, that is, an 'objectives-led integrated assessment', would have resulted in a better outcome (Pope et al., 2005, p298-299):

While an objectives-led integrated assessment approach represents a departure from traditional impact assessment processes as conducted in Western Australia, it is consistent with best practice objectives-led SEA processes ... What the outcome of this hypothetical process would have been depends upon how the State's objectives were defined and whether the proponent was able to develop a commercially viable proposal within the boundary formed by these objectives. However, the fact that a best practice objectives-led approach is proactive and integral to the process of developing the proposal means that options are left open longer and the focus is on finding the best option rather than defending the proponent-preferred option. This in turn suggests that it may have been possible to reach a different and more widely acceptable outcome through

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<sup>11</sup> The proposed development plan that was assessed in this case was actually the result of 20 years of planning by the proponent for development of the Gorgon gasfields, and the long history of the project was a significant factor in the assessment process.

an objectives-led process, particularly in relation to the location of the Gorgon development.

The distinction here is between reactive and proactive assessment processes (see Chapter 2), which were discussed in the contexts of EIA-driven and objectives-led approaches respectively. We also suggested that our third model, ‘assessment for sustainability’ could be applied either reactively or proactively, and that in fact, a proactively applied ‘assessment for sustainability’ model would have been the most likely to deliver sustainable outcomes (Pope et al., 2005).

The link between the objectives-led conceptualisation of sustainability and a proactive assessment process integrated with decision-making was first made in the literature review of Chapter 2 (Pope et al., 2004). It was based upon a review of the SEA literature, which provides a useful and appropriate basis for the consideration of sustainability assessment, not least by virtue of the current debate in the literature on the extent to which the two may be considered one and the same thing<sup>12</sup>. The question is raised because in many jurisdictions the definition of ‘environment’ is broad enough to encompass the sorts of social and economic considerations that would typically be included in a sustainability assessment<sup>13</sup>.

Upon reflection, however, relationship between the interpretations of sustainability embodied within the models and the processes assigned to each model is contestable<sup>14</sup>. For example, an assessment focusing upon the achievement of aspirational objectives could theoretically be conducted reactively after the development of the proposal, while an assessment aiming to minimise negative impacts could be conducted proactively as an integral part of developing the proposal. To some extent, this is analogous with practices under the Western

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<sup>12</sup> ‘SEA and sustainability appraisal’ was the title of one of the sessions at the International Association for Impact Assessment (IAIA) special topic conference on strategic environmental assessment (SEA) in Prague in September 2005.

<sup>13</sup> As already argued in Chapter 2, it is debateable whether or not suites of ‘triple bottom line’ objectives guiding such proposals in practice can be considered to adequately define ‘sustainability’ but I do not intend to engage with this debate here.

<sup>14</sup> Note that the link between processes that are objectives-led and those integrated with decision-making was somewhat weakened in Pope et al (2005) compared with Pope et al (2004), as the conceptual tenuousness of this link had begun to be realised by the time this article was written.

Australian EIA process, where proponents are generally well aware in advance of the EPA's environmental 'bottom lines' or 'acceptability limits'<sup>15</sup>.

Revisiting some of the original sources that informed the development of the model in fact confirms this. For example, Sheate and his co-workers distinguish between 'EIA-inspired SEA' in which predicted impacts are compared with baseline conditions, and 'policy analysis/appraisal-inspired SEA', whereby impacts of a preferred option proposal are assessed against objectives, citing UK sustainability appraisal as an example (Sheate et al., 2001, 2003). Objectives are associated here with a reactive application of assessment and there is no link between objectives and a proactive approach to decision-making. In fact, the idea of proactive assessment only appears in the third of Sheate et al.'s SEA models<sup>16</sup> – 'integratory SEA' - in which impacts are assessed against both baselines and objectives, and the "process begins early in the development of the policy and investigates alternative means of achieving those objectives" (Sheate et al., 2003, p11).

While the link between the models of sustainability and the process frameworks assumed in the literature review of Chapter 2 and also embodied in the discussion of Gorgon in the context of this framework (Pope et al., 2005) clearly does exist both in the literature and in practice (see for example Thérivel, 2004)<sup>17</sup>, its removal from a conceptual discussion allows for further thought as to how sustainability principles and concepts might best be incorporated into strategic decision-making. I now turn to the SEA literature for inspiration on effective assessment methodologies.

### **Reviewing SEA methodologies**

The detailed review of methodologies for strategic level assessments that follows serves a number of purposes. It examines more closely how proactive sustainability assessment might be applied and provides some justification to the assumption that

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<sup>15</sup> Assumptions about processes relevant to each model become even more arguable in light of the sustainability decision-making protocol described in Section 4.2.3, which incorporates aspects of the interpretations of sustainability drawn from each of the three models.

<sup>16</sup> The fourth model is 'ad hoc mechanisms', such as roundtables, audit committees and state of the environment reports. Furthermore, it is noted that these distinctions have arisen empirically from a survey rather than being based on theoretical foundations.

<sup>17</sup> A contributing factor to this apparent link may be that the shift from baseline-led to objectives-led SEA occurred at the same time as a number of other shifts in thinking about SEA, particularly the relationship between SEA and the process of formulating the proposal. The evolution of SEA is discussed in Chapter 5.

such proactive methodologies should be considered a ‘good thing’. It also provides a framework for the evaluation of Gorgon as a strategic assessment, which ultimately enables recommendations to be made for the development of sustainability assessment processes in Western Australia. The need to reconsider the assumptions upon which my earlier work was founded arises from the ambiguity that surrounds the practice of SEA. Beyond the basic agreement that by definition SEA should be applied to strategic level decisions and EIA to projects<sup>18</sup>, there has been little consensus as to which roles, purposes and methodologies should be assigned to it (Brown & Thérivel, 2000; T. B. Fischer, 2002; Sheate et al., 2001, 2003; Verheem & Tonk, 2000).

Methodology, therefore, remains one of the most significant concerns within the SEA literature, and the one most relevant to the purposes of this chapter. There are several related threads to this discussion, since although it appears to be widely acknowledged that there are two broad forms of SEA, the points of distinction between them varies. For example, Fischer (2003) distinguishes between SEA with a mandatory process framework and SEA that is ‘grafted on’ to existing planning and policy processes as recommended by Verheem and Tonk (2000) and Brown and Thérivel (2000) (see also Boothroyd, 1995; Renton & Bailey, 2000). Others distinguish between ‘comprehensive’ and ‘broad brush’ processes (Bailey & Dixon, 1999; Boothroyd, 1995; Brown & Thérivel, 2000; Noble & Storey, 2001; Partidário, 1999; Sheate et al., 2003; Verheem & Tonk, 2000)<sup>19</sup>; and still others between ‘technical’ and ‘communicative models’ (Owens, Rayner, & Bina, 2003).

The particular thread of this discussion that I followed in the literature review of Chapter 2 emphasised the point in the decision-making process at which environmental concerns should be considered. Here, a distinction is drawn between SEA processes conducted on a draft proposal, and an approach in which SEA

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<sup>18</sup> Bina (in press) is one of few writers in the impact assessment literature to challenge this distinction in application of EIA and SEA, pointing out that the US *National Environmental Policy Act* 1969 was intended to apply to both projects and more strategic initiatives, and early discussions on the introduction of environmental assessment in Europe followed similar trends. Practice, however, has tended to limit the application of EIA to project-level assessments, leading to demands a decade or so later for environmental assessment at the strategic level. Bina argues that this shortcoming in the implementation of EIA is insufficient rationale for the development of a new instrument in the form of SEA.

<sup>19</sup> Verheem and Tonk (2000) provide the example of the Dutch E-Test applied to legislative proposals.

informs the development of the proposal from a much earlier stage. Eggenberger and Partidário (2000) term these ‘bottom up’ and ‘top down’ SEA respectively, and suggest that the latter may be more likely to occur in jurisdictions with stronger planning traditions. Analogously, Thérivel and Partidário (1996a) use the terminology ‘consent-related’ and ‘integrated’ SEA. I prefer the terms ‘reactive’ and ‘proactive’ to describe these alternative models of assessment.

The proactive model is generally considered to be best practice, since SEA is more likely to have a real influence on decision-making if conducted during the formulation of a proposal rather than afterwards when important decisions have been made (Brown & Thérivel, 2000; International Association for Impact Assessment, 2002; Partidário, 1999; Thérivel & Partidário, 1996a)<sup>20</sup>. Whether SEA is applied reactively or proactively has implications for methodologies, as implied in the literature review of Chapter 2. Highlighting the variety of possible approaches, Glasson and Gosling (2001) distinguish four models evident in SEA of regional plans, the first two of which could be considered ‘reactive’ and the second two ‘proactive’:

- the application of EIA methodologies to the plan;
- the ‘stapled model’ in which the SEA is conducted at a certain point in the preparation of the plan and the report stapled to the plan;
- ‘concurrent’ in which the SEA is integrated into various stages of the development of the plan; and
- the ‘holistic’ integration of environmental concerns into the planning process such that separate SEA is not required<sup>21</sup>.

The first of these models clearly follows the ‘old’ conceptualisation of SEA as ‘EIA writ large’ (Sheate et al., 2001) and is thus out of favour, while the second retains concerns over the extent to which a ‘stapled’ SEA report could be expected to

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<sup>20</sup> This suspicion was empirically confirmed by Thérivel and Minas (2002) in their study of UK planning processes, who found that although 80 per cent of appraisals were carried out when the plan had already been drafted, of the cases in which the appraisal made a difference, 70 per cent were integral to the planning process.

<sup>21</sup> Similarly, Partidário (2003) identifies four possible models for this: EIA, standardised SEA, SEA completely integrated with decision-making and SEA guided by the decision-making process and contributing at strategic points.

influence decision-makers, as evidenced by the Gorgon case. There is wide-spread support, however, for the third model, that is for decision-making processes to be ‘independent but interlinked’, with ‘flexible’ assessment processes commencing early in the planning process (Partidário, 2003; Sheate et al., 2003) and ‘speaking’ to it at critical junctures (Thérivel, 2004; Thérivel & Partidário, 1996a). This model is the basis for repeated calls for impact assessment practitioners to better understand policy and political decision-making (Brown & Thérivel, 2000; Deelstra, Nooteboom, Kohlmann, van den Berg, & Innanen, 2003; Eggenberger & Partidário, 2000; Kørnøv & Thissen, 2000; Nilsson & Dalkmann, 2001; Nitz & Brown, 2001; Thérivel & Brown, 1999; Verheem & Tonk, 2000).

A counter argument focused upon improving the practical and procedural aspects of impact assessment has also been observed (Cashmore, 2004; Kørnøv & Thissen, 2000; Nitz & Brown, 2001). It has been suggested that given the general lack of a structured approach to higher level decision-making, particularly policy development, the assessment process itself can provide a structure for decision-making (Sheate et al 2003). Following this line, SEA has been increasingly promoted as a proactive design tool, or ‘policy formulation tool’ (T. B. Fischer, 2003; Noble & Storey, 2001). This approach reflects most closely the fourth of Glasson and Gosling’s (2001) models whereby SEA is completely embedded within the process of developing the proposal.

In this vein Noble (2000, p215) suggests:

SEA is the proactive assessment of alternatives to proposed or existing [policies, plans and programmes], in the context of a broader vision, set of goals, or objectives to assess the likely outcomes of various means to select the best alternative(s) to reach desired ends.

The goals and objectives of which he writes include but are not limited to sustainability goals and objectives, and therefore it could be argued that in this definition, SEA is indeed shaping the process by which the proposal is formulated<sup>22</sup>.

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<sup>22</sup> The fully integrated approach, however, is not without its detractors, who raise concerns that it is not transparent and that it is not clear how, or even whether, the SEA has actually been done (Partidário 2003). George (2001) expresses concern about a lack of distinction between planning and the objectives-led sustainability appraisal of broad-based development plans in the UK context, arguing that their conflation results in a lack of focus on sustainability since the relationship between

Noble (2000) uses this model as the basis for his useful comparison of EIA and SEA. In his terminology, Gorgon represented an ‘end’, rather than a ‘strategy for action’; assumed predetermined goals and objectives rather than being set in the context of a broader vision, goals and objectives; asked ‘what are the impacts’ and not ‘what is the preferred option?’; forecasted, rather than backcasted; was reactive rather than proactive; was project specific; and had a narrow focus and was highly detailed, rather than having a broad focus and a low level of detail; and therefore, can be demonstrated to be effectively an EIA conducted on a development plan rather than a true strategic assessment.

Despite the implication here that the Gorgon assessment was closer to a project-level EIA process than a strategic assessment, as I have already noted, it can not even be considered a good example of EIA. Referring to Noble’s fellow-Canadian, Gibson (2001), who notes that many of the characteristics that Noble attributes to SEA have gradually become evident through evolution in the practices of environmental assessment generally (see Chapter 1), including better integration with the development of the proposal and more focus on purposes, strategic visions and alternatives, it is evident that the Gorgon process did not embody these characteristics.

Regardless of whether the proactive model of SEA shapes or is shaped by the planning process<sup>23</sup>, its important features are the clear up-front determination of the issue to be addressed and the identification and comparison of alternative ways to address this issue. This in turn implies that the assessment must be framed by an open, strategic question rather than a threshold question. A proactive approach to the Gorgon assessment, in which sustainability objectives were established at the commencement and alternative means to achieve both these and other objectives identified and evaluated, would have promoted a better and more sustainable outcome.

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the plan’s own objectives and the objectives of sustainability is unclear. Following George (1999 and 2001), a feature of the ‘assessment for sustainability’ model promoted in the literature review of Chapter 2, was the separation of the assessment process from the planning process.

<sup>23</sup> The best choice clearly depends upon the nature of the planning process to which assessment is to be applied, whether it is indeed strategic in the sense of being framed by an open question, and whether or not it considers alternatives. I return to this issue in Chapter 5.

## Consultation and engagement

Formal community consultation in the Gorgon process was limited to two periods of public review of documentation, as well as a process that was labelled as ‘lobbying’ by the proponent themselves, whereby ongoing discussions were held with various community and business groups together with members of Cabinet. It was concluded that the purpose of this ‘consultation’ was chiefly to manage the potential ‘outrage’ associated with the proposal (see Section 3.3.8). There was little evidence that comments provided in the public submissions process or other meetings between environmental groups and the proponent had any impact on the final proposal<sup>24</sup>, implying that the Gorgon assessment was an example of ‘instrumental’ approach to participation, where the aim is to legitimise decisions already essentially made (Bradbury & Rayner, 2002). The Gorgon assessment was, therefore, a poor example of community engagement, at a time when the increasing emphasis on public participation and engagement in public policy decision-making in general has been noted (Monnikhof & Edelenbos, 2001; Petts, 2003; Scrase & Sheate, 2002)<sup>25</sup>. Petts (2003, p271) asserts that this shift is due to the “changing relationship between science and society, including the decline in social trust in experts and increasing public demands for influence upon decisions”<sup>26</sup>.

The advantages of wider engagement are often cited as the provision of opportunities for social learning, procedural fairness, the integration of social values into analytical decisions, increased public trust and confidence in decisions and decision-makers, and an improved quality of technical assessment processes through lay interrogation and challenging of expert assumptions (Kørnøv & Thissen, 2000; Monnikhof & Edelenbos, 2001; Petts, 2003; Scrase & Sheate, 2002; Webler, Kastenholz, & Renn, 1995). In contrast with the ‘instrumental’ approach of old, there are now calls within impact assessment for the engagement of the wider community early in the decision-making process, including the framing of the assessment (see Section 4.2.1) and the identification of alternatives (Doelle & Sinclair, 2006; Enserinck, 2000; Monnikhof & Edelenbos, 2001; Petts, 2003).

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<sup>24</sup> Gorgon interviews – Community groups (12).

<sup>25</sup> Public participation has been recognised as vital for sustainability in the Rio Declaration, the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, Aarhus, Denmark, 25 June 1998 (Doelle & Sinclair, 2006).

<sup>26</sup> The lack of trust in experts is a characteristic of the Risk Society (Beck, 1992), which I discuss in Chapter 7.

Although it is recognised that assessment processes provide an ideal framework for participatory decision-making (Sheate et al., 2003), the role that participation might play is less clearly articulated within the impact assessment literature. Indeed Scrase and Sheate (2002, p284) argue that:

wider ‘participation’ in assessment shares some similarities with ‘integration’ in that it is often invoked as positive and desirable, but with little thought given to what is actually meant.

There is a sense that it is important that collective values be expressed in ‘deliberative public fora’ (Scrase & Sheate, 2002), but the impact assessment literature provides few answers to questions of ‘how?’ and ‘to what purpose?’ such deliberations should occur. In a recent attempt to answer these questions, Lemon et al. (2004) highlight the importance of understanding not just the reactions of participants in a deliberative process to the specific decision at hand, but also their worldviews of mental models about environmental change. They do not claim that this understanding leads to agreement, but suggest it can highlight incongruencies between policy responses and people’s perceptions that can lead to policy reform. The Gorgon assessment process did not attempt to engage members of the community in processes of deliberation, a point to which I return in Chapter 6.

A number of barriers to effective deliberation have been identified, including regulatory limitations such as fragmentation of responsibilities, expert cultures and institutional paternalism, technical issues, a failure in the transfer of community views between related decisions, and a reluctance on the part of proponents or Government to reveal confidential material (Glasson & Gosling, 2001; Petts, 2003). Confidentiality was certainly an issue in the Gorgon assessment where much of ChevronTexaco’s data was classified as ‘commercial in confidence’.

#### ***4.2.3 Basis for sustainability decision-making***

The basis for the final decision made by Cabinet to grant the Gorgon Joint Venture access to Barrow Island was unclear, which compromised the overall transparency of the process. Of particular concern was the lack of evidence that sustainability was taken into consideration at all, and my colleagues and I subsequently argued that an assessment of the Gorgon proposal, using the Western Australian sustainability principles and criteria “would have demonstrated that the proposal was

fundamentally unsustainable” (Pope et al., 2005, p302). The Gorgon experience thus demonstrates a need for sustainability to somehow be ‘operationalised’ for application within decision-making.

### **‘Operationalising’ sustainability**

The lack of clear criteria for decision-making at the time of the Gorgon assessment was unsurprising, since the *State Sustainability Strategy* was still in development, and hence the Government’s position on sustainability was not yet clearly articulated. In the words of one government agency representative<sup>27</sup>:

I mean...have they actually yet produced a white paper or a green paper or anything of this nature of what Government’s expectations are in sustainability? I think they need to...And I believe that can be done, you can give guidance on those matters...and it should be not beyond the wit of people actually sitting down trying to [set standards, goals and those types of things]... I think they have to bring out some guidelines, some philosophical guidelines.

While it was recognised that sustainability decision-making would require consideration of environmental, social and economic issues, and hence the Gorgon ESE process was conceived, what was missing was any attempt to define Government’s expectations of the proponent in terms of these issues<sup>28</sup>. It was noted in the absence of such criteria, the proponent had, in fact, attempted to assess the development proposal against its own sustainability criteria, although my co-authors and I criticised these for being ‘vague’ or not aligned with the State’s principles (Pope et al., 2005)

The calls for a clear basis for sustainability decision-making that provide a workable definition of sustainability echo through the impact assessment literature (Devuyst, 1999; Gibson, 2001; Hardi & Zdan, 1997; Partidário, 1999; Sippe, 1999).

Furthermore, it is argued that principles, objectives and criteria should be specified early, “before proponents begin thinking about their purposes and options” (Gibson, 2001, p20), and should guide the proponent in developing its proposal a point also made by Sippe (1999) and Partidário (1999).

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<sup>27</sup> Gorgon interviews – EPA/DoE (1).

<sup>28</sup> While policies related to environmental protection are articulated through legislation, policies relating to social and economic outcomes either do not exist, or if they do exist, are not articulated in the project approvals process.

For example, Gibson (2001, p42) argues:

Sometimes [vagueness] has served well, at least as a means of postponing conflict. But perhaps it is now past time for a more explicit and forceful translation of sustainability commitment into sustainability criteria.

Furthermore (Gibson 2001, p5):

Decision criteria are the basic rules of the game. Effective application of sustainability-based criteria in [environmental] assessments will entail at least some clarity about what the effective criteria are and how they are to be interpreted. Policy-makers and process designers have sometimes embraced vagueness as a means of preserving discretionary flexibility and contextual adjustability. Constructive ambiguity can also be helpful in keeping representatives of competing interests at the table. But vagueness is maintained at a cost. While participants in [environmental] assessments – proponents, intervenors, administrators and decision-makers – will appreciate the need to adapt assessment obligations to suit different undertakings, locales and expectations, reinventing the rules for every specific case is likely to bring intolerable uncertainty and unduly attenuated deliberation.

Sippe (1999, p74) expresses the same idea equally eloquently <sup>29</sup>:

EIA has managed to tread carefully between the decision makers' and administrators' appetites for flexibility in discretionary decision-making and the pressure proponents and community groups apply for increased certainty. In environmental decision-making these terms are inversely related.

The literature review article reproduced in Chapter 2 was partly my attempt to highlight the need for clear operational guidance on sustainability and to propose the most appropriate way of advancing this in Western Australia. I reflect upon my earlier argument further here.

### **Further reflections upon previous research**

Each of the three conceptual models in the paper reflects a particular conception of project sustainability<sup>30</sup> (Pope et al., 2004):

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<sup>29</sup> At this point Sippe is specifically discussing the concept of defining environmental 'significance' in impact assessment, but the principles are the same.

<sup>30</sup> As has already been discussed, the inspiration for these three models was the work of Clive George (George, 1999, 2001), who agreed with other authors (Gibson, 2001), that merely minimising

- Sustainability as the minimisation of negative triple bottom line impacts (EIA-driven TBL assessment);
- Sustainability as the simultaneous achievement of triple bottom line objectives (objectives-led TBL assessment); and
- Sustainability as a societal vision represented by clearly defined criteria (assessment for sustainability).

Gibson (2001, p25) advocates ‘decision criteria’ based upon sustainability principles to guide sustainability assessments, and “a process for specifying these principles – and associated values, objectives and criteria – in light of the specific context, through informed choices by the relevant parties (stakeholders)”. Although my co-authors and I linked Gibson’s work with that of George (1999; 2001), Sadler (1999) and The Natural Step (2001) in our endorsement of the ‘assessment for sustainability’ approach, we overlooked that his work was conceptually quite different from the other three. The important distinction is that Gibson does not imply that such criteria should unequivocally define a state of sustainability and thus does not embody the more radical, ‘black and white’ (and eco-centric) approach to defining sustainability.

In refining my original article for publication, however, my co-authors and I chose not to promote the potentially radical nature of the ‘assessment for sustainability’ model. Instead, the article emphasises that this model, in contrast with the first two, is not based upon the triple bottom line conceptualisation of sustainability, and dubs this a ‘principles-based approach’. At this point, we draw upon Gibson’s (2001) advocacy of principles-based approaches as a way of avoiding, or at least minimising, the reductionism of the triple bottom line. In order to make the article relevant to our own jurisdiction, we then proposed the Western Australian sustainability principles as a suitable, and potentially more politically acceptable, alternative to those of George, Sadler and The Natural Step (George, 1999, 2001;

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negative impacts was an insufficiently ambitious aim for sustainability assessment. However, rather than promoting alternative approaches based upon suites of positively phrased triple bottom line objectives (the model applied to the sustainability appraisal of regional planning in the UK), he returns to a more fundamental conception of sustainability and suggests criteria to distinguish between sustainable actions and activities and unsustainable ones, leaving the simultaneous attainment of diverse objectives to the planners rather than the assessors of impact, developing his sustainability criteria from two core principles of sustainability: inter- and intra-generational equity, equating the latter to the reservation of natural capital.

Sadler, 1999; The Natural Step, 2001). So, in making this shift in emphasis from radicalism to principles, we diluted our own argument.

This became clear to me in the latter half of 2004 when I was involved in the development of a *Sustainability Assessment Framework* for Western Australian government agencies. It appeared that my first task in this role was to do what we had said in the article could be done, and convert the Western Australian sustainability principles into meaningful criteria upon which decisions could be based. Almost immediately, this proved impossible. While it was theoretically feasible to develop acceptability limits for negative impacts, and this had already been done for environmental impacts by the EPA in defining ‘critical environmental assets’ which should not be compromised (Environmental Protection Authority, 2005), there was very little upon which to base criteria for positive impacts. Furthermore, as Jenkins and his colleagues point out, Western Australia did, and still does, lack appropriate economic and social criteria for sustainability decision-making (Jenkins et al., 2003). Many of the principles did not suggest criteria in any case; for example, how should one develop criteria for ‘hope’ or ‘sense of place’<sup>31</sup>? It seemed that the Western Australian principles did not allow an absolute definition of sustainability after all<sup>32</sup>.

### **‘Sustainability decision-making protocols’**

In response to this apparent problem, in my role for DPC at the end of 2004, I coined the term ‘sustainability decision-making protocol’ to describe a framework that would operationalise the Western Australian sustainability principles in a different and less absolute way. This would effectively be an interpretation of sustainability specific to the decision at hand but based upon agreed sustainability principles and

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<sup>31</sup> As Sippe (1999, p81) notes: “Criteria and standards, by definition, have their basis in science” and goes on to define a criterion as “a scientific requirement on which a decision or judgement may be based concerning the suitability of the environment to support a designated use”. He puts the reluctance of decision-makers to stipulate firm criteria down to “uncertainties – both scientific and dealing with judgements and values” and notes that where they do exist they are usually based on allowable emissions or on the quality of the receiving environment. According to this definition, it would be theoretically, as well as practically, impossible to establish criteria for concepts such as ‘sense of place’ that are not derived from the natural sciences.

<sup>32</sup> At this point, we also considered the development of criteria on a case-by-case basis for individual decisions. This attempt too struck problems, however. Against a backdrop of general ‘unsustainability’ (characterised for example by inequity, hopelessness or eroding senses of place), how much of a positive contribution should an individual project, for example, be required to make. Where should the bar be set to define positive criteria? Was clarity of criteria impossible, if not unnecessary?

guided by the policies, plans and programmes representing the existing policy context. Along the lines suggested by Gibson (2001), this protocol would be developed on a case-by-case basis and would consist of

- Parameters to be considered with respect to each sustainability principle;
- Acceptability limits for each potentially adverse impact where practicable;
- Aspirational objectives and targets for potential positive impacts.

The protocol approach reflects the emphasis on ‘mutually supportive outcomes’ or win-win-wins in the Western Australian State Sustainability Strategy as well as the need to protect the environment (Government of Western Australia, 2003b). In a sustainability context, Verheem (2002, p10, italics in original) also emphasises that impacts go beyond the local and the foreseeable future and that “at the heart of sustainability assessment is the question of whether a plan or project will lead to improvements on all fronts, or whether there is a risk of *transfer of impacts* into another domain – either in *time* or *place*”<sup>33</sup>. I argued in the *Sustainability Assessment Framework* and background paper (Pope, 2004b) that a sustainability decision-making protocol should guide the development of a proposal and also form the basis of the regulatory approvals process.

The first step in establishing such a protocol is ‘scoping’, which in impact assessment is the process by which significant factors, boundaries and key issues are identified and the means by which they will be appraised established. The purpose of scoping is to ensure that appropriate data on the most significant factors is gathered and that data collection resources, including time and money, are used wisely, since although many factors may be identified for each decision only relatively few will prove crucial to decision-making (B. D. Jones, 1999; Kørnøv & Thissen, 2000; Thérivel & Partidário, 1996a)<sup>34</sup>.

The Gorgon ESE process was very broadly scoped, with no attempt made to identify and concentrate on critical issues, for which it was widely criticised in the interviews

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<sup>33</sup> Jones (1999) discusses how some EIA processes involve public participation at the scoping stage to ensure that community values are taken into consideration in the assessment process.

<sup>34</sup> In the terminology developed in this chapter, scoping is the first stage in developing a sustainability decision-making protocol – once the relevant sustainability factors are determined, the next step is to establish appropriate objectives, targets and criteria.

and in the retrospective review process. The source of the indiscriminate scoping process can be traced once more to the lack of clarity about what the process was intended to achieve, what question it was designed to help to answer, and how it would relate to the subsequent, more detailed EIA process. This in turn contributed to the difficulty in establishing a clear basis for decision-making. As one interviewee suggested<sup>35</sup>:

A better way is to canvas in some form the issues that are fundamental to the decision and get agreement on those so we agree that it's not turtles and it's not jobs in Onslow, whatever it might be. And having agreed those issues, or at least made a decision after having canvassed those issues with public and community and Government and ourselves, you then need to agree what our objectives should be against each of those, and they might be sustainability principles if you wanted to couch them that way. What would our objectives be in addressing each of those fundamental issues, and then we needed to demonstrate that it is reasonable to expect, to go to the nth degree of counting all the x pods, but we need to agree that it's reasonable to expect that you could manage the potential downsides and deliver the potential upsides.

Integral to the protocol concept is the notion of 'environmental bottom lines' or acceptability limits for environmental impacts, as their clear articulation may help to reassure those who believe that sustainability assessment will result in the trading off of the environment for economic gain (Jenkins et al., 2003; Sheate et al., 2001). This point is also strong in the literature; for example, Sippe (1999) distinguishes between 'negotiable' and 'non-negotiable' environmental issues<sup>36</sup>.

While one interviewee highlighted the practical difficulties of defining inviolable environmental bottom lines when proponents can claim they have the technology to overcome them, for example by sequestering carbon dioxide or potentially even cryogenically freezing some species, and when bottom lines can be expected to change continually as societal values change<sup>37</sup>, others endorsed the concept, arguing, "We mustn't let the sustainability stuff move into... 'this means that everything is up for grabs'"<sup>38</sup>. Another interviewee referred to significant environmental issues as

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<sup>35</sup> Gorgon interviews – ChevronTexaco (5).

<sup>36</sup> See also Noorbakhsh and Ranjan (1999).

<sup>37</sup> Gorgon interviews - Conservation Commission/CALM (7).

<sup>38</sup> Gorgon interviews – EPA/DEP (1).

‘touchstones’<sup>39</sup>, and suggested that they had been inadequately defined for Western Australia at that point<sup>40</sup>. Another argued that the Gorgon decision could not be considered to have been made in a sustainability framework because ‘environmental bottom lines’ were crossed<sup>41</sup>:

The environmental bottom line is clearly painted as don’t do it. The risks are too high, and that line is crossed. The decision has been made on the basis of one criterion. It’s a traded off decision, which is the way we used to do things, it’s not a sustainability decision.

Other interviewees emphasised the need for sustainability objectives<sup>42</sup>, including environmental objectives with respect to sensitive issues<sup>43</sup>, with an emphasis on the local context<sup>44</sup>. The Gorgon experience also demonstrated that the protocol should incorporate societal sustainability objectives as well as the proponent’s objectives, noting that they will not always correspond (Noble, 2000). This was demonstrated by the proponent’s focus on financial goals, while the State’s sustainability principles speak of ‘economic health’ (Pope et al., 2005).

Despite the inherent challenges, therefore, I argue now that a sustainability decision-making protocol is an important part of a sustainability assessment process. I return to discuss this in another context in Chapter 6.

#### **4.2.4 Integration and trade-offs**

Integration has been a major theme in discussions of sustainability assessment and sustainability decision-making more generally, but there has also been ambiguity about what this actually means, much less how to achieve it. Owens and Cowell (2002, p64) note that “while the rhetoric of integration is pervasive, its precise meaning and its implications for policy practice are often unclear”, while Scrase and Sheate (2002) identify 14 different forms of integration relevant to assessment. As discussed in Chapter 2, Lee (2002) clarifies that the form of ‘integration’ we generally discuss in relation to sustainability is ‘horizontal integration’ as opposed to

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<sup>39</sup> The example provided of a ‘touchstone’ was the Old Growth Forests in the South West of Western Australia (see Chapter 1).

<sup>40</sup> Gorgon interviews – Expert Panel (3).

<sup>41</sup> Gorgon interviews – Conservation Commission/CALM (4).

<sup>42</sup> Gorgon interviews – Expert Panel (3).

<sup>43</sup> Gorgon interviews – ChevronTexaco (5).

<sup>44</sup> Gorgon interviews – EPA/DoE (1).

‘vertical integration’ or tiering (see Section 4.2.6) or the integration of assessment into decision-making (already discussed in Section 4.2.2). In turn, Eggenberger and Partidário (2000) distinguish five different forms of horizontal integration – substantive, methodological, procedural, institutional, and policy.

Lee (2002) provides a typical analysis of horizontal integration, specifically of environmental, social and economic concerns, with the benefits cited as:

- Greater relevance to decision-makers and other stakeholders who wish to be informed of the full range of likely impacts associated with proposed measures, rather than subsets of these;
  - Greater ability to capture the indirect and synergistic effects that result from linkages between economic, environmental and social impacts that otherwise might be overlooked in separate, more specialised assessments; and
  - Greater opportunities to streamline the overall assessment process, reduce duplication and double-counting problems, and to strengthen the consistency between the methods and data used within the overall assessment.
- Streamlining has become a bigger issue, given the apparent paradox of a continuing proliferation of *specialist* forms of impact assessment, alongside proposals for greater *integration* within impact assessment.

The corresponding challenges are articulated as (Lee, 2002):

- Continuing inconsistencies between certain assessment methods currently used in different, specialist forms of impact assessment; and
- Potential conflicts between the assessment paradigms of different disciplines involved in integrated assessments.

This widespread concern with horizontal integration reflects the growing recognition that impacts in one area are often related to those in another. The relationship between different impacts could be opposing or synergistic. For example, a positive environmental outcome (for example through the use of offsets, which I discuss below) could come at an economic cost. On the other hand, a detrimental environmental impact on a river might have a corresponding negative social impact if the environmental loss also results in a loss of amenity or a detrimental impact on

‘sense of place’. Alternatively a proposal may deliver ‘win-win-wins’ or positive outcomes with respect to several sustainability factors.

Clearly, ‘win-win-win’ outcomes are desirable, and the Western Australian *State Sustainability Strategy* (Government of Western Australia, 2003b, p30) places great emphasis on this by seeking to achieve “net environmental, social and economic benefits for future generations” from development projects. Several approaches to facilitating these win-win-wins have been suggested, including basing the assessment on integrated, holistic sustainability principles that move away from the triple bottom line concept, which “tends to focus attention on competing objectives, rather than on needs and opportunities for positive accommodations of interrelated human and ecological interests” (Gibson, 2001, p8). Such principles should inform the development of a sustainability decision-making protocol, which as discussed in Section 4.2.3 should also incorporate ‘acceptability limits’ to prevent the kind of trading off of the environment for economic gain that was perceived by some to have been the outcome of Gorgon.

Equally importantly, integration is a function of the way the sustainability assessment is structured, and a proactive assessment process that informs the development of the proposal (refer to Section 4.2.2) provides the greatest opportunities for mutually beneficial outcomes (Morrison-Saunders & Thérivel, 2006; Pope et al., 2005). By keeping the sustainability decision-making protocol in sight as the proposal is developed, alternatives considered and impacts predicted, the opportunities for mutually beneficial outcomes may be enhanced and unnecessary trade-offs limited. This opportunity was missed in the Gorgon assessment process.

One of the recurring criticisms of the Gorgon ESE process was that it did not successfully integrate environmental, social and economic considerations. Instead, it concluded by simply presenting two opposing views to Cabinet and asked them to ‘integrate’ them and make a decision<sup>45</sup>. While some argue that this is an appropriate model (Jenkins et al., 2003), since it ensures that the environmental component of the assessment is independent and thus able to play its advocacy role in decision-making (Kørnøv & Thissen, 2000), as Gibson (2001) points out, this is a process of

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<sup>45</sup> There was early consideration of using some form of multi-criteria analysis to perform the ‘integration’ which appears to reflect a technocratic reliance on ‘black box tools’ to make a decision.

balancing rather than integrating noting that balancing results in net ecological loss. He, along with many other authors expresses concern about the potential for the loss of the traditional environmental focus within a sustainability context, and the “reassertion of the traditional emphasis on immediate economic priorities”, but questions the view that a separate environmental assessment process is the way to protect environmental values, since in an adversarial situation, the environment is unlikely to win out over development interests (Gibson, 2000, p8).

The decision to conduct the environmental assessment separately from the social, economic and strategic assessment ensured that the Gorgon process would not be integrated. The process design reflects the origins of the process in EIA, and as Gibson (2001, p22) notes, “In environmental assessment practice, an assumed conflict between environmental and other objectives is commonly built into process design. In the Canadian federal process, for example, significant adverse environmental effects may be ‘justified in the circumstances’”.

This was felt by participants in the Gorgon process; as one interviewee said<sup>46</sup>:

What disturbs me is that you talk about sustainability and all you see is that triple bottom line and many will argue that the TBL is a slightly spurious process of sustainability, and even that was effectively thrown out at the end of the day because there’s too many zeros on the end of the dollar figure [and it’s] too attractive.

Similarly<sup>47</sup>:

The economic argument outweighed all others and to that extent I don’t think it was a sustainability assessment. Because environmental benchmarks have been breached to avoid breaching economic benchmarks. It may have been a situation in which it was either/or and maybe in those situations presumably you can’t do a sustainability assessment, or you can’t have a sustainable outcome because one bottom line at least has to be breached or the project doesn’t go ahead.

Since development is impossible without some impact on the natural environment, a mechanism to achieve a net positive environmental outcome from a development is necessary. This mechanism is the concept of ‘net conservation benefits’ (NCBs) as

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<sup>46</sup> Interviews – Conservation Commission/CALM (6).

<sup>47</sup> Interviews – Conservation Commission/CALM (4).

applied in Gorgon, or to use alternative terminology 'environmental offsets'. Offsets can be considered as a special kind of trade-off, made within a pillar rather than between pillars<sup>48</sup>. As discussed in Chapter 3, however, the EPA argued that NCBs in the Gorgon case could not compensate for the risk to the conservation values of Barrow Island (Environmental Protection Authority, 2003).

#### ***4.2.5 Facts and values***

It was always recognised that the potential location of the Gorgon gas processing facility on Barrow Island was highly controversial and that different views on the issue reflected the fundamentally different philosophies or value-bases of those involved in the assessment and of the community at large.

The two assessments and two arguments presented to Cabinet reflected the two distinct 'camps' that formed, both in the community, as evidenced by the public submissions, and amongst the government agencies. The 'green camp' was fundamentally opposed to an industrial development on a Class A Nature Reserve, while the 'pro-development camp' perceived that the strategic and economic benefits to Western Australia of the development outweighed the risk to the environment (Pope et al., 2005). This was reflected in the advice to Cabinet, with both the EPA and the Conservation Commission recommending against the development (Conservation Commission of Western Australia, 2003; Environmental Protection Authority, 2003), while the Expert Panel acting on behalf of DoIR recommended in its favour (Allen Consulting Group, 2003). Although the fundamentally different views of the participants were never far beneath the surface, however, they sat uncomfortably within the assessment process.

As discussed in Section 3.3.8, one interviewee attempted to reconcile his own ambivalence to the question of values in different ways: firstly by insisting that the Cabinet decision to conduct the ESE process meant that access to Barrow Island was not to be rejected on purely philosophical grounds and that therefore this value-based line of argument should have been closed. When challenged, this interviewee

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<sup>48</sup> Environmental offsets are the subject of an EPA Position Statement (Environmental Protection Authority, 2005).

admitted that yes, the debate was fundamentally value-based, but that data was needed to give form to the debate<sup>49</sup>.

Despite the controversial nature of the proposal, DoIR maintained a hope until quite late in the process that consensus could be reached through a rational process based on the generation of good, scientific and technical data, and therefore that Cabinet could be presented with a unified recommendation from the bureaucracy. This hope, expressed on several occasions by one interviewee in both formal and informal conversations<sup>50</sup>, was founded on the setting aside of value-based opposition to the proposal by the environmental agencies and that, as the process progressed, the ‘facts’ of the matter would ‘speak for themselves’, demonstrating the acceptability of the proposal. This somewhat naïve belief reflects a faith in the ability of science to convert an emotional debate into a ‘rational’ one through a clear separation of ‘facts’ and ‘values’.

Despite this hope and belief upon which it was founded, the process of generating data during the Gorgon assessment process was not smooth, technical or divorced from value positions; instead, it was emotional and often quite heated. Different agencies called in experts, accusations were made of vexatious questions from public submissions, and there was a degree of ‘nit-picking’ by some agencies in critiquing the quality of the data. The quality and quantity of the data generated were both the subject of debate, with the pro-development side generally finding them adequate and the green side considering them inadequate. More data was not the solution to the conflict; in fact, as more and more data was generated, the divisions appeared to become more firmly entrenched (see Section 3.3.5).

The belief that facts and values could be separated was inherent in the process of gathering, analysing and interpreting data the institutional configuration. Although not everyone believed even at the outset that bureaucratic consensus could be reached, there was general acceptance across the various agencies of the role separation between the bureaucrats responsible for coordinating the collection of data through the Gorgon assessment process, and the elected members of Cabinet responsible for making the final (political and value-based) decision. This

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<sup>49</sup> Gorgon interviews – DoIR (9).

<sup>50</sup> Gorgon interviews – DoIR (9).

manifestation of Bacon's notion of 'knowledge speaking to power' is also embedded in the Western Australian EIA process, and this was articulated by one 'green agency' interviewee<sup>51</sup>:

Yeah, I have a very clear view about that. At the end of the day, only the elected representatives can make those trade-off and those decisions. That's what they're elected for, to represent all of us. And because of their elected status, if we don't like their decisions collectively as a community we can remove them and put somebody else in. So only they are accountable for making those value judgements, and quite rightly, in my view, only they can make those decisions

The failure of the Gorgon assessment process to engage with differing value sets reflects its origins in the 'information provision' model of EIA, whereby value-free data is generated through 'objective' analytical processes and provided to decision-makers who employ it to make the best decision (Bartlett & Kurian, 1999; Cashmore, 2004). It has long been recognised that this is an erroneous model of policy decision-making (Beattie, 1995; Lawrence, 1997), but despite this it remains persistent, particularly in EIA. I discuss this in more detail in Chapter 5.

#### **4.2.6 Policy context**

I argued in Section 4.2.3 that sustainability assessment of a project proposal should be guided by clear criteria for decision-making, in the form of what I have called a 'sustainability decision-making protocol'. I also argued that it should be based upon agreed sustainability principles and strategic objectives. This is the concept of 'trickle-down or 'tiering', which argues that decisions and assessments at lower levels should be guided and influenced by those at more strategic levels of decision-making. Tiering reflects the decision-making hierarchy with policy at the highest and most general level, followed by plans and programmes, and finally by projects as the most specific initiatives<sup>52</sup>. The concept is much discussed in the impact assessment literature (Lee, 2002; Marsden, 2002; Noble, 2000, 2002a; Nooteboom, 2000; Thérivel & Partidário, 1996a).

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<sup>51</sup> Gorgon interviews – EPA/DoE (14).

<sup>52</sup> Fischer (2002) distinguishes these forms of decision-making as follows: policies relate to strategies and visions, plans typically relate to land use and transport planning, and programmes are groups of concrete projects.

Calls for tiering are a reflection of the limitations of project-level EIA in comparison with the influence of policy context. For example, Boothroyd (1995) notes that the project orientation of most EIA processes naturally precludes the consideration of ‘bigger questions’<sup>53</sup>. In an early contribution to the discussion, Rees (1988, p286) argues:

In the absence of a broader policy and planning context, without knowing potentially competing resources uses and values, it is impossible to assess the ‘significance’ of impacts associated with isolated projects<sup>54</sup>.

It is insufficient, however, that such policies should be in place; they must also reflect sustainability, since sustainability assessment can be misleading if the assessment is conducted within a policy framework that does not support sustainability (Fuller, 2002). The theory of tiering states that sustainability assessment applied within a tiered system will ensure that unsustainable activities are excluded at the higher levels of decision-making, thus limiting options at the lower levels to those that might be considered sustainable (Noble, 2000; Nooteboom, 2000).

It is also noted, however, that tiering is somewhat idealistic and rarely works in practice according to the theory (Lee, 2002; Noble, 2000; Nooteboom, 2000). One explanation is that often the policies, plans and programmes that should guide project level assessments and inform the development of the sustainability decision-making protocol either do not exist, or if they exist they are incompatible with the sustainability principles<sup>55</sup>. This was borne out by the Gorgon case study, which

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<sup>53</sup> Boothroyd (1995) goes on to argue that a focus in EIA on technical questions that lend themselves to science-based analysis, to the exclusion of the higher level strategic issues that shape the project decision, is generally to the benefit of proponents.

<sup>54</sup> Others suggest this might be considered “an unrealistically centralized and influential planning system (Scrase & Sheate, 2002, p280).

<sup>55</sup> Other reasons have been put forward by (Lee, 2002; Noble, 2000; Nooteboom, 2000):

exposed ‘disconnects’ between the decision at hand, previous decisions that influenced it, and the policy context within which it was to be made. For example, although the proponent was required to demonstrate net conservation benefits associated with the proposal, in other words some form of environmental compensation for the potential negative impacts of the proposal, there was no government policy in place to guide the identification of appropriate ‘environmental offsets’ or to specify what would be considered acceptable. Similarly, the lack of greenhouse gas, geosequestration and energy policies became all too evident<sup>56</sup>.

The policy vacuum created practical problems for the Gorgon assessment. In the words of one proponent interviewee<sup>57</sup>:

I think Government has still got a long way to go. One of the things we have struggled with is that Government doesn’t, Australia, let alone the State, doesn’t have an energy policy, so how do we show how Gorgon fits within the broader energy framework. Until some of these real fundamentals are in place, it’s very difficult for Government to say this is how your project will be measured.

In some cases, such as net conservation benefits, the policy gap has subsequently been addressed, at least partly as a result of the Gorgon process<sup>58</sup>. These examples could be termed ‘trickle-up’ since the project assessment could be seen to influence more strategic Government decision-making, rather than the other way round, a phenomenon that has been observed elsewhere (Bailey & Dixon, 1999; Boothroyd, 1995; Noble, 2002a; Noble & Storey, 2001). As well as these immediate policy deficiencies, the Gorgon assessment also raised challenges to entrenched policy

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- Top level policies, plans and programmes are not necessarily consistent or well-linked, especially when responsibility is divided between different bodies, and therefore do not necessarily clearly frame the lower-level assessments;
  - Planning cycles are rarely as streamlined in practice as the tiered approach applies;
  - Capacity to conduct assessments at different tier levels likely to be limited;
  - There may be a significant time lapse between the development of a proposal and of a related project;
  - In many cases SEAs are not done at all and therefore strategic issues have to be included in EIAs.

Nooteboom (2000) does find evidence of tiering in practice but acknowledges that most of the case studies that lead to this conclusion demonstrated a formal link between the respective levels of decision-making, which is often not the case.

<sup>56</sup> These gaps were raised by industry groups during the DoIR retrospective review, emphasising that business in general prefers ‘fixed goalposts’ to policy ambiguity.

<sup>57</sup> Gorgon interviews – ChevronTexaco (8).

<sup>58</sup> The EPA has subsequently issued a Position Statement on environmental offsets (Environmental Protection Authority, 2005)

beliefs and traditions, often through the public consultation processes. For example, questions were raised about the private sector exploitation of non-renewable natural resources: development projects such as Gorgon have traditionally been viewed in overwhelmingly positive terms in Western Australia and elsewhere, due to their contributions to economic development and prosperity. Submissions to the Gorgon process questioned this assumption, as well as raising issues about the future of the development and use of non-renewable resources within a sustainability context (ChevronTexaco, 2003b). Although the assessment processes, with their narrowly defined question, did not provide a space within which such questions could be addressed, this demonstrated how sustainability assessments of project proposals could open up deeper questions relating to fundamental aspects of society and its institutions. This analysis begs the question of what value sustainability assessment might have within an inadequately tiered system with many embedded policies and practices that are clearly unsustainable, a question to which I return in subsequent chapters.

#### ***4.2.7 Institutional arrangements***

The Western Australian bureaucracy, like many others in the western world, is separated into agencies with demarcated and often competing roles. The Gorgon assessment process was coordinated by the agency responsible for promoting exploration and development of resources (DoIR), with the support of agencies responsible for regulating their activities (the EPA and Conservation Commission in this case). The assessment process was correspondingly split down these lines, resulting in the two competing pieces of advice presented to Cabinet. As discussed previously, this approach was at least partly a function of the institutional arrangements in Western Australia, and led to the obvious conflicts and value clashes that have been discussed in Section 4.2.5.

This divide can be attributed the Western Australian EPA being broadly restricted to providing advice on environmental matters and not being permitted to consider social or economic issues (Bache et al., 1996). Lack of capacity, particularly for social and economic assessment, which was a factor in the appointment of consultants to conduct this part of the assessment was also an issue. ‘Institutional unwillingness’ that may have been present due to long histories between some

agencies (see Section 3.3.10) (Glasson, 1996; Glasson & Gosling, 2001).

Notwithstanding the views on the role of elected Government in integrating competing concerns discussed previously, the undesirability of this situation in which one side ultimately ‘won’ and the other ‘lost’ suggests the need for a body to play a more integrative, holistic function in the interests of generating more sustainable outcomes.

The possible need for institutional reform for sustainability assessment in Western Australia was highlighted early on in the discussions of the 2002 Sustainability Assessment Working Group (see Chapter 2), where some members argued that institutional structures and regulatory support were a pre-requisite to conducting sustainability assessments. This view was eventually subjugated to the more pragmatic ‘learning by doing’ approach ahead of any possible future regulatory or institutional reform. This debate over the relative importance of institutional arrangements for sustainability assessment is reflected in the literature where calls for appropriately supportive institutional, and particularly legal structures are strong<sup>59</sup> (for example Partidário, 2003) and yet there is an opposing view that the absence of such frameworks should not restrict the practice of impact assessment (Partidário, 1999). The calls for institutional reform for sustainability assessment arise from three main concerns: achieving ‘integration’ across the spectrum of sustainability issues, ensuring that decision-making and coordination roles are undertaken at an appropriate level and location within a bureaucratic structure, and ensuring that sustainability assessment is linked to other initiatives for sustainability (Jenkins et al., 2003).

The question of institutional reform was also raised during the interviews, with one interviewee highlighting the difficulties of adopting a sustainability approach within the ‘silos’ of Government, “There’s got to be trust and I think that’s why I think this integrated team would be a much better approach” and<sup>60</sup>:

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<sup>59</sup> Sheate et al. (2003, p7) identify three models of institutional integration that can equally be applied to sustainability assessment: constitution/legislative model; process/strategy model (“co-ordinated government-led strategy”), and the *ad hoc* institutional model which “may exist outside of a centrally co-ordinated strategy”. See also Glasson and Gosling (2001).

<sup>60</sup> Interviews – ChevronTexaco (8).

I'm sure that sustainability...[is] going to take different attitudes and a different set of skills...and that's a problem. It's always a problem for State Government in having to make those sorts of changes and get the sort of people that can operate in a different environment altogether.

Dovers (2001, p22-23) recalls the Australian Federal body called the Resource Assessment Commission (RAC), which examined complex and strategic projects from a holistic perspective and reported directly to the Prime Minister and which was "a rare, explicit [sustainability]<sup>61</sup> institution". The RAC undertook three inquiries between 1989 and its abolition in 1993<sup>62</sup>, and was generally considered to be a successful and innovative body (Stewart & McColl, 1994)<sup>63</sup>.

Jenkins et al. (2003) point out that the institutional arrangements that might be necessary for the implementation of sustainability assessment in Western Australia go beyond merely integrative bodies. They propose a framework or strategy for sustainability assessment in Western Australia that incorporates regional sustainability plans and includes sustainability assessment of existing unsustainable practices as well as proposed initiatives. The framework includes mechanisms to address issues arising from the assessment processes that require government action, in contrast with existing environmental assessment processes that generally only allow for proponent conditions. Such a framework would support the notion of 'trickle-up' discussed in Section 4.2.6, whereby project-level assessments raise issues that must be addressed at other levels and other areas of Government decision-making.

Institutional reform for sustainability poses significant challenges (Dovers, 2001), however, and it seems unlikely that it will be attempted in Western Australia until considerable further experience has been gained of sustainability assessment.

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<sup>61</sup> Dovers uses the term 'ecologically sustainable development' here reflecting the terminology in Australia in the early 1990s.

<sup>62</sup> These were mining at Coronation Hill in the Kakadu conservation zone; forest and the timber industry, and coastal zone management (Stewart & McColl, 1994).

<sup>63</sup> Dovers (2001, p22-23) suggests that its demise was due to: "a change of Prime Minister (Hawke to Keating) and of policy style; impatience with detailed inquiry, and a preference for partisan lobbying; bureaucratic sensitivities and jealousies; unreasonable expectations that yes/no answers could be provided; animosity by some sectors who felt that their interests had not been served; unease at the exposure of the inevitably political nature of decisions, even after exhaustive assessments (especially with the Coronation Hill case); and a convenient target for cost-cutting".

#### 4.2.8 Politics, power and interests

There were concerns that the Gorgon assessment process, which in following the EIA process placed its faith in technical data to enable Cabinet to make the ‘right’ decision, was ultimately controlled by political power and interests both within and outside the bureaucracy. As described in Chapter 3, several representatives of the environmental agencies perceived that DoIR, by virtue of its position as project manager of the assessment process, wielded excessive power that was not always used appropriately. In turn, both DoIR and the environmental agencies believed that the proponent had undue power in the process, both as the provider of most of the data required by the process and by virtue of its far greater access to members of Cabinet.

The Gorgon process was designed and conducted collaboratively, but the responsibility for project management rested with DoIR<sup>64</sup> giving it and the pro-development discourse a considerable degree of authoritative power. This was manifested in different ways. Firstly, as already discussed, the debate was framed in support of the exploitation of the Gorgon gas resource and of the proponent’s position of ‘Barrow or nothing’. This was explicitly evident in the call for expressions of interest for the Expert Panel, which described the duties of the purpose of the ESE process as being to investigate the implications of the ‘de-stranding’ of the Gorgon gas resource.

As also discussed previously (see Section 3.3.10), DoIR maintained control of the process through its running of Reference Group meetings, where the environmental agencies at times accused DoIR of using manipulative power. Their accusations against DoIR ranged from the deliberate manipulation of meeting minutes to more general statements concerning the permeation of a DoIR ‘flavour’ throughout the proceedings<sup>65</sup>. As discussed previously, although there appeared to be general satisfaction with DoIR’s management of the process during the data collection stage, this changed during the preparation of advice to Cabinet and the negotiation of the enabling legislation, when DoIR’s manipulative power was felt more explicitly by

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<sup>64</sup> DoIR’s CEO was chair of SIAC and his representative the chair of the Reference Group, and therefore the Gorgon ESE project manager was a DoIR officer.

<sup>65</sup> Interviews – Conservation Commission/CALM (6). Similar sentiments were also expressed by a representative of community groups (12).

the other agencies represented on the Reference Group. DoIR was then accused of rushing documents to Cabinet without adequate time for other agencies to provide comment, and ignoring comments made. Other facets of the power imbalance were levels of resourcing and perceived or actual access of the different agencies to representatives of elected government and the media. Some felt that DoIR was stronger in these regards than the environmental agencies, particularly the Conservation Commission, which had only recently been formed at the time of the Gorgon assessment.

The impact assessment has little to contribute with regard to the machinations of power affecting impact assessment processes. I return to this issue in Chapter 5, where I approach it from a different perspective.

### **4.3 Reflections on the reflections**

The purpose of the analysis in this chapter has been to draw lessons from the Gorgon experience that might contribute to the development of principles to guide future sustainability assessment in Western Australia and elsewhere. At this point I pause to reflect upon the nature of the themes that emerged from the Gorgon experience and which I have analysed in the preceding section, before moving to extract the lessons learnt so far from the analysis.

#### ***4.3.1 The nature of the themes***

The themes discussed in Section 4.2 fall into two broad and interrelated categories: process and context. Issues that are predominantly related to process include: influence on decision-making, including process methodologies and consultation and engagement; the basis for sustainability decision-making (the sustainability decision-making protocol); and integration and trade-offs. Relevant aspects of context include policy context and institutional arrangements.

The notion of ‘the question’ guiding the sustainability assessment is usefully conceptualised as the nexus between process and its context, since, as demonstrated in Section 4.2.1, the articulation of the question is heavily influenced by the prevailing policy, institutional and legislative context. The question in turn defines the shape of the assessment process itself, commencing with dictating the process

methodology and thus the extent to which the assessment can influence the development of the proposal.

Straddling and pervading both process and context are the less tangible themes of the facts and values divide, and the influence of power. The impact assessment literature upon which the analysis in the chapter is based has much to say on process, but relatively little on the broader context in which the assessment is conducted, and even less on these subjective dimensions. The most common observation on these latter categories is that they can contaminate and reduce the integrity of the assessment process, and should be ‘addressed’ in order to allow impact assessment to better perform its role of providing information to decision-makers.

Against this backdrop, I turn now to the task of extracting what lessons I can from the Gorgon experience as I have seen and analysed it.

### ***4.3.2 The lessons of Gorgon***

Despite its limitations, Gorgon did, as had been hoped, provide valuable lessons to guide subsequent sustainability assessment processes, particularly with respect to developing better process methodologies. Since DoIR’s retrospective review of the Gorgon process was never finalised or released, this study represents the first formal attempt to document the successes and failures of Gorgon.

The conclusions I draw from Gorgon in relation to external, regulatory processes of sustainability assessment are:

1. Sustainability assessment should be promoted as a proactive tool that commences early enough to meaningfully influence the proponent’s planning process. In practice this will require the early engagement between proponent and Government.
2. The questions framing the assessment should be open, encouraging the consideration of alternatives, the incorporation of different value sets, and the generation of creative, mutually supportive outcomes. Ideally they would be strategically framed to encompass issues beyond the technicalities of the proposal, but it is realised that strategic issues are the responsibility of

Government, while many of the proposals likely to be subject to sustainability assessment in Western Australia are private projects.

3. Sustainability assessment processes should meaningfully engage the community in ways that extend beyond ‘instrumental’ forms of consultation, such as the release of documents for public comment, to facilitate the incorporation of community values into decision-making.
4. Each sustainability assessment process should be guided by clearly defined decision criteria in the form of ‘a sustainability decision-making protocol’ that ‘operationalises’ sustainability for the decision at hand and includes relevant sustainability factor acceptability limits and aspirational objectives or targets for each factor where possible. The protocol should guide the process of developing the proposal, including the consideration of alternatives and the refinement of the preferred alternative, and therefore must be established sufficiently early to enable this. It should also form the basis for the subsequent regulatory approvals process, and should be developed in consultation between Government, proponent and community to incorporate the sustainability aspirations of each.
5. Effective integration of competing concerns, and the environmental, social and economic dimensions of sustainability, would be facilitated by a body whose role is to consider the proposal from an holistic sustainability perspective.
6. The prevailing policy context has a significant influence over the sustainability outcomes of an individual project, in a process of ‘trickle-down’, which suggests that higher level strategic decisions should also be subject to sustainability assessment. The project-level assessment can, in turn, shape this context through the identification of policy gaps and anomalies in a process of ‘trickle-up’. This would be facilitated by an institutional framework designed to ensure that identified issues are addressed.
7. Sustainability assessment is an inherently value-laden and political process, and must recognise and embrace these characteristics if it is to be effective.

This requires an alternative conceptualisation to the ‘information provision’ model of EIA upon which the Gorgon assessment was founded.

#### **4.4 Conclusion**

The main perceived benefits of the Gorgon ESE process over statutory EIA, as articulated by several participants in the course of my research interviews, were that it ensured that a certain amount of data relating to social and economic impacts was in the public domain, and that it catalysed closer relationships between the various agencies<sup>66</sup>. However, the escalating levels of conflict between agencies towards the final stages of the process tend to suggest that these relationships were of a rather dysfunctional nature, with the potential to hinder rather than aid future collaboration. Above all, there was an overwhelming sense on the part of those opposed to the development on Barrow Island that the juggernaut of resource development had won out once more and that sustainability had not only not been served, but had perhaps been rendered impotent. It can thus be argued that Gorgon was an example of “ethical and political choices masquerade as technical judgements, reinforcing prevailing norms and existing structures of power” (Owens et al., 2003, p7).

The Gorgon experience did, however, provide opportunities for learning. The lessons I have extracted from the Gorgon experience represent the first tentative steps towards developing principles for the practice of sustainability assessment in Western Australia, which might also contribute to more generally applicable theory-building for sustainability assessment. Most satisfactory are those conclusions that relate to issues of process, and these I take up in Chapter 6 and develop further in the light of my second case study, the sustainability assessment of the South West Yaragadee (SWY) water supply development.

Less satisfactory are the conclusions the analysis has enabled me to draw relating to issues of context, values and power. This is evidence of the persistence of an underlying tone in much impact assessment literature that seems to rather petulantly complain that well-designed impact assessment processes would be so much more effective if only the world were more rational and more organised. While this may be true, it is rather unsatisfactory, since it implies that impact assessment has no

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<sup>66</sup> Gorgon interviews – EPA/Doe (14); DoIR (9).

value in a world that is not only imperfectly structured and organised but embraces a rich diversity of people, values, worldviews and political realities. The important issue is how impact assessment in general, and sustainability assessment in particular, can be meaningful and relevant in such a world.

Fortunately for the future of the practice, a growing number of impact assessment theorists and practitioners has recently begun to question the foundations upon which much practice is based, and particularly to challenge the dominance of the ‘information provision’ model of impact assessment that is the primary source of the noted focus on methodology and technique at the expense of a deeper contextual understanding. In Chapter 5, I join the crusade for this deeper understanding that I believe is necessary to the development of more meaningful, effective and ‘worldly-wise’ impact assessment.



## Chapter 5: Sustainability assessment in context

### 5.1 Introduction

The previous discussion of the Gorgon case study through the lens of the impact assessment literature found that while strong conclusions could be drawn in relation to assessment methodologies and even appropriate institutional structures and arrangements for sustainability assessment, there remained some outstanding and perplexing concerns. Perhaps the most significant of these were that the process was characterised by deep value rifts and the marginalisation of certain viewpoints, and that technical data did not bridge this divide nor lead to increased consensus; that the pro-development lobby and DoIR were perceived to have excessive power in the process; and that there appeared to be little relationship between the assessment process and the final political decision.

The first point, relating to the interplay between competing values and the knowledge generated through the assessment process, and corresponding recognition of the intractability of the Gorgon issue, was of particular interest, since the inherent and apparently irreconcilable value clashes between the pro-development and green lobbies characterised the Gorgon assessment process in my eyes (Pope et al., 2005, p410)<sup>1</sup>. When values are not explicitly recognised, no amount of scientific data or technical knowledge can resolve such policy dilemmas, which have been called ‘intractable policy disputes’ or ‘wicked problems’. As was the case in the Gorgon assessment, such a situation can be expected to degenerate into a ‘dialogue of the deaf’, which has been defined as<sup>2</sup>:

a policy controversy, deadlocked even after extensive deliberation and research, in which stakeholders (including policy makers and public managers) talk past each other, advancing arguments that are scientifically valid but that differ fundamentally from each other. Scientific research and expertise – so important as a problem-solving strategy in

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<sup>1</sup> Through my studies in public policy at Murdoch University, and in particular a unit entitled *Policy, Technology and Democracy*, I had become aware of the work of Rein and Schön (1996) and Dorothy Nelkin (1975), amongst others, which will feature later in this chapter. This was a revelation to me as a professional engineer and management consultant, trained as I was to believe in the absolute truth of technical data. This new awareness fuelled my fascination with the interplay of competing values and worldviews that for me characterised the Gorgon assessment process.

<sup>2</sup> Van Eeten (1999, p186) notes the institutional, as well as interpersonal aspects of ‘dialogues of the deaf’, “The forces at work are...of an institutional nature, involving coalitions of actors whose views and capacity to listen to one another are to a great extent conditioned by the causal assumptions and values used to make sense of the problem they are facing”.

policy making – becomes a, if not *the*, bone of contention in these issues (van Eeten, 1999, p186 emphasis in original).

The Gorgon debate thus generated ‘more heat than light’ (Sabatier, 1987) and, as discussed previously, the conflict became more obvious as the assessment process neared its conclusion, with emotions running particularly high during the drafting of the final advice to Cabinet and the enabling legislation. DoIR was accused of ‘holding all the power’ at this point of the process and of ‘showing its true colours’ in its apparent support for the project. It became clear that the power relations between the different government agencies were as much a part of the process as their differing values sets. The question of the relative power held by the proponent and the State was also raised. Indeed, discussions of power must be included along with considerations of knowledge and values. According to Litfin (1994, p30), “Since knowledge is inseparable from power even in pure science, the links should be even stronger when science is implicated in policy problems”. The Gorgon process was clearly exposed as being “multi-dimensional, defined by an interactive relationship between knowledge and power, science and politics” (Litfin, 1994, p11).

Furthermore, it was considered by most of those involved that the final political decision to grant the proponent access to Barrow Island was made irrespective of the volumes of technical data that had been generated. This reflects the oft-cited concern that ‘politics’ too often ignores or over-rides the conclusions of an impact assessment (Deelstra et al., 2003; Leknes, 2001; Wood & Jones, 1997), a tendency that has been the subject of many discussions at IAIA conferences<sup>3</sup>. It has been suggested that this is often due to the “exercise of economic and political power by those for whom the results might be inconvenient”, that is, ‘wilful neglect’ (Owens et al., 2003, p17)<sup>4</sup>.

My purpose in this chapter is to move beyond the process-oriented discussion of the previous chapter to relocate impact assessment within its political context, since impact assessment is “political to its roots, and the interplay of power and value is inescapable at every step” (Richardson, 2005, p350). To do this, I firstly explore the conceptual origins of impact assessment as a policy tool and then discuss how it has

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<sup>3</sup> For example, the session entitled “Integration of SEA and decision-making” at IAIA’04 in Vancouver.

<sup>4</sup> The corollary is also valid, that impact assessment can be a political tool used to legitimise controversial projects (Beattie, 1995; Flyvbjerg, 2003; Wilkins, 2003), and it could also be argued that this occurred in the case of Gorgon.

evolved in ways that perhaps do not do justice to the vision of its founders, leaving it poorly equipped to engage with real-life political decision-making. Following the example of a number of contemporary authors, particularly SEA theorists, I then look to the policy literature for insights, developing a conceptual framework to guide my exploration of the interplay between knowledge, values and power in the Gorgon process.

## 5.2 The problem with impact assessment

As previously discussed, the Gorgon assessment was modelled on the Western Australian EIA process, which in turn reflects what has been called the ‘information provision’ model of impact assessment (Bartlett & Kurian, 1999; Cashmore, 2004). According to this model, the purpose of impact assessment is to provide objective, value-free and context-independent data to political decision-makers who then weigh up the competing information to make a value-based decision. It is assumed that the influence of the impact assessment is limited to this decision point (McDonald & Brown, 1995)<sup>5</sup>. In the analysis of the perceived failure of traditional impact assessment to influence real-world political decision, accusatory fingers are increasingly pointed at processes that reflect this model, which, it is argued, is as pervasive as it is unrealistic (Bartlett & Kurian, 1999; Cashmore, 2004). The Gorgon experience exemplifies a general disquiet and a sense that all is not well for traditional impact assessment in a world where values and politics are troublesome, powerful decision-makers unheeding, and analytical data is but “a supporting player in the drama of policy making” (Weiss, 1991, p309)<sup>6</sup>.

The issues raised allude to the inherent subjectivity operating in and around the policy process which cannot be ignored, in the specific forms of the political forces and the values of those involved. This is uncomfortable ground for many impact assessment practitioners, since subjectivity in any of its forms is often viewed with suspicion and problematised, though at the same time increasingly recognised as a

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<sup>5</sup> The separation of objective analysis from political decision-making was similarly the basis of the ‘assessment for sustainability’ model promoted in Chapter 2. Although this was far more strongly aligned with a comprehensive vision of sustainability, it is also a justified target for accusations of rationalism and the separation of analytical ‘facts’ from political ‘values’.

<sup>6</sup> Rather than being the basis upon which rational decisions are made, the provision of information can be equated with ‘one hand clapping’ since it disregards the influence of the political context and the willingness of people to listen and act upon that knowledge (Weiss, 1991).

fact of impact assessment life (Owens et al., 2003; Wilkins, 2003). As Beattie (1995, p109) has said in relation to EIA:

Most environmental professionals have entertained one or more of these notions about EIAs at some point in their professional live [sic]. Our response, however, is often to decry the lack of scientific rigour, to complain about the imposition of ‘values’ into a scientific endeavour, and to mutter darkly that ‘politics’ is tainting the rational, objective enterprise that constitutes the ideal of environmental impact assessment.

In response, an increasing number of contributors to the literature have argued the need for impact assessment to more fully acknowledge its own inherently subjective nature. It has been pointed out that values and discretion affect every stage of the impact assessment process from screening to the final decision, including the steps of boundary setting, data collection and analysis, and even more overtly in the assessment of impact significance and acceptability. Thus, it is argued, the outcome of the assessment is dependent upon the values of those involved and does not reflect some notion of value-free objectivity (Beattie, 1995; Lawrence, 1997; Richardson, 2005; Wilkins, 2003).

I noted in Chapter 1 that impact assessment has been inadequately theorised, and specifically, there are now calls for impact assessment theory-building that not only recognise but embrace subjectivity, politics and values (Beattie, 1995; Dalkmann, Jiliberto Herrera, & Bongardt, 2004; Lawrence, 1997). Contributing to the project of theory-building, Bartlett and Kurian (1999) argue that, although rife and often unchallenged, the information provision model is not the sole *modus operandi* of impact assessment. They distinguish five other ways in which EIA might influence environmental performance, either directly or indirectly<sup>7</sup>. Thus it has been recognised for quite some time that the provision of information at the final decision point is only one of the ways in which EIA and the knowledge it generates can influence decision-making (Bartlett & Kurian, 1999; Cashmore, 2004; McDonald & Brown, 1995; Wood & Jones, 1997).

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<sup>7</sup> Bartlett and Kurian’s (1999) other models are: the symbolic politics model, the political economy model, the organisational politics model, the pluralist politics model, and the institutionalist model. Taking a slightly different tack, Cashmore (2004) argues that models and also processes of impact assessment can be distinguished by the role that science is assumed to play within them.

At this point it is perhaps worth quoting theory sceptic Archibugi's<sup>8</sup> disparaging comments on the related field of planning theory and its intention of clarifying the practice of planning (Archibugi, 2004, p425):

[I]t is as if, confronted with a dark pond (planning) in which objects at the bottom can only be seen in an obscure, deformed way, people would throw stones (planning theory) into the pond, in the hope of being able to clarify and better define the objects. Instead, all they would accomplish would be to muddy the situation further and make comprehension impossible.

Far from endorsing this view, I align myself with the argument that improved conceptual understanding is necessary for better practice (Bina, in press; Cashmore, 2004; Keeley & Scoones, 1999; Richardson, 2005; Simeon, 1976). Furthermore, the suggestion has often been made that impact assessment might glean conceptual insights from related fields such as policy and planning<sup>9</sup> (Bailey & Dixon, 1999; Kørnøv & Thissen, 2000; Lawrence, 2000; Nitz & Brown, 2001) from which it has arguably become isolated (Bina, in press; Nitz & Brown, 2001)<sup>10</sup>. This is appropriate because impact assessment<sup>11</sup> was developed as a policy tool that seeks to inform and support policy decision-making by “identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made” (International Association for Impact Assessment, 1999)<sup>12</sup>. It is also potentially fruitful since policy theory has developed significantly in recent years and therefore has much to offer impact assessment theorists (Owens et al., 2003).

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<sup>8</sup> Archibugi (2004) observes an ‘explosion’ of theory on and about planning (analogous to policy theory) to the detriment of actual improvements in planning practice. He considers this ‘philosophical talkativeness’ to be distracting from the real task of improving the ‘methods and techniques’ of planning.

<sup>9</sup> Policy is most broadly understood as “whatever governments choose to do or not to do” (Dye, 1978, p3). Planning is closely a related field of which land use planning is one common type.

<sup>10</sup> Conversely, Robert V. Bartlett (1989), one of the early commentators on the development and implementation of the US *National Environmental Policy Act* 1969, lamented that impact assessment had not at that time received the attention it deserved from policy scholars, a situation that does not appear to have significantly changed.

<sup>11</sup> This is the IAIA definition of EIA. As my intent in this chapter is to consider the conceptual origins of impact assessment and EIA can be considered to be the origin of the present field of impact assessment (see Chapter 2), I rely heavily on EIA, rather than SEA literature in this discussion. I return to the special case of sustainability assessment more specifically in Chapters 7 and 8.

<sup>12</sup> Furthermore, as Owens et al (2003) argue, impact assessment can be considered as a specific form of policy analysis. They use the UK term ‘policy appraisal’ here, rather than ‘policy analysis’, but also note that some authors (for example de Bruijn & ten Heuvelhof, 2002) use the terms ‘analysis’ and ‘appraisal’ synonymously.

Following this lead, I also turn to the policy literature in search of an enhanced conceptual understanding of the Gorgon process and of impact assessment more generally, starting with a brief review of the origins of impact assessment and its evolution as a product of its times.

### 5.2.1 *The origins of impact assessment*

The origins of impact assessment as it is understood today are generally considered to be in the United States' *National Environmental Policy Act 1969 (NEPA)*, which applies to the activities of government agencies and which provides the legislative backing and essential components of EIA (Bartlett, 1986, 1989). It supplemented existing practices such as cost benefit analysis (CBA), planning, programme budgeting (PPB), cost-effectiveness analysis and technology assessment (Bartlett, 1989; O'Riordan & Sewell, 1981)<sup>13</sup>.

One of the main purposes of *NEPA* was to facilitate the use of good science in decision-making, and the influence of the environmental sciences on its development is implicit throughout the legislation (Bartlett, 1986)<sup>14</sup>. It was also intended to improve the procedural rationality of bureaucratic decision-making that could affect the quality of the environment by imposing procedures aimed at protecting the environment (Bartlett, 1986). The procedural aspects of EIA as required by *NEPA* were articulated formally in 1978 in the guidelines prepared by the President's Council on Environmental Quality (CEQ), a body established under Title II of *NEPA*. These guidelines specifically require the identification of potential alternatives to the proposal, an analysis of the impacts to guide the selection of the preferred alternative; and a statement of the reason the preferred option was chosen (Jain, Urban, Stacey G. S., & Balbach H. E., 1993).

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<sup>13</sup> *NEPA* was enabled by a climate of increasing concern for environmental issues in the United States (Caldwell, 1997; O'Riordan & Sewell, 1981; Weston, 2000) and the vision and persistence of individuals such as Lynton Caldwell (Amy, 1990). Bartlett (1989, p1) also notes that *NEPA*, and specifically its requirements for EIA built upon "the historical efforts of some bureaucrats, legislators, and government reformers to analyze the likely consequences of possible government actions prior to adoption and implementation". Bartlett (1989) goes on to cite examples such as the settlement of the western United States, river basin planning by the US Army Corps of Engineers, and urban and natural resource planning

<sup>14</sup> For example, Bartlett (1986, p94) argues that the requirements for Environmental Impact Statements (EISs) under Section 102(2)C of the Act "obviously necessitated recourse to science; otherwise, the required discussions of 'environmental impact', 'irreversible and irretrievable commitments of resources', and 'the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity' could be little more than a collection of empty phrases".

Despite the importance of technical data and procedure to *NEPA*, Bartlett (1986) emphasises that science and process alone should not be seen as demonstrating rationality. Rather, *NEPA* calls for ecological rationality that seeks “to create and maintain conditions under which man and nature can exist in perfect harmony”, that complements political, social and economic rationalities (Bartlett, 1986). There is, therefore, a normative, or value-based, element to *NEPA* that emphasises the importance of the ends and not merely the means. Ecological rationality calls for an interdisciplinary use of science and particularly ecology (Bartlett, 1986) so that EIA is a form of ‘practical reason’ (Bartlett, 1990). The overarching aim of *NEPA* was therefore to develop ‘social intelligence’ with respect to the environment, where procedural rationality was considered important to the aim of furthering substantive ecological rationality (Bartlett, 1986). In addition to using science within a multi-disciplinary framework and employing processes designed to facilitate ecologically rational bureaucratic decision-making, EIA was intended as a fundamentally democratic process, reflecting a long relationship between environmentalism and participatory democracy and the desire for increased public involvement in decision-making that had begun by the time *NEPA* was drafted (Paehlke, 1990; Weston, 2000)<sup>15</sup>.

Although Caldwell envisioned a multi-disciplinary practice, impact assessment has arguably evolved into a discipline in its own right<sup>16</sup>, particularly since the inception of the International Association for Impact Assessment (IAIA). This is evidenced, despite some notable exceptions, by literature in this field being highly self-referential and largely concentrated in few scholarly journals<sup>17</sup>. A consequence of this has been an isolationist preoccupation with methodological improvements in a way that attempts to separate ‘rational’ analysis from its political context, to the

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<sup>15</sup> The role of public participation in impact assessment, however, has always been contentious. Fairfax asserts that participatory processes in decision-making ante-dated *NEPA* and that *NEPA*, in fact, limited the effectiveness of participation by its inherent rationality and focus on the production of reports, “While it cannot be conclusively demonstrated, the public involvement that *NEPA* has induced is so formal, so predictable, and so proposal-orientated that it seems to have stifled meaningful dialogue between citizens and agencies” (Fairfax, 1978, p746).

<sup>16</sup> This same argument has been made in relation to the ‘disciplines’ of planning (Archibugi, 2004) and policy analysis (Howlett & Ramesh, 2003; Simeon, 1976).

<sup>17</sup> The three main impact assessment journals are *Environmental Impact Assessment Review*, *Journal of Environmental Assessment, Policy and Management*, and *Impact Assessment and Project Appraisal* (the journal of the IAIA).

detriment of theory-building and the higher purpose of impact assessment (Caldwell, 1989; Cashmore, 2004; Nitz & Brown, 2001; Weston, 2000).

Despite Bartlett's repeated protestations that this was not the intent (Bartlett, 1986, 1989, 1990), it is often argued in the literature that current practices and theory of impact assessment in general have been inspired by the rational-comprehensive model of policy analysis embodying assumptions of technical positivism and instrumental rationality (Amy, 1990; Caldwell, 1989; Fairfax, 1978; Kørnøv & Thissen, 2000; Lawrence, 1997, 2000; Nilsson & Dalkmann, 2001; Nitz & Brown, 2001; Scrase & Sheate, 2002; Smith Korfmacher, 1998; Weston, 2000)<sup>18</sup>. This is evidenced by the prevalence of terms such as 'objective', 'systematic' and 'comprehensive' in the literature (Nilsson & Dalkmann, 2001). Because of this perception, and because the policy theory I draw upon later in this section has developed in response to the perceived limitations of this model, I briefly review the fundamental tenets of the rational-comprehensive policy model. In the discussion that follows, I concentrate upon environmental assessment in its two forms: project-level EIA and strategic-level SEA, since arguably the theory and practice of sustainability assessment have drawn more on these two types of impact assessment than any others. Whereas social impact assessment has been influential in some jurisdictions (Vanclay, 2004), this has not been the case in Western Australia<sup>19</sup>.

### 5.2.2 *The rational-comprehensive policy model*

The 'rational-comprehensive' model of policy analysis is grounded in the twin Enlightenment principles of positivism and instrumental rationality (Durning, 1999; F. Fischer, 1987; Flyvbjerg, 1998a; Litfin, 1994; March, 1982). Positivism is the epistemological basis of the natural sciences in their search for the 'truth' that exists 'out there', waiting to be discovered (Hajer & Wagenaar, 2003b) and 'instrumental rationality' is a process of determining the most efficient means to a pre-defined end<sup>20</sup> (Howlett & Ramesh, 2003). The rational-comprehensive policy model is

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<sup>18</sup> Lawrence (2000), however, observes differences between EIA and the rational planning model, the former more obviously considering limits (through scoping), risks, uncertainties etc, and the latter more overtly considering problem definition, goals and objectives and alternatives.

<sup>19</sup> It has been noted that social impact assessment has always taken a less positivistic approach than EIA, being inherently concerned with issues such as social equity (Lawrence, 2000).

<sup>20</sup> Flyvbjerg (2001) argues that this predominance of instrumental over value rationality is not limited to the practices of policy analysis and planning but rather has been prevalent throughout society since the Enlightenment.

founded in procedural rationality, or ‘reason systematically applied’ (Lawrence, 2000). It can be described in four broad steps<sup>21</sup> as follows (Howlett & Ramesh, 2003; Lindblom, 1959, 1979):

- Identify the policy goal to be achieved, and the values relevant to this goal;
- Identify all the policy alternatives by which this goal may be achieved;
- Analyse the significant consequences of each alternative;
- Select the alternative that best achieves the goal and aligns with the values of the first step.

In applying this model, complex social issues are divided up into ‘policy problems’ and goals are designed to address these problems. These goals are established in the realm of politics, which is quite separate from the technical process of policy analysis based upon the type of technical, particularly quantitative information that lends itself to comparative analysis (Amy, 1987; Faludi, 1973; F. Fischer, 2003b)<sup>22</sup>. In this sense, ‘rational’ has come to mean technically neutral and value-free in a further endorsement of the Enlightenment faith in the objectivity of science (Flyvbjerg, 1998a; Litfin, 1994; Weston, 2000)<sup>23</sup>.

The rational-comprehensive model grants a privileged role to experts, particularly bureaucratic policy professionals, who by virtue of apparently holding all the knowledge that is considered relevant to policy-making, also hold the power (Keeley & Scoones, 1999; Schön, 1983). Amy (1987, p56) explains that in this model policy analysts are represented as neutral, value-free experts within the political system:

[I]n much the same way that eunuchs were thought safe to be allowed to work in harems, policy analysts who are technocrats and thus ‘neutered’ politically are considered safe to be included in the policymaking process<sup>24</sup>.

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<sup>21</sup> There are many variations on this model; for example Davis et al, (1988) provide a version consisting of six steps.

<sup>22</sup> Hajer and Wagenaar (2003a) assert that this separation was the *raison d’être* of traditional policy analysis.

<sup>23</sup> According to Flyvbjerg (2001), Weber uses the term ‘occidental rationalism’ for instrumental rationality, again highlighting the dominance of this form of rationality in the history of western thought.

<sup>24</sup> Amy (1987) goes on to suggest that policy analysts themselves have sought to maintain this distinction, since it provides the basis for their role as experts.

The location of this rational and value-free decision-making within the institutions of government derives from the work of Max Weber in the 19<sup>th</sup> century and his belief in the increasing rationalisation of society through the workings of a specialised bureaucracy (Nilsson & Dalkmann, 2001; Weston, 2000). This system is sustained by representative democracy, whereby policy experts are separated from society and their political masters (Hajer & Wagenaar, 2003a). The theme of separation continues when the bureaucracy itself is divided into separate departments<sup>25</sup>, which has serious implications for the implementation of policy approaches designed to promote sustainability, as demonstrated by the inter-agency disagreements that characterised the Gorgon process. Simplification and separation are therefore the twin themes of the rational-comprehensive approach to policy analysis: means are separate from ends; politics are separate from policy analysis; facts are separate from values; bureaucratic policy makers are separate from each other, from politics and from broader society; policy processes are separate from their context (Flyvbjerg 1998)<sup>26</sup>; and rationality is separate from power (Flyvbjerg, 2002)<sup>27</sup>. Furthermore, the emphasis on replicable data is at the expense of holistic understanding, and “complex issues are avoided or improperly simplified” (Boothroyd, 1995, p85). In all these ways, the model underestimates “the confusion and complexity surrounding actual decision making” (March, 1982, p36).

### 5.2.3 The evolution of impact assessment

The authors of *NEPA* and the *United States Council on Environmental Quality Guidelines* intended that EIA would enforce a methodological framework that involved the comparison of alternative means of achieving a policy goal, and that the potential environmental impacts of each alternative would inform the selection of the preferred alternative, if not form the basis of the selection (Jain et al., 1993). These steps mirror those of the rational-comprehensive model of policy analysis that

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<sup>25</sup> A typical western bureaucracy may include agencies with responsibility for the environment (in Western Australia the Department of Environment, the Department of Conservation and Land Management); social issues (for example, the Department of Community Development) and for various economic sectors (including the Department of Industry and Resources, the Department of Fisheries, the Department of Agriculture, amongst others)

<sup>26</sup> ‘Rationalisation’ therefore means the systemisation and routinisation of administrative and decision-making processes (Cotgrove, 1975).

<sup>27</sup> The separation of rationality from power is manifested in impact assessment whereby the assessment is the precursor to a political decision, as in the case with EIA in Western Australia and also in my ‘assessment for sustainability’ model for sustainability assessment discussed in Chapter 2.

dominated policy thinking at the time of *NEPA*'s inception (Davis et al., 1988; Howlett & Ramesh, 2003; Lindblom, 1959). As already discussed, EIA was to promote 'ecological rationality' through the application of this 'procedural rationality' to reform bureaucratic decision-making processes.

Many have argued, however, that bureaucratic decision-making processes have not been reformed through the conduct of EIA, in terms of either procedural or ecological rationality. Instead, EIA has become an 'add on' to decision-making, often in the form of a report stapled to the back of a proposal (Fairfax, 1978), providing only 'window dressing' and a perceived legitimacy (Amy, 1990; Bartlett, 1990). Specifically and despite the repeated assertions already mentioned, it is not easy to argue that EIA, as practised today, follows the rational-comprehensive policy model in terms of process. This is evidenced by project EIA being now almost universally conducted as a reactive process undertaken after key decisions have been made (see Chapters 2 and 4), and places far less emphasis on problem definition, the development of goals and objectives and the formulation of alternatives<sup>28</sup> than does the rational-comprehensive policy model (Lawrence, 2000).

The main reason for this lack of serious consideration of alternatives may be that despite *NEPA*'s application to government decision-making in the USA, in most countries, including Australia, EIA is applied most commonly to private projects. It is not generally in the proponent's interests to consider alternatives to its preferred option that has been developed to meet its own financial and strategic objectives, as highlighted by the Gorgon case (Wood, 2003). Arguably it is easier for governments to legislate processes for bureaucratic decision-making than private decision-making.

While EIA procedures commonly do not embody the essentially proactive qualities prescribed by the rational-comprehensive model, EIA is still often highly proceduralised as a result of being backed by legislation and associated guidelines.

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<sup>28</sup> Commonly missing from many EIA processes is the comparison of alternatives, which is an important step in the rational-comprehensive model (Lawrence, 2000). The consideration of alternatives is a requirement of *NEPA*, as well as the legislation in countries including Australia (at the Commonwealth level through the *Environmental Protection and Biodiversity Conservation Act* 1999), The Netherlands, and South Africa, but not New Zealand or the European Union (Wood, 2003). This requirement, however, is rarely well implemented, and in general alternative designs dominate rather than real alternatives (Steinemann, 2001). The lack of consideration of alternatives was one of the main short-comings of the Gorgon process, as discussed in Chapter 4.

The evidence of the rationalistic underpinnings of much EIA practice and reflection includes a “preoccupation with procedure” (Lawrence, 1997, p80), which can be traced to the very earliest days of *NEPA* (Weston, 2004). Furthermore, the assumption that better science leads to better EIA and therefore better decisions was for a long time dominant in the EIA literature (Bartlett & Kurian, 1999).

Several inter-related explanations for this have been offered. Firstly, EIA as required and defined by *NEPA* reflects the prevalence of the rational-comprehensive and other decisionist policy models in the late 1960s (Caldwell, 1989; Weston, 2004) and the general faith in science prevalent at the time (Cashmore, 2004)<sup>29</sup>. Secondly, most impact assessment practitioners have tended to have been trained in fields such as the natural sciences or engineering (Scrase & Sheate, 2002) and hence EIA and some forms of SEA have reflected ecological and resource management disciplines (Caldwell, 1989; Sheate et al., 2001). Thirdly, *NEPA*'s notions of ‘ecological rationality’ appear to have been simply over-ridden by the dominance of the technical and economic rationality that is the “defining feature of modern industrial societies” (Bartlett, 1990, p84) and which is embedded within its institutions following the Weberian tradition (Dryzek, 1990; Nilsson & Dalkmann, 2001). Fourthly, Boothroyd (1995) suggests that the project orientation of most EIA invokes a technical approach that lends itself to science-based analysis.

The emphasis on science has been recognised as a ‘double-edged sword’ for impact assessment. In the words of Lynton Caldwell (1989, p8):

Development of science-based analytical technique has been essential to the reliability and credibility of EIA. Yet the professionalization of EIA entails a predictable risk – the adumbration of purpose by technique.

Furthermore, there has always been a tension between science’s assumptions of neutral rationality and the requirement for public involvement in EIA, which appears to assume that the public will believe and trust the experts and not challenge the assessment on the basis of values (Weston, 2004), but at the same time, high quality,

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<sup>29</sup> This faith is reflected in the tools and techniques available at the time to support decision-making that have influenced the practice of impact assessment (for example, risk assessment, cost benefit analysis, life cycle analysis, various forms of modelling, and biological surveys), which embody positivism and determinism in their methodologies (Bradbury & Rayner, 2002; Caldwell, 1989).

reproducible science is seen as critical to the perceived credibility of a transparent process open to scrutiny by the public (Boothroyd, 1995)<sup>30</sup>.

It appears that the emphasis on procedure and technique, at the expense of a meaningful engagement with political realities, has underpinned EIA's failure to live up to original expectations (Kørnøv & Thissen, 2000; Lawrence, 2000). Cashmore (2004, p404) follows Caldwell (1993) when he suggests that:

While there is a general consensus that EIA has led to enhanced consideration of environmental factors in decision-making, its achievements appear most favourable when compared with past neglects and failings, rather than when measured against sustainable development goals.

Similarly, Boothroyd (1995, p89) argues:

At its best, EIA's immediate output is mitigation of identified impacts, with longer term benefits including social learning for preventative work at future design stages. At worst, EIA procedures obfuscate the fundamental sustainable development issues...lulling people into a complacency that costly technical EIA activity is guarding against deleterious development, while giving the impression of genuine public involvement and sensible environmental management.

The limitations of EIA as commonly practised are often cited as the *raison d'être* for the emergence of SEA as strategic-level supplement to EIA. Interestingly, variations on the rational-comprehensive model, complete with an emphasis on consideration of alternatives, now appear in the SEA literature in various guises. Recalling the debate between calls for flexible versus formal SEA methodologies discussed in Chapter 4, SEA theorists view the rational-comprehensive model as either a representative model of decision-making into which SEA may be proactively integrated (see for example Thérivel, 2004) or a guide for how SEA might shape planning and decision-making processes themselves (T. B. Fischer, 2003; Noble & Storey, 2001). The call for formal and fixed procedures in SEA echoes calls from 20 years earlier for very similar methodologies to apply in EIA in the interests of reforming bureaucratic processes. Some SEA practitioners, therefore, appear to be

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<sup>30</sup> Weston (2004) notes that it was the growth of science in the 1960s that first led to increased awareness of environmental problems.

rediscovering aspects of good EIA practice that were originally included in *NEPA* but never properly implemented<sup>31</sup>.

I argued in Chapter 4 that sustainability assessment should be promoted as a proactive tool that commences early enough to meaningfully influence the proponent's planning process, but did not distinguish between the formal versus flexible methodological approaches. Now, however, I make the case for a formal framework for the sustainability assessment of project proposals that reflects the original *NEPA* goal of procedural rationality.

#### 5.2.4 The case for procedural rationality

The argument for flexible SEA procedures and methodologies is a rejection of the rational-comprehensive policy model, and a recognition that real-life policy processes do not lend themselves to either the positivism or instrumental rationality embedded within it (Bailey & Dixon, 1999; Renton & Bailey, 2000). This point is well made, but recalling the original *NEPA* intention of 'procedural rationality', which was specifically not meant to imply either positivism or instrumental rationality but to transform bureaucratic decision-making (Bartlett, 1986), it is worth examining these promoted process methodologies more closely.

Broadly, these formal procedures or frameworks for SEA are based on process steps including "a problem, need, or opportunity to be addressed; goals, objectives, and criteria; the generation and evaluation of alternatives; and explicit links to implementation" (Lawrence, 2000, p608). Using the terminology of my earlier analysis, and drawing on Noble and Storey's (2001) proposed 7-step framework for SEA<sup>32</sup>, I submit that an appropriate process framework for sustainability assessment would be:

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<sup>31</sup> Thérivel (1992, p21) attempts to justify this apparent reinvention of the methodological by arguing that even if EIA were to return to the original intentions of *NEPA* with regard to alternatives, "this still does not allow for an assessment of alternatives in early stages of planning, as would be provided for by SEA". Bina (in press), however, argues that two other 'features' of SEA were included in *NEPA* but never properly implemented and thus forgotten until reinvented by SEA theorists: the application to strategic decision-making (policies, plans and programmes) and the consideration of cumulative effects. If this is the case, it appears that EIA as a tool was always intended to do everything that is now attributed to SEA.

<sup>32</sup> Noble and Storey (2001, p502) propose a 7-step framework for SEA "designed to determine the option(s) that provide the most benefit/least damage to the environment", which Noble (2002b) later applies to Canadian energy policy. The steps are: scoping the assessment issues, including articulation

1. Identify the goal and the related question to be addressed;
2. Establish a ‘sustainability decision-making protocol’ defining sustainability goals and criteria for the decision, and identify other goals and constraints;
3. Identify alternatives and options to meet the goal;
4. Identify the impacts of each alternative;
5. Select and enhance the preferred alternative.

This framework is clearly based upon the rational-comprehensive policy model, which at first appears somewhat of a dilemma since this model has been so widely discredited and criticised (Davis et al., 1988; Lindblom, 1959; Schön, 1983). Many of these criticisms, however, are inaccurate when considered in the light of discrete planning processes such as the development of a project proposal, since “[i]n certain planning situations a linear and ordered process of this kind may be a realistic expectation” (Scrase & Sheate, 2002, p288).

The first criticism is that the rational-comprehensive model of policy-making assumes a fixed policy ‘decision-point’, which is often not the case in real-life policy situations. Fischer (2003a, p8) cites the work by Majone and Wildavsky (1979) in which “the content of a policy is seen to evolve as it moves through the policy process” from formulation to implementation. It is, however, often the case in sustainability assessments where there is usually, particularly in the case of project proposals, a specific decision made as to whether or not to approve the proposal. This is not to ignore that many smaller decisions are made throughout the assessment process, from scoping to defining alternatives and deciding who should be consulted (Wilkins, 2003), but the final approval decision does provide a focus.

The second criticism relates to the impossibility of defining desirable policy outcomes in the first place, at least independently of the existing policy context (Lindblom, 1959, 1979). In the context of project-level impact assessment, the goals of a proposal are usually defined by the proponent in accordance with their commercial and strategic objectives. I have argued in Chapter 4, however, that sustainability assessment calls for the alignment of projects with societal goals and visions for sustainability, and therefore the development of a proposal does provide

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of “the question(s) or problem(s) to be addressed”; describing the alternatives; specifying the decision criteria; evaluating the potential impacts; determining impact significance; comparing the alternatives; identifying the best practicable environmental option.

an opportunity to establish these goals and develop a sustainability decision-making framework. This represents a significant step forward that, at the very least, orientates the process towards the achievement of positive societal outcomes rather than simply focusing on the minimisation of negative impacts and the defence of the proponent's preferred option, which is the legacy of EIA (Gibson, 2001). It also forces attention to the question being asked, which potentially might lead to a more open or even strategic question, and encourages the consideration of alternatives<sup>33</sup>.

The third criticism relates to the foundations of the rational-comprehensive policy model in positivism and therefore its reliance on technical cause and effect information (Davis et al., 1988; Schön, 1983). Some might consider that even the identification of the process steps listed above forces the assessment process into instrumental rationality, but this does not need to be the case. The basic procedural steps may simply provide a framework and "the content of assessment pursuant to these procedures would be expanded to become more holistic in scope and systemic in method" (Boothroyd, 1995, p116). Although positivism traditionally informed the methodologies applied in procedurally rational processes, they are not inseparable bed-fellows, that is, there is nothing to say that the work undertaken within each step should be technical or positivistic. Instead, each step might represent a 'framework for negotiation and compromise' (Cashmore, 2004) or a 'unit of reflexivity' (Wagenaar & Cook, 2003), a concept to which I return in later chapters.

I therefore submit that a formal procedural framework is appropriate for sustainability assessment, particularly at the project level, since it forces attention to matters such as the question being asked, the sustainability decision-making framework, and the consideration of alternatives that EIA experience suggests might otherwise be neglected. While I agree that there is indeed much that impact assessment can learn from policy theory, the value of the latter lies not in devising more appropriate impact assessment processes as advocated by the 'flexibility' school of thought, but as a source of conceptual insights that can contribute to impact assessment theory building. I turn now to the field of policy theory to explore the extent to which it might provide the kinds of conceptual insights that could aid in

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<sup>33</sup> The idea of considering a private project proposal in the context of public policy goals is somewhat controversial (Pope et al., 2005), but this is potentially where the sustainability assessment of complex and strategic projects in Western Australia may be heading.

explaining the Gorgon experience and contribute to the process of sustainability assessment theory-building.

### 5.3 A way forward: Looking to policy theory

Increasingly, the broader field of policy studies is promoted as a way out of the persistent malaise caused by the perceived inability of many impact assessments to engage with political realities to influence decision-making. Impact assessment practitioners, it is argued, must learn from the related fields of policy and planning, fields that are better theorised and which have moved beyond their rationalist roots.

Harold D. Lasswell (see for example Lasswell, 1951) is generally considered to be the father of the policy sciences, which he originally conceived to help to adjust “modern democratic practices to the realities of a modern, techno-industrial society” (F. Fischer, 2003a, p3). The intent of the policy sciences was to study the policy process itself, as well as to provide better information to policy-makers (F. Fischer, 2003a; Hoppe, 1999)<sup>34</sup>. In accordance with Lasswell’s vision, the field today has two interrelated arms, often termed policy analysis (policy science *in* the policy process) and policy theory (policy science *of* the policy process)<sup>35</sup>. Using this distinction, the rational-comprehensive policy model discussed previously is a structured approach to policy analysis, and one that has been the subject of extensive critique over the past 60 years. Arguably, policy theory has largely developed in reaction to the increasingly obvious limitations of the rational-comprehensive model and the artificial simplifications and separations inherent within it. Reminiscent of the laments of impact assessment practitioners, policy theorists have observed that (Landsbergen & Bozeman, 1987, p627):

policy analysis often provides rational approaches to policy only to find that policymakers have less interest in rationality than in politics. Thus, policy analysis fails, not because of internal (analytical) shortcomings, but because of external (political, historical, resource) constraints.

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<sup>34</sup> Fischer (2003a) prefers the term ‘policy science’ to Lasswell’s plural form ‘policy sciences’. To avoid overtones and potentially negative connotations of the natural sciences, I will use ‘policy studies’.

<sup>35</sup> Terminology varies, however, and Ham and Hill (1993) have demonstrated the blurred boundaries between these two arms of policy studies.

Policy theorists have sought since the time of Lasswell to better understand real-life policy making, often in response to ‘policy crises’ that fail to reflect the conventional wisdom (Daneke, 1989), and have arguably been far more adventurous and successful than theorists of impact assessment in this regard. The result is that, upon first glance, the vast and complex body of literature on policy theory invokes a daunting image of Archibugi’s (2004) ‘muddy pond’ of theory, and it is to this pond that impact assessment theorists have turned in their quest for clarity.

### ***5.3.1 Linking impact assessment and policy theory***

Contributions to the literature linking impact assessment and policy theory draw on a broad spectrum of policy theories. They generally make two main points: firstly that impact assessment does not operate in reality in accordance with principles of rationality, but more closely approximates alternative decision theories; and secondly that other policy models beyond decision theory have lessons to offer impact assessment. The former often focus on EIA, and the latter on SEA, reflecting the argument for flexible methodologies based on ‘how decision making really works’. Various behavioural decision theories are commonly invoked, as are group theories and a range of other policy theories. A recurring theme is the idea that different approaches to impact assessment should be applied depending on the nature of the issue under consideration (Kørnøv & Thissen, 2000; Lawrence, 2000; Leknes, 2001; Nilsson & Dalkmann, 2001).

For example, Weston (2000) focuses solely on behavioural decision theories and by examining each step of the process makes the argument that EIA is best viewed as a ‘mixed scanning model’ (Etzioni, 1967), as others have done in relation to health impact assessment (Bekker, Putters, & Van der Grinten, 2004) and SEA (Nilsson & Dalkmann, 2001)<sup>36</sup>. The conclusion drawn in all cases is that values are an inherent part of impact assessment that must be recognised, although it is unclear what implications this might have in practice.

An emphasis is also placed on values and subjectivity by those who note the increasing emphasis on communicative or argumentative models in the planning and policy field, and call for more deliberative and collaborative impact assessment

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<sup>36</sup> Nilsson and Dalkmann (2001) also nod to group theory by arguing the need to map interest groups as part of the SEA process.

processes as a counter to the tendencies towards positivism and rationality (Kørnøv & Thissen, 2000; Nilsson & Dalkmann, 2001)<sup>37</sup>. In contrast, Leknes (2001) retains the science-based information provision model of EIA but demonstrates that the EIA process and the information it generates may be utilised in ways that could be explained by several different theoretical models: the rational-comprehensive model, where information is treated as objective input to the approval decision; neo-institutionalism, whereby the EIA process operates as a superior institutional procedure; and negotiation, or group theory, in which EIA data becomes strategic ammunition.

Other contributors also use different models to explain SEA case studies: for example, group theories (or negotiation), Kingdon's (1995) notion of policy entrepreneurs, Sabatier's (1987) three levels of beliefs; and Rein and Schön's (1996) frame reflection (Deelstra et al., 2003); or the rational comprehensive model, communicative planning and planning as a social struggle (Hilden, Furman, & Kaljonen, 2004). Conclusions are drawn to improve the practice of SEA, although these are not necessarily linked back to the models.

Still others take a similar approach from a theoretical perspective without case study analysis. Lawrence (2000) draws recommendations for the practice of EIA from five different planning theories, the rational-comprehensive model and four others that challenge its assumptions of positivism and instrumental rationality, essentially undertaking the same process but without using case studies. Nitz and Brown (2001) preface their analysis of the policy cycle as a source of inspiration for improved SEA with a brief mention of the decision theories and Sabatier's (1987; 1993) Advocacy Coalition Framework.

Thus there have been some brave attempts to rescue impact assessment from its isolationism by engaging with the policy literature in ways that acknowledge the implicit subjectivity of impact assessment and also locate it more explicitly within its political and social context. Each contribution discussed offers something towards a deeper conceptual understanding of impact assessment and suggestions towards improving its practice. The value of this work, however, is limited by its 'scattergun'

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<sup>37</sup> Nilsson and Dalkmann (2001, p323) call for a "more adequate treatment of values" and also for more deliberative approaches, but interestingly do not link the two concepts.

approach, whereby various policy theories and models of policy analysis have been invoked with little or no justification given for their selection over other models. Neither has there been any attempt to distinguish between the various models and theories, or to consider how these might relate to one another in an overarching framework that draws these contributions together into a comprehensive and integrated theory of impact assessment. Furthermore, little insight is provided into the interrelationships between values, knowledge and power that characterise policy processes and which were so evident in the Gorgon example. Seeking clarity, I turned to the original sources of various contributions to policy theory.

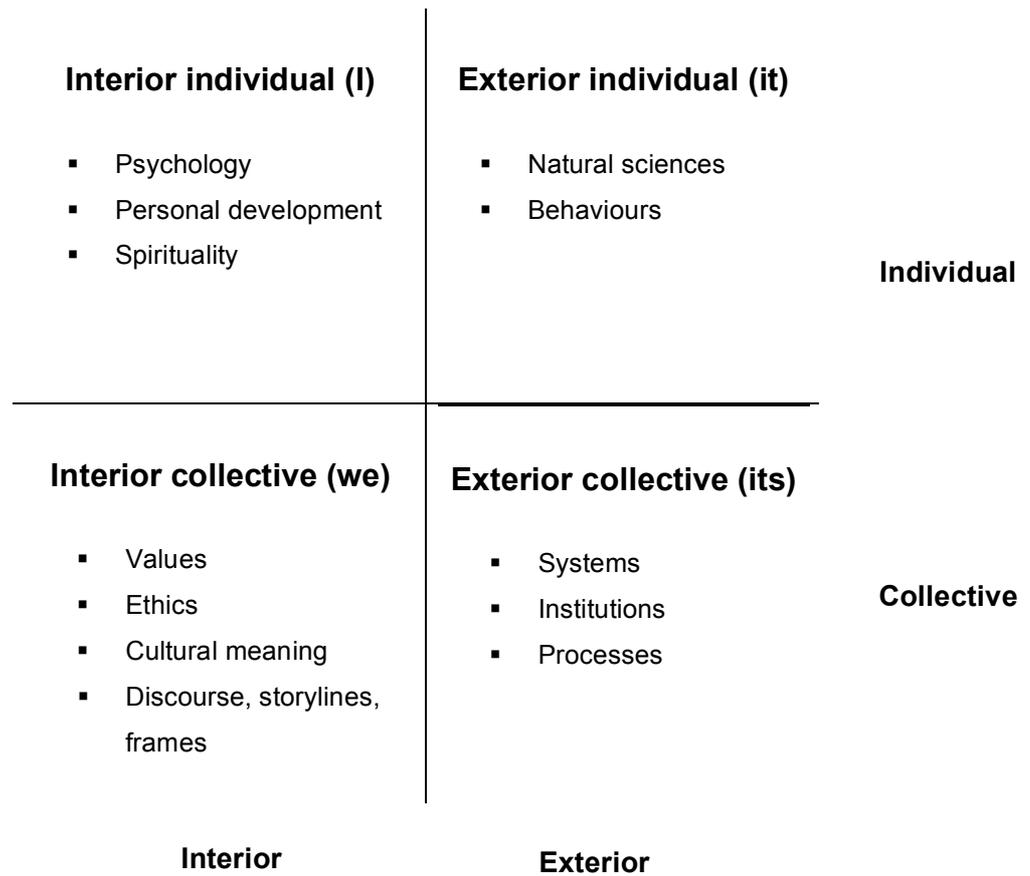
### ***5.3.2 Conceptualising policy theory***

As I delved into the policy literature, I began to discern in it a pattern. Having become aware of an evolving field called ‘integral theory’<sup>38</sup>, I discovered that the heuristic at its heart provided the conceptual framework through which policy processes and theories of policy could be understood and reconciled<sup>39</sup>. The founder of integral theory, Ken Wilber, argues that any aspect of life and experience has four dimensions. These are represented as quadrants in Figure 5.1, which are formed by two axes that acknowledge the tensions between the individual/collective and the exterior/interior (or objective/subjective) dimensions. Each quadrant is home to particular characteristics of an issue and also to different epistemologies and perspectives on knowledge. The two right-hand quadrants are the exterior or objective quadrants, and the forms of knowledge they represent can thus be acquired by observation and descriptive forms of analysis. The left-hand quadrants are the interior, or subjective quadrants, and as such they represent forms of knowledge that have depth and thus require interpretive approaches to access (Wilber, 1995, 2000).

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<sup>38</sup>At this point I must acknowledge my indebtedness to William Varey of the Forsyth Consulting Group, in Perth Western Australia who introduced me to Ken Wilber’s Integral Theory.

<sup>39</sup>As Riedy (2005, p48) notes, “integral theory has developed into a lively field of inquiry with numerous contributors from diverse disciplines across the world. Much of this recent work has focused on theoretical and practical applications of integral theory to specific disciplines, resulting in new fields like integral ecology, integral politics and integral business. The Integral Institute ([www.integralinstitute.org](http://www.integralinstitute.org)), established in 1998, has accelerated the development of integral theory and its practical applications across numerous fields”.



**Fig 5.1: The four quadrants of integral theory (derived from Wilber, 2000)**

Specifically, the exterior individual quadrant is the ‘it’ quadrant. It is the realm of the natural sciences, or Aristotle’s ‘epistme’ (Flyvbjerg, 2001), which in the context of impact assessment translates to knowledge about the causes and effects of specific impacts. This knowledge is assumed to be objective, value-free and factual. It is formal, abstract and theoretical and derives from an individual’s cognitive abilities (Beiner, 1983; Ruderman, 1997) and therefore can be called ‘embrained knowledge’ (Lam, 2000). The exterior individual quadrant is also home to studies of the behaviour of individuals.

The lower right exterior collective quadrant is the ‘its’ quadrant. It is home to the structures, systems and institutions of society, as well as its processes and practices, or what Aristotle has called ‘techne’ (Flyvbjerg, 2001). Systems theory is an example of a exterior collective field of study. Exterior collective knowledge can be called ‘encoded knowledge’, taking the form of the rules and procedures and institutionalised patterns of behaviour (Lam, 2000).

The interior collective quadrant is the ‘we’ quadrant and is the domain of culture and the collective values, beliefs, frames and meanings that underpin and guide behaviours and practice. Lam’s (2000) ‘embedded knowledge’ resides in these shared understandings. The focus here is on the collective, and therefore appropriate methods of inquiry include hermeneutics and cultural anthropology. Policy analysis or impact assessment that embraces this form of subjectivity reframes practice as a form of applied ethics, or Aristotle’s ‘phronesis’ (Flyvbjerg, 2001; Owens et al., 2003)<sup>40</sup>.

The interior individual quadrant is the ‘I’ quadrant. It is home to personal emotional, intellectual and spiritual development. Fields of study based in the interior individual quadrant include psychology, philosophy and phenomenology. One form of interior individual knowledge has been called ‘embodied knowledge’, which is derived from ‘doing’ rather than ‘knowing’ (Lam, 2000).

Integral theory provides an alternative to both the reductionism of modernism and postmodern relativism that is entirely divorced from objective reality<sup>41</sup>. According to Riedy (2005, p52):

Integral theory attempts to reintroduce the idea of universality, while retaining the postmodern understanding of difference and diversity. It seeks to integrate objective and subjective ways of understanding the world into a coherent epistemological framework that responds to the way people actually experience reality.

While integral theory itself is highly complex and multi-faceted, the heuristic is a relatively simple framework for understanding complex issues from different perspectives that together provide an integrated whole (Slaughter, 1998). In the following analysis I argue that each contribution to policy theory is primarily located within one of the quadrants, and that the framework permits the reconciliation of apparently competing theories. This framework not only structures my analysis of

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<sup>40</sup> Phronesis is “the product of a shared understanding” (Ruderman, 1997, p410), whereby policy analysts offer ‘wise counsel’ on matters pertaining to what is good and right in the form of arguments that embody the ‘facts’ within their contextual stories (F. Fischer, 2003b; F. Fischer & Forester, 1993; Flyvbjerg, 1993; Jennings, 1987; Majone, 1989; Ruderman, 1997; van der Knaap, 1995).

<sup>41</sup> Integral theory thus has much in common with Giddens’ ‘Theory of Structuration’ which seeks to reconcile agency (exterior individual) and structure (exterior collective) and also a hermeneutical perspective (interior collective) with functionalism and structuralism (exterior collective) (Giddens, 1984)

the policy literature but provides a framework for discussions of learning in Chapter 6 and sustainability in Chapter 7.

### **Exterior policy theory**

Behaviourism is an 'exterior individual' approach to policy theory that focuses on the actions of participants in the policy process, and of which decision theories and actor theories are examples. The rational-comprehensive model discussed previously is an idealised example of decision theory. Decision theories seek to explain how individuals make decisions, and particularly bureaucrats acting as “cogs in a Weberian machine” whose role is to deliver pre-determined policy goals in according with politically determined values (Keeley & Scoones, 1999, p16). Contributions since the time of Lasswell have sought to address the limitations of the rational comprehensive model by recognising various limits to pure rationality and attempting to incorporate some more subjective elements (see for example Dror, 1964; Etzioni, 1967; Lindblom, 1959, 1979; Simon, Smithburg, & Thompson, 1973)<sup>42</sup>.

Actor theories also focus on individual behaviours but extend beyond bureaucratic actors, Kingdon's (1995) 'policy entrepreneurs' being one example. By discussing how these entrepreneurs operate within a 'garbage can' of political complexity (Cohen, March, & Olsen, 1972) to exploit windows of opportunity represented by the alignment of 'problems, policies and politics' in order to place issues on the policy agenda (Kingdon, 1995), Kingdon thus recognises the complex and subjective political world. This 'organised anarchy', however, is imported as the backdrop against which his entrepreneurs behave, rather than being part of his explanatory theory.

Other perspectives on policy move from consideration of the behaviours of individual decision makers to examine the structures and forms of social organisation within which they act (Weston, 2000), emphasising “the pre-eminence of the social whole over its individual parts (i.e., its constituent actors, human subjects) (Giddens, 1984, p1) and may thus be classified as 'exterior collective'

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<sup>42</sup> For example, Lindblom (1959, 1979) challenges the separation of policy goals (equated to 'values') from means. March (1982, p32), however, notes that rather than recognising values as “a basic feature of political visions of decision-making”, most decision theory assumes that conflicting values can be dealt with in a process of trade-offs following a rational process.

theories<sup>43</sup>. Group theories, whereby policy is viewed as the result of a struggle between groups representing competing and relatively fixed interests or values, is one example (Dye, 1978)<sup>44</sup>. Forms of ‘neo-institutionalism’, which consider the influence of various aspects of social and political context ranging from bureaucratic structure to the policy environment, to general social settings, to the global political economy (see for example Howlett & Ramesh, 2003; Rein & Schön, 1993; Simeon, 1976) also fall into this category<sup>45</sup>.

Systems theory, or ‘functionalism’ (Giddens, 1984) is another exterior collective approach, which views policy making as “a response of a political system to forces brought to bear upon it from the environment”, where the environment is “any condition or circumstance defined as external to the boundaries of the political system” (Dye, 1978, p37). Systems theory approaches assume that policy environments, or contexts, are ‘predictable and controlled’ (Lawrence, 2000). One well-known example is Sabatier’s Advocacy Coalition Framework, which seeks to empirically relate knowledge, interests and beliefs in a causative model (Sabatier, 1987, 1993)<sup>46</sup>.

The exterior policy theories, whether individual or collective, are united in their aims of ‘objectivity’, in many cases proposing causal models that are theoretically provable (F. Fischer, 2003b). This is evidenced by a concern with determining the ‘dependent’ and ‘independent’ variables in these models (see for example Dye, 1978; Simeon, 1976). Fischer (2003a) labels this body of work ‘empiricist’ or ‘positivist’, since it retains the Enlightenment faith in positivism and rationality

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<sup>43</sup> The concept of the policy cycle, consisting of agenda-setting, policy analysis and decision, implementation and evaluation is also a collective exterior conceptualisation (Bridgman & Davis, 2004).

<sup>44</sup> Lindblom (1979, p524) understood this. He distinguishes between his inter-related theories of ‘disjointed incrementalism’ and ‘mutual partisan adjustment’ in relation to this point, where the former is primarily analytical and the latter is “to some extent a substitution of politics for analysis”.

<sup>45</sup> Whereas the study of institutions in political science traditionally focused on describing the structures and legal arrangements of the various bodies in the political system, neo-institutionalism recognises that the structured patterns of behaviour that become embedded in organisations influence the content of policies (Dye, 1978). Institutions in this sense include both organisations and codified social interactions such as norms, conventions and rules (Dovers, 2001).

<sup>46</sup> Sabatier (197, 1993) speaks of policy subsystems that are affected by the external factors surrounding them, dividing these into two categories: relatively stable parameters and dynamic (system) events. The former include basic attributes of the problem area, basic distribution of natural resources, fundamental cultural values and social structure. The latter includes changes in socioeconomic conditions and technology, changes in governments and key personnel, and policy decisions and impacts from other policy subsystems.

despite taking a broader perspective and considering more elements than the rational-comprehensive model. Subjectivity considerations are sometimes embodied into these models in the form of fixed entities labelled ‘politics’, ‘values’, ‘deep beliefs’ and the like, and given their place in models of policy-making alongside other components of the policy machine where it is assumed that they are constant in nature and even potentially controllable (F. Fischer, 2003a; Lawrence, 2000).

This process of rationalisation, however, robs these subjective elements of their depth and meaning, relegating empiricist policy theories to what has been termed ‘flatland’ (Wilber, 2000). Furthermore, empirical models have failed to adequately describe the policy process in any case. Fischer (2003b, p209) argues that the problem lies in a fundamental misunderstanding about the nature of the social, “The social sciences have neither developed anything vaguely resembling the promised causal, predictive ‘science’ of society, nor has their subfield, the policy sciences, been able to provide indisputably effective solutions to pressing social and economic problems”<sup>47</sup>. Therefore new approaches to policy theory are required that move from descriptive to interpretive forms of analysis.

### **Engaging with the interior dimensions**

In response to these limitations, policy and planning theorists have begun to acknowledge the interior, or subjective, dimensions of policy making, through application of the interpretive social sciences. As a critique of positivism (Jennings, 1987), as well as descriptive social sciences (Bradbury & Rayner, 2002)<sup>48</sup>, interpretive social science seeks to uncover the meanings of behaviours and actions to those who constitute them and those outside them; to make sense of actions in terms of the intentions of the action, which in turn are guided by ‘conventions, rules and norms’; and to highlight the interconnections between the different aspects of the social and political context in which the action occurs. Interpretive social science thus seeks to spin a ‘web’ of understanding.

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<sup>47</sup> Fischer (2003b) extends his argument to the physical sciences, citing contributions from chaos theory and quantum physics that have shown that even the physical world can no longer be considered stable or fixed.

<sup>48</sup> Bradbury and Rayner (2002) specifically discuss the potential contribution of interpretivism to impact assessment for sustainability.

'Interior individual' approaches have been applied within planning by advocates of the communicative planning model, which utilises the psychoanalytical approaches of critical theory to explore internal belief systems and frameworks of individual planners engaging in their craft (Hillier & Gunder, 2003). The same notion is found in Lasswell's 'contextual orientation' to policy analysis in which policy analysts, acting on behalf of society, seek emancipation from "those psychopathological and ideological forces which constrain or destroy the freedom and reason of a person" (Torgerson, 1985, p244).

Analogously, 'interior collective' approaches to policy theory seek to excavate the underlying meanings that shape society, and therefore policy practice, at the collective level. Into this category falls the work of Rein and Schön on frame reflective policy analysis (Rein, 1976; Rein & Schön, 1993, 1996), and the sociologists of science (see for example Wynne, 1996) who have pointed to the social construction and value-laden nature of science (Bradbury & Rayner, 2002; F. Fischer, 2003b; Ravetz, 1999).

Engagement with the interior world of hidden meanings is the defining characteristic of what has come to be known as the 'post-empiricist' policy orientation, which embraces ethics, values, beliefs, meanings and all the dimensions of policy making that extend beyond the immediately obvious into the contextual depth. The post-empiricist turn does not reject the descriptive or objective, but the focus becomes its relationship with the normative or subjective (F. Fischer, 2003a). The notion of policy discourses and storylines makes a significant contribution to post-empiricist policy theory by providing a means by which the hidden forces operating within a policy context and indeed a society can be articulated and explored. Their use has been demonstrated to great effect in relation to acid rain (Hajer, 1995); ozone depletion (Litfin, 1994); climate change (Bulkeley, 2000); spatial planning (Healey, 1999) and forestry (Hillier, 2000). The importance of context in shaping policy processes is increasingly acknowledged (Dryzek, 1982; Owens & Cowell, 2002), and in the terminology of the integral framework, the interior and exterior collective dimensions together comprise the cultural and socio-political context of policy making. Following Dryzek (1997), discourses and storylines can be conceptualised as contextual 'software', while institutions are the 'hardware'.

In the spirit of an integral approach, policy discourses provide a perspective from which other policy theories, including actor and group- or interest-based perspectives can be reconciled within a holistic model (Keeley & Scoones, 1999). For these reasons, I discuss policy discourses and storylines in more detail before returning to consider the Gorgon experience on this basis.

### 5.3.3 Discourses and storylines

Like policy argumentation, discourses and storylines are based in language. However, whereas an argument leads to a conclusion to demonstrate how things should be, discourses and storylines articulate in language how things are (F. Fischer, 2003a). The concept brings together several bodies of work to link concepts like ideology, discourse, frame, narrative and storyline (F. Fischer, 2003a). Although these linkages remain somewhat ambiguous<sup>49</sup> and even the leading theorists have been observed to use some terms interchangeably (Dryzek, 2004), the concept has great potential both as an analytical tool and as a means for reshaping policy in practice.

A policy discourse can be defined as (Hajer, 1995, p44):

a specific ensemble of ideas, concepts, and categorisations that are produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities<sup>50</sup>.

Policy discourses are effectively the ‘tracks’ along which policy proceeds<sup>51</sup> (F. Fischer, 2003a). They are inherently collective; rather than considering individual beliefs, values and behaviours, the question turns to “the social norms and conventions that constrain and enable what can be acceptably said” (McGregor, 2004, p594). Dryzek (1997, p8) describes the nature of discourses thus:

A discourse is a shared way of apprehending the world. Embedded in language, it enables those who subscribe to it to interpret bits of information and put them together into coherent stories or accounts. Each discourse rests on assumptions, judgements and contentions that provide the basic terms for analysis, debates, agreements and

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<sup>49</sup> For example, Fischer (2003a) notes that discourse and ideology are not the same thing, but they intersect, and the relationship between these two concepts is the subject of debate.

<sup>50</sup> Hajer (2003b), like Dryzek (1997, 2005), focuses less on linguistic elements of discourse and more on the institutional practices within which discourse are produced.

<sup>51</sup> Fischer (2003a) uses the example of Keynesian economics versus monetary policy here.

disagreements....The way a discourse views the world is not always easily comprehended by those who subscribe to other discourses.

Discourses and storylines operate at different levels of policy-making and in society as a whole, for example within a particular political institution, or between members of a policy-subsystem, or within a broader social system, or at the global level, corresponding to the layered or nested elements of context (F. Fischer, 2003a; Healey, 1999; Rein & Schön, 1993). Fischer (2003a, p75) uses the idea of levels to distinguish between discourses and storylines, suggesting:

discourses play a broad structuring role, under which political stories and narratives are told which not only reflect these general systems of meaning but also work them out in the concrete practices of the everyday world of social action<sup>52</sup>.

He goes on to argue that, “To understand the world around them, most people do not rely on comprehensive discursive systems for their cognitions. Instead, they rely on storylines” (F. Fischer, 2003a, p86).

Following Fischer (2003a), Hajer (1995) and Dryzek (1997; 2005), I use ‘discourse’ to mean structuring frameworks that operate at a macro or societal level, analogously to ‘policy paradigms’ (Hall, 1993; Howlett & Ramesh, 2003; Laws & Rein, 2003) or ‘frames’ (Rein & Schön, 1993)<sup>53</sup>, and ‘storyline’ to mean micro-level narratives that help us to make sense of specific policy issues or problems (Hajer, 2003a). The

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<sup>52</sup> Fischer (2003a, p75) is speaking of the highest level of discourse when he says, “At this cultural level, discourses function epistemically to regularize the thinking of a particular period, including the basic organizing principles of social action (such as the rules of feudalism or capitalism). Functioning as deep socio-linguistic structures, discourses organize the actors’ understandings of reality without them necessarily being aware of it. In the Foucaultian sense of the terminology, such epistemic discourses have formative or constitutive power that structures basic social definitions, meanings, and interactions in a socio-cultural system. As large encompassing systems of meaning embedded in and transmitted by culture, macro discourses constitute the ‘residua’ of a society’s or a group’s collective memory. They do so primarily in the form of stories that can be taken as the engrams basic to our modes of thinking and action”.

<sup>53</sup> For my purposes, the terms discourse, frame and policy paradigm may be used interchangeably, as demonstrated by the similarities of the following definitions: according to Howlett and Ramesh (2003, p233), a policy paradigm “thus informs and holds in place a set of ideas held by relevant policy subsystem members...that shapes the broad goals policy-makers pursue, the way they perceive public problems, and the kinds of solution they consider for adoption”. Laws and Rein (2003, p173) speak of frames as “a particular way of representing knowledge, and as the reliance on (and development of) interpretive schemas that bound and order a chaotic situation, facilitate interpretation and provide a guide for doing and acting”. Another closely related concept is Wittgenstein’s *Weltbilder*, or ‘world images’ (van der Knaap, 1995). Laws and Rein (2003, p174), however, also use the term frames to equate to storylines when they say “frames are a special type of story”. The important points here are that this was one of the first attempts to explicitly relate frames to discourses and storylines (see Laws and Rein 2003) and that ‘frame’ can be used at both the macro and micro levels. To avoid confusion, I will prefer ‘discourse’ and ‘storyline’.

stories told about policy situations can in turn reveal the broader structuring frames, paradigms or discourses to which the policy actors subscribe (Healey, 1999; Rein & Schön, 1993). Storylines are thus a form of ‘short-hand construction’ that “function to condense large amounts of factual information intermixed with the normative assumptions and value orientations that assign meaning to them” (F. Fischer, 2003a, p87). They “help people to fit their bit of knowledge, experience or expertise into the larger jigsaw of a policy debate” (Hajer, 2003a, p104)<sup>54</sup>.

Discourses and storylines do not exist in isolation but are constantly interacting, influencing and being influenced by, other discourses. They are grounded in empirical practice and take form through action (Hajer, 1995; Hajer & Wagenaar, 2003b)<sup>55</sup>. They are functions of their place and time, and more specifically of physical environments, history, culture, power arrangements (McGregor, 2004), while also shaping context through language (Hajer & Wagenaar, 2003c; Lopes, Theisohn, & Program, 2003).

Fundamental to discourses and storylines are the interior collective elements of socio-cultural values, beliefs and norms (F. Fischer, 2003a). They explicitly embrace interior dimensions of a social reality excluded by rational choice theory, such as culture, ideas and religion (Jachtenfuchs, 1996). Perhaps most importantly, discourses and storylines are artefacts of meaning, and thus provide a means of excavating and exploring from a hermeneutic or interpretive perspective the intangible and ever-fluid meanings framing policy making (Yanow, 2003)<sup>56</sup>. This is not to dismiss policy discourses and storylines as relativist and entirely divorced from empirical ‘reality’, since it is possible to subscribe to both a hermeneutic epistemology and a realist ontology (Dryzek, 1997; Litfin, 1994).

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<sup>54</sup> Flyvbjerg (2002) gives examples of stories, which he calls ‘rationalities’ in relation to the Aalborg Project in Denmark.

<sup>55</sup> Wagenaar and Cook (2003, p146) recall Giddens’ structuration theory (Giddens, 1984), Polanyi’s tacit knowledge, Bourdieu’s habitus and Dewey’s pragmatism, all of which acknowledge that “social order is constantly reproduced in the course of acting in and upon it” in recognition of the reflexive relationship between actors and their environment.

<sup>56</sup> In an analogous argument, Yanow (2003) distinguishes between culture static anthropology referring to race-ethnic or nationality groups, and ‘cultural and symbolic anthropology’, where culture has an orientation towards the symbolic, and artifacts such as language, objects and acts represent values, beliefs and feeling constituting human meaning. The former is static and empiricist, while the latter is fluid and post-empiricist.

The difference between the descriptive (exterior collective) systems theory approach and the interpretive (interior collective) analysis of discourses is highlighted by the debate between Sabatier and his co-researchers on one hand, and Hajer and Fischer on the other (refer to F. Fischer, 2003a; Hajer, 1995). In critiquing Sabatier's (1987, 1993) model of policy stability and policy change, Hajer and Fischer do not reject the concept of core beliefs, but challenge that they are clearly defined and that they are common to all members of Sabatier's 'advocacy coalition' (F. Fischer, 2003a). Instead, they argue that the main unit of analysis should be the discursive storyline shared by members of a 'discourse coalition'<sup>57</sup>.

While some have conceptualised discourse as "the sets of ideas or beliefs" that "serve to constrain policy actors" (Howlett & Ramesh, 2003, p16), this is a somewhat mechanistic and negative way of considering discourses or frames that does not do justice to their inherent fluidity and subjectivity (Dryzek, 1982). Laws and Rein (2003, p179) cast the discourses that frame policy processes in a positive light, arguing that effective practice depends upon taken-for-granted assumptions that are not open for scrutiny, that shape "what is discussable, what is realistic, what is natural" and thus we rely to some extent upon discourses and frames embedded in practice and the institutions of practice<sup>58</sup>. They, however, like Dryzek (1997, p20), believe that discourses can and should be managed through processes of reflexivity and awareness so that individuals are not simply "subject to the discourses in which they move, and so seldom able to step back and make comparative assessments and choices across different discourses"<sup>59</sup>. I return to this argument in Chapter 6.

Discourses and storylines provide a meta-analytical tool to enable better understanding of the nature of intractable policy issues, and particularly the

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<sup>57</sup> The storyline is made up of facts, values, ideas and beliefs woven together in different ways by different members of the coalition (Hajer, 1995). The attraction of a particular storyline to a policy actor may have less to do with core beliefs and facts than with emotional responses to an issue and the desire to be part of a community (in this case the coalition). Beliefs and values in this model are hard to pin down and may not be as strongly held as Sabatier (1987, 1993) suggests, and when challenged, policy actors may contradict themselves in relation to their core beliefs. However, they remain loyal to the storyline (F. Fischer, 2003a).

<sup>58</sup> In this way, they highlight the links between the exterior and interior dimensions of context, which I discuss further later in this chapter.

<sup>59</sup> Dryzek (1997) also challenges the idea of hegemonic discourses dominating in certain times and places, believing that there will be a variety of discourses operating. For example, despite the hegemony of industrialism in the 1960s, this began to disintegrate and allow for the variety of often competing environmental discourses that now co-exist.

relationships between knowledge, power, values, institutions, societal context (Forester, 1993b; Keeley & Scoones, 1999; Litfin, 1994). The discourse becomes the focal point of the examination of the policy issue in a way that “takes the relationship between knowledge, power and policy as the centre of analysis” (Keeley & Scoones, 1999, p5).

Furthermore, as mentioned previously, this more interpretive analysis enhances and reconciles actor, interest and structural policy theories by emphasising that the behaviour of policy actors and the nature of the structures and institutions in which they operate are not ‘givens’ to be analysed in an empirical, deterministic sense, but should be recognised as being socially constructed and shaped by stories and discourses at various levels (F. Fischer, 2003a). For example, Keeley and Scoones (1999, p28) reconcile discourses with actor and interest models of policy by explaining how “interests are shaped by larger discourses, but...these discourses are also shaped actively by political interests” and that, whereas actor-based approaches to policy demonstrate the role of individual agency in generating knowledge, the behaviour of those actors is influenced by structures and discourses<sup>60</sup>.

I now proceed to consider the dominant storylines in the controversial Gorgon assessment process as the basis for a deeper analysis of the case study.

#### **5.4 Revisiting the ‘wicked problem’ of Gorgon**

In this section, I return to the observations made in the introduction to this chapter, now better equipped to understand them, using the concept of policy discourses and storylines as the starting point for the analysis<sup>61</sup>. This analysis draws together several of the policy theories introduced previously, including discussions of the influence of policy actors and institutions, demonstrating how they are united by the thread of the stories themselves. It demonstrates that policy discourse theory aids in understanding issues of context, knowledge, values and power, as well as many other aspects of the

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<sup>60</sup> Similarly, Jachtenfuchs (1996) demonstrates that ideas and interests need not be perceived as competing theories of policy, since ideas contribute to frames and worldviews (that can be considered analogous to discourses in this sense), which then define and shape interests. Furthermore, discourse approaches to public policy support a structuration argument (Giddens, 1984, 1990) whereby “structure and agency continuously and recursively interact” (Keeley & Scoones, 1999, p28).

<sup>61</sup> Here, I adopt a Foucaultian concept of discourses as a structuring, somewhat rigid and constraining framework. In Chapter 6 I will return to the important idea that discourses and storylines are also flexible and reflexive (Wagenaar & Cook, 2003).

case study already considered through the lens of impact assessment literature in Chapter 4. In particular, I re-examine the issue of framing ('asking the right question') in light of policy discourses.

#### **5.4.1 Deriving the stories of Gorgon**

There is little methodological rigour in identifying the stories of Gorgon, since "[a] discursive practices approach, with its resistance to unidirectional causal explanations, offers little in the way of methodological tidiness" (Litfin, 1994, p7). Even a perhaps over-simplified model of the discourses and storylines that entwined the Gorgon process, however, can illuminate aspects of the interplay between knowledge, values, power and institutions, and between Gorgon and its broader social and political context, in a way that has not been possible through the lens of rationality rife within the theory and literature of impact assessment.

The competing discourses framing the Gorgon debate were alluded to in Chapter 3. In very broad terms, the Gorgon debate can be considered to have been divided along 'pro-development' versus 'green' lines. The essential difference between the two was that the pro-development discourse gives precedence to socio-economic development, while the green discourse has a higher degree of concern for environmental protection and conservation. The storylines constructed within each discourse in relation to sustainability could perhaps be articulated along the following lines.

***The pro-development storyline:*** *Gorgon represents a vast and significant source of economic wealth to Western Australia, which is a good thing in itself and which in turn will deliver socio-economic benefits to the community, net conservation benefits and ensure the ongoing management of Barrow Island. The environmentalists are just being hysterical in their opposition to the proposal because any risks to conservation values can be managed.*

***The green storyline:*** *Barrow Island is a sacred place and its protection is a high societal priority. Industrial activity should not be located in such places, especially when alternatives are available. The risks to the unique conservation values of Barrow Island are too great to permit this proposal to go ahead. This applies especially to activity that involves exploiting non-renewable resources and*

*generating greenhouse gases. This is just one more example of big business and the economic agenda winning out over the environment.*

These different stories were typified in Chapter 3 by a newspaper article and a press statement by the Conservation Council of WA respectively.

The former, reproduced in Box 3.2, concluded with the line:

The economic argument is relatively simple. Whether it wins out against soft furry animals and prowling perenties remains very much an open question (Wilson, 2003).

In contrast, the latter, reproduced in Box 3.3, raised concerns about the various environmental risks associated with the proposal, including issues of potential quarantine breaches and the consequent introduction of pests and weeds, and the contribution of the proposal to climate change, concluding:

There are too many unanswered questions....

*Alternatives exist. Gorgon on Barrow is not worth the risk* (Conservation Council of Western Australia, 2003).

The pro-development storyline mirrors the hegemonic macro-discourse of economic growth and development that grips Western Australia and the Western world in general, while the green storyline challenges this perspective, placing less concrete and more value-based issues at the centre of its argument. These alternative viewpoints pervaded every aspect of the Gorgon assessment process and generated two competing ‘discourse coalitions’ (Hajer, 1995). The ‘green’ discourse coalition included the EPA, DoE, Conservation Commission and CALM as well as environmental community groups and NGOs, while the ‘pro-development’ discourse coalition included DoIR, the Gorgon JV, the Expert Panel, and various industry lobby groups<sup>62</sup>. While there were subtle variations in their perspectives<sup>63</sup>, members of each coalition broadly subscribed to one of these two storylines.

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<sup>62</sup> For example, the Chamber of Commerce and Industry, and the Chamber of Mines.

<sup>63</sup> For example, as discussed in Chapter 3, the EPA/DoE was seen as being more pragmatic and accepting of industrial development than the Conservation Commission/CALM, and there were differences in perspective between DoIR and the proponent, points I also discuss further in this chapter.

### 5.4.2 Discourses, institutions and the bureaucracy

As discussed previously, the Western Australian bureaucratic structure, similar to many others, consists of agencies that deliver essential services such as education, health and welfare, plus others which support various economic sectors (Healey et al., 2003). It applies what Thacher and Rein (2004, p463) call a ‘firewall’ model of dealing with competing values within the bureaucracy, in which “they distribute the primary responsibility for each of several conflicting values among separate institutions, ensuring that each value has a vigorous champion”<sup>64</sup>. In the Gorgon assessment, the ‘vigorous champions’ for resource development (DoIR) and the environment (EPA/DoE and the Conservation Commission/CALM) respectively, reached a point at which their different perspectives became irreconcilable, resulting in the two opposing pieces of advice being presented to Cabinet (Allen Consulting Group, 2003; Conservation Commission of Western Australia, 2003; Environmental Protection Authority, 2003)<sup>65</sup>. The ‘firewall’ thus became an insurmountable barrier between the bureaucratic components of the competing discourse coalitions.

Following the argument that “discourses can become embodied in institutions” (Dryzek, 1997, p19) or that institutions can be conceptualised as ‘frames frozen in time’ (Jachtenfuchs, 1996), it can be argued in the most simple terms that these two groups embody the pro-development and green storylines respectively. As Dryzek (1997, p19) observes, “When this happens, discourses constitute the informal understandings that provide the context for social interaction, on a par with formal institutional rules” and these shared norms and perceptions of the world become more important than formal knowledge in shaping the organisation (Berger, Flynn, Hines, & Johns, 2001; Dovers, 2001; Dryzek, 2004).

This is not to say that DoIR as an organisation has no concern for the environment, or that the EPA disregards economic realities. As previously discussed (in Chapter 3), DoIR attempted throughout the process, arguably until the final preparation of

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<sup>64</sup> Boggs (1993, p30) recalls Senator Jackson’s observation upon the introduction of *NEPA* in the United States that “today’s institutional reality – numerous agencies governing different natural resources with fractionated, separate policies – still reflects our early national goals of resource exploitation, economic development, and conquest”.

<sup>65</sup> The EPA *Bulletin* and the Conservation Commission advice were strongly aligned in opposition to the development.

advice to Cabinet, to play ‘the honest broker’<sup>66</sup>. The agency also considered itself well-equipped to take a ‘broader, almost societal view’<sup>67</sup> of resource development projects that took into consideration environmental and social, as well as economic and state development issues. This assertion was, however, greeted with scepticism by the environmental agencies, who could not find evidence that DoIR was anything but ‘unashamedly pro-development’<sup>68</sup>.

In the same way that DoIR expressed concern for the environment, representatives of the environmental agencies were not unilaterally opposed to resource development. One EPA/DoE interviewee said in response to a question about the relationship between natural resource projects and sustainability<sup>69</sup>:

On the resource development front, WA is a resource-driven State; it always has been and always will be. We need to recognise that. The whole economy is based on resource development. My personal perspective on environmental management of development, is making sure that if we do have development, we don’t mess up the environment, that we do it properly from an environmental perspective, so we don’t have unreasonable environmental impacts, recognising that they always have some effect. So, it is entirely pragmatic to say that we are a resource driven state. We can either row against it or get involved with making sure we do it properly.

This view, which proved generally reflective of the attitudes and behaviours of the EPA/DoE highlights the pragmatic approach to the relationship between industrial development and the environment, in contrast with the more ‘deep green’ guiding philosophy of the Conservation Commission/CALM. DoIR’s attitude towards environmental protection and the EPA/DoE’s towards resource development are examples of what have been called ‘precarious values’, that is, values genuinely held but “not firmly entrenched in an organization’s character and core commitments” (Thacher & Rein, 2004, p470), and are therefore not integral to the dominant discourses that shape the functions of the organisation.

The influence of institutions, and particularly bureaucratic structures on policy processes has been recognised by the neo-institutionalists as discussed previously

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<sup>66</sup> Gorgon interviews – DoIR (10).

<sup>67</sup> Gorgon interviews – DoIR (9).

<sup>68</sup> Gorgon interviews – Conservation Commission/CALM (6).

<sup>69</sup> Gorgon interviews – EPA/DoE (14).

(Howlett & Ramesh, 2003). Persistent divisions reflecting competing frames are of concern with respect to the introduction of sustainability as a policy framework, since “[i]t is these divisions, discourses and practices which now seem to trap government in modes of thinking and acting which lack the flexibility to respond to new ways of living” (Healey et al., 2003, p61) and “despite the excitement and mobilizing energy released by new ways of thinking and new ways of doing things, the ‘mainstream’ of governance activity carries on with ‘business as usual’” (Healey et al., 2003, p62)<sup>70</sup>. Despite the hope with which it began, the Gorgon experience did little to reconcile competing discourses, and in fact may have further damaged some already precarious relationships<sup>71</sup>.

### 5.4.3 Policy actors

It is important to recognise that organisations are made up of individual actors, and to consider the relationship between the organisation and the actors working within it (Keeley & Scoones, 1999; Thacher & Rein, 2004). Although actors retain some degree of autonomy, their behaviour is guided to some extent by the norms and rules of the organisations within which they work, which are in turn shaped by their defining discourses. The organisation thus supplies the “political and organizational context in which actors interpret their self-interest” (F. Fischer, 2003a, p30). Fischer (2003a, p28) explains the relationships between institutions and actors operating within them as follows:

It is not that institutions cause political action; rather it is their discursive practices that shape the behaviours of the actors who do. Supplying them with regularized rules, standards of assessment, and emotive commitments, institutions influence political actors by structuring or shaping the political and social interpretations of the problems they have to deal with and by limiting the choice of policy solutions that might be implemented. The interests of actors are still there, but they are influenced by the institutional structures, norms, and rules through which they are pursued.

There were individuals within DoIR who were committed to the agency’s responsibility to manage a fair and equitable process and who were in some degree

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<sup>70</sup> As van Eeten (1999, p186) stresses, this fragmentation means that the “means needed to develop and implement policy on an issue, and the means to block such action, are scattered across the policy community, both inside and outside government”.

<sup>71</sup> Gorgon interviews – DoIR (9).

of conflict at times with those who remained committed to the agency's advocacy role of behalf of industrial clients. Then later in the process it was suggested that the more overt use of power by DoIR and the subsequent marginalisation of the environmental agencies was caused by a change of project manager within DoIR. These examples illustrate the variability of actor behaviour within an organisation, even though all of these actors were guided by the pro-development discourse. In the first case, two slightly different storylines can be discerned: the first argues that 'the best way we can help our client is to run a squeaky clean process', while the second says that 'we have two agencies lobbying for the environment, so it is our role and duty to advocate for our client'<sup>72</sup>. The relative merits of these two storylines were debated several times within DoIR during the Gorgon process, as discussed previously (see Chapter 3).

However, the interaction between structure and agency works both ways, and the behaviour of actors influences and shapes discourses and institutions as much as the other way around. This is Giddens' (1984) 'Theory of Structuration', which has been adopted in planning theory through the work of Patsy Healey and others (see for example Healey, 1999; 2003). Booher and Innes (2002, p225) "share with Giddens (1984) the idea that agents enact structure within constraints and agency can gradually change structure"<sup>73</sup>.

#### **5.4.4 Framing 'the question'**

The 'question' framing the Gorgon assessment was, "Are the potential impacts of constructing a gas processing plant on Barrow Island acceptable?" Jachtenfuchs (1996, p2) observes that "any definition of a problem contains ideas about the legitimate order of things"; that is, that the question reflects a particular discourse or storyline with its inherent beliefs, values, and assumptions about the way things work and the way they should work<sup>74</sup>. As discussed previously, this question has its roots in the EIA process in Western Australia which, in common with jurisdictions around the world, largely reflects the pro-development storyline that 'industrial

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<sup>72</sup> Gorgon interviews – DoIR (9).

<sup>73</sup> Booher and Innes (2002, p225) continue, "The networked patterns of action in an informational society, with the rapid communication and change that are the norm today, suggest that deep structure may change more quickly now than at other point in history".

<sup>74</sup> Jachtenfuchs (1996, p29) suggests that frame competition "is the struggle between competing problem definitions" (see also Chapter 6).

development is good as long as any adverse environmental impacts can be managed to acceptable levels'. This storyline in turn is a reflection of the powerful global discourse of industrial development and economic growth.

The question guides how an issue is defined, what options can be considered, and what outcomes are acceptable (F. Fischer, 2003a; Howlett & Ramesh, 2003; Litfin, 1994; Rein & Schön, 1993). It is therefore an expression of discursive and institutional power; according to Schattschneider (1960, p68), "those who can determine what the debate is about run the country" (cited in Davis et al., 1988, p117), and similarly, "Power signifies establishing not only who may speak but also how they may speak" (Pellizzoni, 2001, p61). The Gorgon question not only excluded any real consideration of alternative locations for the development, but marginalised philosophical opposition to the proposal and sidelined discussions of important policy issues such as long-term energy strategies for Western Australia and the future of resource development in the state. As discussed previously it was, if not the wrong question, then certainly a very limiting one.

#### 5.4.5 Power

As Flyvbjerg (1998a, p5) argues in the introduction to his book *Rationality and Power*, "The central question, in addition to who has power and why they have it, is how power is exercised". I have previously described the authoritative power invested in DoIR as project managers of the Gorgon assessment process, the impact this had in 'flavouring' proceedings<sup>75</sup>, and the perception of some that this power was abused<sup>76</sup>. Furthermore, many considered that the proponent, ChevronTexaco on behalf of the Gorgon JV had the most power in the process, partly by virtue of its control over the data collection phase<sup>77</sup> and therefore, to some extent, over what information it would provide to Government<sup>78</sup>.

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<sup>75</sup> Gorgon interviews – Conservation Commission/CALM (6). Flyvbjerg (2002) points out that power determines what counts as knowledge and therefore the dominant discourse of those in power becomes reality.

<sup>76</sup> Gorgon interviews – EPA/DoE (14); Conservation Commission/CALM (6).

<sup>77</sup> Following on from the preceding discussion, this power was derived in part from the existing EIA procedures, in a reflection of the suggestion that power is the effect of the establishment of procedures and mobilisation of forces, rather than a prerequisite for it, and this is particularly so if the procedures and practices become codified (Rose & Miller, 1992).

<sup>78</sup> As one interviewee said, "It probably comes down partly to scoping but much more than scoping it comes down to interpretation. At the end of the day, interpretation always rests with the proponent.

From a Foucaultian perspective it can be argued that the power maintained by DoIR and the proponent derives from the dominance of the pro-development discourse in Western Australia (Berger et al., 2001; Howitt, 1995). This power is transmitted via the discourse “into the fine grain of action (the practices of agency) performing persuasive, justificatory, co-coordinative and directive work” (Healey, 1999, p27). This in turn is a function of the global hegemony of the drive for economic growth and the discourse of the market economy, which elevates the status of business groups and particularly multi-national corporations to a more powerful status than governments (Howlett & Ramesh, 2003). This discourse remained unchallenged by the Gorgon assessment; as Howitt (1995, p391) has observed, “The power structures that support project-centred developmentalism are made virtually invisible by most impact assessment procedures”.

The power of this discourse underpinned the decision by Cabinet on 8<sup>th</sup> September 2003 to grant the proponent access to Barrow Island. Recognition of this led me and others to question whether any consideration was given to the extensive data set generated through the assessment process in making this decision. The underpinning rationality of the decision is apparent in the Premier’s press release of that day (see Chapter 3), which opens with the words, “Groundbreaking environmental benefits will flow to the North-West following the signing today of the State Agreement for the \$11 billion Gorgon gas development”<sup>79</sup>.

#### **5.4.6 Knowledge and use of data**

Perhaps one of the most significant observations of the Gorgon process was that despite the hope of actors within DoIR that the ‘facts would speak for themselves’ and therefore that sufficient technical data would lead to a consensus position within the bureaucracy at least in favour of the proposal, this was not borne out. In fact the opposite was true: rather than moving towards consensus as the process progressed and more and more data was generated, the opposing sides became more and more

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They’re going to put in as much as they have to in the areas they don’t want to and put in as much as they want to in the areas they want to”. (Gorgon interviews – EPA/DoE (14)).

<sup>79</sup> Media statement issued by the Premier Dr Geoff Gallop on 9<sup>th</sup> September 2003. Available online URL: <http://www.mediastatements.wa.gov.au/media/media01-05.nsf> [Accessed 22nd June 2005]

firmly entrenched, and arguably the EPA/DoE moved closer to the ‘deep green’ discourse embodied by the Conservation Commission/CALM<sup>80</sup>.

This should have come as no surprise, however, since it has long been recognised that “facts and statistics are seldom sufficient to bring about changes in behaviour” (Majone, 1989, p39). Furthermore, beyond the confines of this example and the individuals involved, it is well understood that arguments about facts generally mask much deeper value conflicts, and much has been written on the nature of policy controversies (Hisschemöller & Hoppe, 1996; Jasanoff, 1987; Sabatier, 1987; van Eeten, 1999). Rein and Schön (1993, p148) suggest that science fails to resolve policy disputes when the parties in the debate are operating from different ‘frames’ or storylines<sup>81</sup>:

When people disagree about a policy issue, they may be able to examine the facts of a situation and determine who is right; policy disagreements arise within a common frame and can be settled in principle by appeal to established rules. But policy controversies cannot be settled by recourse to facts alone, or indeed by recourse to evidence of any kind. Because they derive from conflicting frames, the same body of evidence can be used to support quite different policy positions.

The conflicting frames or storylines of Gorgon were at the heart of the disagreements about the quantity and quality of the data generated through the assessment process, and shaped how the data were interpreted and used, as was described in another context by Nelkin (1975). As discussed previously, the pro-development side generally considered the data adequate or even excessive, in the case of the proponent, with the green side disputing this and pointing out gaps and deficiencies.

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<sup>80</sup> This was evidenced by the wording of the EPA bulletin, and specifically the use of the word ‘principle’ which led one DoIR interviewee (9) to argue that the EPA had stepped outside of its mandate. The bulletin says, “Given the very high environmental and unique conservation values of Barrow Island, which are reflected in its status as a class A Nature Reserve, it is the view of the EPA that, as a matter of principle, industry should not be located on a nature reserve and specifically not on Barrow Island” (Environmental Protection Authority, 2003).

<sup>81</sup> A fundamental characteristic of such problems is that they are ‘trans-scientific’, meaning that although they can be defined in terms of science and draw heavily on science, the questions they raise cannot be answered by science, at least not within any reasonable time frame (Majone, 1989; van Eeten, 1999; Weinberg, 1972).

In this regard, CALM's questioning of the data was perceived by the proponent to be a deliberate strategy to undermine the credibility of the proposal. For example<sup>82</sup>:

We understand that one strategy is to sow seeds of doubt in Government's mind that this isn't a good enough basis, we haven't got all the information, you can't make this decision, is, if I was in their shoes, I'd probably be saying the same thing, it's a reasonable strategy for them to adopt to delay, defer etc. And so we shot ourselves in the foot by providing a lot of that information already, so it has weakened us.

Perhaps more importantly, these conflicting storylines shaped how the data was filtered and interpreted by each side of the debate, with the result that 'experts' and 'counter-experts' (Litfin, 1994) reached entirely different conclusions upon detailed examination of the issue from their different perspectives. 'Factual' or descriptive data is given meaning by the interior lens of belief system through which it is viewed (van Eeten, 1999) and hence "political values and scientific facts become difficult to distinguish" (Litfin, 1994, p35). In the words of Rein and Schön (1993, p145), "What can possibly be the basis for resolving conflicts of frames when the frames themselves determine what counts as evidence and how the evidence is interpreted?"<sup>83</sup>

As already observed, adding to the data set did not result in a movement towards consensus, and the assessment degenerated into a 'dialogue of the deaf'. In the words of van Eeten (1999, p187):

This is what it all adds up to: a policy community is confronted with conflicting arguments, each 'true' on their own terms to the exclusion of the other, each supported by a part of the community, and each pointing in a different direction for policy action. The potential for fruitful deliberation, analysis and learning is seriously reduced because of the incommensurability of the arguments. Talking to each other gives way to talking past each other, and institutional deadlock is the answer.

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<sup>82</sup> Gorgon interviews – ChevronTexaco (5). This reflects Nelkin's (1975) observation that those opposing a decision need not muster equal evidence, and that casting doubt may be sufficient.

<sup>83</sup> A similar conclusion was also reached by Litfin (1994, p6) in her analysis of the Montreal Protocol, "It became increasingly evident that 'knowledge' was not simply a body of concrete and objective facts but that accepted knowledge was deeply implicated in questions of framing and interpretations and that these were related to perceived interests".

The Gorgon experience also supports Nelkin's (1975, p51) view that "while expert advice can help to clarify technical constraints, it is also likely to increase conflict" and Bradbury and Rayner's (2002, p20) observation that:

the basis for disagreement on policy issues involving high decision stakes and a high degree of uncertainty is social rather than technical and that a focus on improved technical or descriptive analysis serves to polarize rather than resolve controversy.

The question of quarantine management on Barrow Island was the focus of much of the controversy. One DoIR interviewee reflected "it has ended up being a passionate polarisation" and "I think that quarantine risk became a tool to reinforce the passion"<sup>84</sup>. Another particularly controversial topic was the proponent's alternatives sites analysis, which was reviewed under a confidentiality agreement by the Expert Panel on behalf of DoIR. There was a perception, however, that the credibility of the consultants comprising the Expert Panel was limited, not through any lack of professionalism, but simply because by virtue of their backgrounds in the oil and gas industry, the individuals were bound to be supportive of the proposal and to endorse the pro-development discourse in general<sup>85</sup>. There was, therefore, reluctance on the part of others to accept the conclusion of the review, which supported the proponent's 'Barrow or nothing' position<sup>86</sup>. This is an example of Nelkin's (1975, p51-52) assertion that "the extent to which technical advice is accepted depends less on its validity and the competence of the expert than on the extent to which it reinforces existing positions", emphasising the robustness of the existing positions and the discourses and storylines upon which they were founded<sup>87</sup>.

Given the lack of success in reaching consensus through consideration of technical data<sup>88</sup>, I raised the question in the interviews as to whether this data could have been dispensed with altogether and whether the decision could have been made on purely philosophical, or at least purely political, grounds. One interviewee responded as

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<sup>84</sup> Interviews – DoIR (9).

<sup>85</sup> Gorgon interviews – Conservation Commission/CALM (6).

<sup>86</sup> As Weiss (1977, p543) has pointed out in relation to how data is used in political processes, "(v)alues dissensus...precludes use".

<sup>87</sup> Sabatier (1987; 1993) makes a similar point in relation to the resilience of 'core beliefs'.

<sup>88</sup> Reflecting Boggs' (1993, p32) point that, "Knowledge produced under adversarial regimes tends to lose value as fact or science, because players regard it instrumentally as a tool for their own interests".

follows, reflecting on the role that information can play or appear to play, in debates that are fundamentally about values<sup>89</sup>:

Other than with respect to a handful of issues, I don't think we are able to do that overtly, even if that's what we're doing covertly. The thought that popped into my mind is attitudes to the death penalty, but even those are sometimes dressed up in technical considerations, like what if we get it wrong? Although I suspect most people come at it in a strictly moral sense. I suspect that even if you could shove a Cabinet in a room and get a philosophical decision they would express it in some other way. So I don't think we are comfortable with philosophical decisions expressed as such. The Wilderness Society's Tasmanian campaign did have that component to it, but they also had the arguments and economics because they clearly thought they didn't want to take the risk that the philosophical one would be sufficient.

Reflecting further on the relationship between interpretive, or interior, and descriptive, or exterior data, another significant feature of the Gorgon assessment was that all data generated fell into the second category. Even the social analysis was limited to a descriptive approach mirroring a natural sciences methodology and involving "the development and analysis of mass-balance descriptions of social systems that use inventories and accounting systems for the stocks and flows of people, money, raw materials, pollutants and so on" (Bradbury & Rayner, 2002, p17). As Bradbury and Rayner (2002, p24-25) note:

A frequent criticism of descriptive analyses is that they fail to address the meaning of proposed policies to affected groups. As a result, resolution of the policy problem becomes more difficult: opponents continuously raise new technical issues that cannot be answered definitively and people's perception that no-one is responsible for addressing the ethical and social issues of concern to them exacerbates the overall level of concern and the difficulty of implementing policy. The research also shows the existence of differing cultures or rationalities – including those of the experts and implementing agencies – that typically underlie the policy debates, and the need to address these differences by engaging all the participants in constructive, civilised debate.

I return to the matter of incorporating interpretive knowledge in assessment processes in Chapter 6.

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<sup>89</sup> Interviews – Conservation Commission/CALM (4).

## **5.5 Conclusion**

I commenced this chapter by reflecting on the failure of the ‘information provision’ model of EIA, upon which the Gorgon assessment process was based, to engage meaningfully with its socio-political context or to recognise the interplay between knowledge, values and power in the policy process. I followed the lead of others in turning to policy theory in search for a conceptual framework through which these dimensions of the Gorgon process could be usefully explored.

A four-quadrant heuristic from integral theory, which acknowledges the tensions and interactions between the exterior and interior, and individual and collective dimensions of reality, provided a framework within which the various dimensions of the ‘policy universe’ could be located and reconciled. Of particular relevance to policy studies are science and behaviour (exterior individual), institutions and processes (exterior collective), and meanings, values and ethics (interior collective), and the theoretical contributions that place these at the centre of their analysis. I found that the post-empiricist notion of policy discourse and storylines is a particularly useful construct that can be used to explain the relationships between these different elements of the ‘policy universe’ and to demonstrate the contribution made by the different theories. A deconstruction of the two primary and competing storylines of the Gorgon assessment, focused by an integral perspective, provided the basis for my contextual exploration of the relationships between knowledge, values, institutions and power in the Gorgon assessment.

The crisis of confidence in impact assessment, generated by the resilience of the ‘information provision’ model coupled with increasing awareness of its limitations, has led impact assessment theorists in several directions, of which policy theory is only one. For example, new impact assessment processes are gradually evolving that place a greater emphasis on inclusive and collaborative approaches to decision-making and which consequently assign quite different roles to science and knowledge (Cashmore, 2004; Owens et al., 2003). Others have argued that impact assessment processes, even in their current form, may influence decision-making in ways that extend well beyond the ‘fixed decision point’ upon which attention is normally focused (Bartlett & Kurian, 1999). Along these lines it is increasingly argued that impact assessment is best conceptualised as a process of learning. I take

up this point in Chapter 6, where I continue the task of theory building for sustainability assessment by engaging with the emerging concept of policy learning in the context of my second case study, the South West Yarragadee (SWY) sustainability assessment.



## Chapter 6: Policy learning through the South West Yarragadee assessment

### 6.1 Introduction

The Gorgon assessment was the first attempt by the Western Australian Government to undertake a sustainability assessment of a complex and strategic project. Although a brave attempt, it was not a particularly illustrious start as the discussion of the preceding chapters demonstrates. The Gorgon assessment was the backdrop against which the sustainability evaluation of the South West Yarragadee (SWY) water supply development commenced in 2004. Although the organisations and individuals involved were not the same, the Gorgon process had been watched with considerable interest by the whole Western Australian policy community engaged with the sustainability agenda<sup>1</sup>. The general feeling was that in this second trial the sustainability assessment process must overcome as many of the observed limitations of the Gorgon process as possible; in short, the sentiment expressed was ‘we don’t want to do another Gorgon’. This was, of course, an entirely appropriate response within a ‘learning by doing’ framework where the aim is to reflect upon and learn from past experiences.

In the story of learning by doing sustainability assessment in Western Australia, the lessons of Gorgon thus provided the starting point for the development of a suitable process by which the sustainability of the SWY water supply proposal could be assessed, and so the methodology I apply here is more deductive than was the case in my analysis of the Gorgon process. My first aim in this chapter, therefore, is to use the conclusions of Chapter 4, which related primarily to issues of process and institutional and policy context, to evaluate the extent to which the developers of the SWY process learnt from Gorgon and to refine the lessons learnt<sup>2</sup>.

As the SWY assessment process evolved, however, it became clear that not only had lessons been learnt from the earlier Gorgon experience, but entirely new challenges, and therefore learning opportunities, were arising on an almost daily basis. Perhaps

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<sup>1</sup> I use this term following Kingdon (1995).

<sup>2</sup> Note that the structured analysis to follow may give the impression of a far more formal and systematic piece of action research than was actually the case. My own role in the development of the SWY assessment process was peripheral at best, since I did not become actively involved until early in 2005 when much of the work had already been done, and my analysis of the Gorgon assessment (Chapter 4) was not complete at this time.

of the greatest interest and cause for excitement was the realisation that the sustainability assessment process had demonstrably catalysed forms of learning that extended well beyond merely the mechanics of 'how to do' sustainability assessment and into the stories and assumptions that framed the proposal itself. Recalling the language of Chapter 5, the unfolding SWY experience demonstrated that learning in impact assessment can facilitate 'interior', as well as 'exterior' forms of learning, making this a significant point of difference between the Gorgon and the SWY assessment processes.

In this chapter I analyse the SWY sustainability assessment as a process of policy learning. The potential of various forms of impact assessment as learning processes has been noted by contributors to the impact assessment literature who have drawn on policy theory in making their arguments (Bina & Wallington, 2004; Diduck & Mitchell, 2003; Owens et al., 2003; Sánchez-Triana & Ortolano, 2001; Scrase & Sheate, 2002)<sup>3</sup>. In the analysis, I build upon the work of my predecessors by retaining the heuristic introduced in the previous chapter as my conceptual framework, and discussing the exterior and interior, individual and collective dimensions of learning with the context of sustainability assessment.

## **6.2 Policy learning and the South West Yarragadee<sup>4</sup>**

The SWY sustainability assessment is still in progress at the time of writing in October 2006. It has proved a rich and complex case study of which much can and should be written. My specific interest, however, was in distinguishing the forms of learning that occurred within and as a result of the sustainability assessment process, with the aim of contributing to theory-building for sustainability assessment. Accordingly, I directed my data gathering efforts, particularly my interview questions, along these lines (see Appendix A).

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<sup>3</sup> Although the learning potential of impact assessment has long been recognised, in practice this purpose tends to be relegated to a supporting role in the information provision model. As Caldwell (1989, p10) has noted, "Development of EIA and its associated analytic techniques demonstrates a capacity for technical learning and, beyond that, for social learning. But this capability fails to achieve its purpose if the qualitative purposes for which EIA was invented are restricted to the exposure of environmentally bad proposals". While EIA has often been seen as a tool of cognitive, technical forms of learning (Glasbergen, 1996), it is increasingly observed that it can extend well beyond such a limited role. Van der Knaap (1995, p190) explicitly recognises normative dimensions when he defines policy-orientated learning as "the processes in which policy actors strive to improve and perfect public policy and its underlying normative assumptions through the detection and correction of perceived imperfections".

<sup>4</sup> This section draws heavily from Pope (2006a) and Pope and Grace (2006).

### 6.2.1 Introducing the South West Yarragadee case study

The sustainability assessment of the South West Yarragadee water supply development was briefly introduced in Chapter 1. The proponent is the Water Corporation of Western Australia<sup>5</sup>, which is seeking approval to extract 45 GL/yr of groundwater from the Yarragadee Formation aquifers in the South West of Western Australia, for delivery to the Integrated Water Supply Scheme (IWSS) that services Perth<sup>6</sup>. The proposal includes up to ten production bores; a plant to treat the water for iron, manganese and dissolved carbon dioxide; borehead pipelines and a connecting trunk main (Strategen, 2006b).

The SWY has been considered an IWSS water supply option for many years, and was included in the 1995 study *Perth's Water Future* (Water Authority of Western Australia, 1995). At that time, however, the effects of climate change in drastically reducing rainfall and run-off into the dams had not been realised, and it was estimated that the SWY would not be required until after 2021. In the face of water shortages and consequent political and public pressure, the Water Corporation has adopted a 'security through diversity' strategy, which calls for the simultaneous progression of a number of water supply options. These include seawater desalination, wastewater recycling (including through aquifer recharge), other groundwater supplies, water trading, and water conservation. It is in this context that the sustainability assessment of the SWY proposal has been conducted. The Water Corporation's position is summarised in the proposal documentation, entitled *The South West Yarragadee water supply development: Sustainability evaluation/Environmental Review and Management Programme (ERMP)* (Strategen, 2006b, p1-10):

Water supply sources should not be considered as competing or alternative options where the selection of a 'preferred option' implies rejection of the other options. For example,

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<sup>5</sup> The Water Corporation is mandated by the *Water Services Licensing Act 1995* to provide water services to most locations within Western Australia (two notable exceptions are Busselton and Bunbury, both of which fall within the South West – see footnote 19). The Corporation employs 2000 people and generates approximately A\$1.2 billion in revenue per year (Strategen, 2006b).

<sup>6</sup> The IWSS is described in the SWY Sustainability Evaluation/ERMP (Strategen, 2006b, p1-3), "The Integrated Water Supply System (IWSS) is the integrated combination of surface and groundwater sources and their distribution system that services Perth, Pinjarra, Mandurah, Harvey, Waroona and the Goldfields and Agricultural Water Supply. Sources supplying this system currently extend as far south as the Harris Dam, and through this, the system is connected to the Great Southern Towns Water Scheme".

while the South West Yarragadee water supply development and a second desalination plant might be seen as competing alternatives, the selection of one as the preferred alternative does not mean that the other is rejected and will, therefore, never be built. Sustainable and viable water sources to meet a continually increasing demand base should be only considered as being competitive (or as alternative options) in terms of timing. The fundamental question to be considered in terms of whether a source should be developed (included in a source development plan) is not whether there are other better alternatives, but rather, whether the source can be developed sustainably or not. If it can be developed, the timing is a question for the planning process to consider in terms of demand, economics and practicalities.

The SWY proposal is controversial because of its potential environmental impacts and because of the perception within the South West region that local water is being misappropriated for the benefit of the city. There is apprehension within the South West community that future economic opportunities may be limited by a lack of available water available in the region, a sentiment articulated throughout the assessment as ‘futures foregone’. The *State Water Strategy* (Government of Western Australia, 2003a) permits the inter-regional transfer of water<sup>7</sup>, as long as the ‘reasonable regional needs’ of the community from whence the water is taken are met, but the concept of ‘reasonable regional needs’ was ambiguous at the time of the SWY assessment, and the community has found little comfort in it<sup>8</sup>.

The SWY sustainability assessment was different from that of Gorgon in some important ways. Firstly, it related to a public project rather than a private one, since the proponent, the Water Corporation of Western Australia is a wholly-owned Government enterprise. Secondly the assessment was conducted as part of the process of developing the final proposal, that is, it was an ‘internal’ assessment, conducted by consultants on behalf of the Water Corporation, rather than an ‘external’ assessment by Government regulators<sup>9</sup>. The Water Corporation

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<sup>7</sup> There is a long history of inter-regional water transfers in Western Australia. The Perth to Kalgoorlie pipeline constructed by engineer C.Y. O’Connor in 1901 to provide water to the goldfields is an important part of the history and mythology of development in the State.

<sup>8</sup> One interviewee pointed out with respect to ‘reasonable regional needs’ that “all three terms are uncertain. What are the needs? We better establish what they are. What’s the region? As far as people in the south west are concerned, that’s anything south of Mandurah. And what’s reasonable?” (SWY interviews – Project Team (2)).

<sup>9</sup> The SWY documentation (Strategen, 2006a) distinguishes between the ‘sustainability evaluation’, conducted by the proponent in the process of finalising the proposal, and the subsequent ‘sustainability assessment’ conducted by the regulators as part of the project approvals process (see

determined that a sustainability assessment was the most appropriate framework for the finalisation and assessment of the SWY proposal by virtue of the complexity of the issues it encompassed<sup>10</sup>, its controversial nature given opposition from the communities of the South West, and the ongoing commitment of the Water Corporation to sustainability<sup>11</sup>.

The SWY proposal was originally conceived as a joint project between The Water Corporation and the Waters and Rivers Commission (WRC). Relationships between these two organisations have been somewhat uneasy since they were separated out from the old Water Authority of Western Australia through the 1995 corporatisation process. As the service provider, the Water Corporation retained most of the resources and political power, while the WRC has been perceived as being under-resourced and lacking in capacity to fulfil the requirements of its Act. This situation has no doubt contributed to the “shocking relationship”<sup>12</sup> between the two organisations that has prevailed throughout the SWY process. One member of the Project Team explained<sup>13</sup>:

I am not sure what happened in their organisation, but they decided after a little over a year, that they would hand the baton to us. So they were stepping back and giving it to us to run with, so that wasn't a good start. There was already...some conflict between us and them because the staff in the department probably viewed [the transfer of proponent responsibility to the Water Corporation] as a reflection on them [and a perception] that they couldn't deliver<sup>14</sup>.

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also Chapter 1). The sustainability evaluation commenced when the proposal was still in a conceptual stage, although a considerable amount of work had already been done and it would be fair to say that the proponent had some strong ideas about how the development should proceed before the assessment commenced. Clearly Gorgon demonstrated the limitations of commencing an assessment process too late in the process when key decisions had already been made, and SWY sought to address this to some extent, both as a result of learning from Gorgon and because, as a public utility, the Water Corporation arguably had a greater responsibility to engage the wider community in decision-making than did the private proponents of Gorgon, particularly with respect to high profile and controversial proposals such as the SWY.

<sup>10</sup> These included “strategic considerations like inter-basin transfer; climate was no doubt going to get raised; competition; regional rights and all that kind of stuff” (SWY interviews – Project Team (2)).

<sup>11</sup> SWY interviews – Project Team (2).

<sup>12</sup> SWY interviews – Project Team (2).

<sup>13</sup> SWY interviews – Project Team (2).

<sup>14</sup> There was a point in the process where the EPA argued that the proposal to be assessed should not be the Water Corporation's project proposal, but rather a more strategic water management plan for the region that would be developed by the WRC, but the idea was not pursued. The decision to assess the project proposal does present certain challenges; in the words of one Project Team interviewee, “The problem is, it is all the other users that are going to come on board in the next twenty years

Under this scenario the SWY proposal has two major regulators: the WRC for water licensing under the *Rights in Water and Irrigation Act 1914*, and the EPA operating under the EIA provisions of the *Environmental Protection Act 1986*<sup>15</sup>. The two regulatory bodies have partially overlapping mandates since each falls within the portfolio of the Minister for the Environment. Although the WRC theoretically has a greater ability than the EPA to consider social and economic implications of water allocation decisions under its legislation, in practice it has limited capacities in these areas<sup>16</sup>.

The SWY process designers attempted to overcome this perceived lack of statutory and institutional support by including in the institutional structure a Sustainability Panel<sup>17</sup>, which was responsible for providing integrated sustainability advice to the proponent at various points in the process as well as to elected Government at the conclusion of the process. The innovation of the Panel proved an institutional enhancement, but also presented certain challenges that I discuss later. In practice, the final decision as to the acceptability of the proposal as presented in the *Sustainability Evaluation Report* will be made by the Minister or Cabinet based upon advice from the EPA, WRC and the Sustainability Panel.

Although the SWY sustainability assessment has been categorised as ‘internal’ by virtue of its role in refining and enhancing the project proposal, its ultimate

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while our proposal is still going. What the EPA wants to know is: ‘How is the [WRC] going to manage all the other users?’ They are probably confident that we can manage our impacts” (SWY interviews – Project Team (2)).

<sup>15</sup> A water removal permit from the Department of Conservation and Land Management (CALM) is also required due to the location of bores within National Parks.

<sup>16</sup> The proposal must also meet the requirements of the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)*, under which it has been classed as a ‘controlled action’ by virtue of its proximity to wetlands of international significance.

<sup>17</sup> The *SWY Sustainability evaluation/ERMP* describes the role of the Panel as follows (Strategen, 2006b, preamble), “A Sustainability Panel has been established under the auspices of the Government’s *State Water Strategy* as an independent body to provide advice to the Government and, as appropriate, to decision-making authorities at various stages of the sustainability assessment process. The Sustainability Panel will report to Government through the State Water Council and Cabinet. The Sustainability Panel provides transparent and independent advice on the proposal and provides a mechanism for integrated evaluation of social, economic and environmental factors. In preparing its advice, the Panel will assess the Sustainability Evaluation and will consider all the public submissions made during the 12-week public comment period, together with the Water Corporation response to those submissions, as well as the EPA report and recommendations. All Sustainability Panel advice is made publicly available. The Sustainability Panel may advise on all sustainability factors. Such advice is separate and additional to formal State or Commonwealth agency assessment procedures. The Sustainability Panel will maintain confidentiality on the authorship of all individual public submissions and on any organisation submissions that request such confidentiality”.

conclusion remains the external regulatory approvals process. As developers and coordinators of the sustainability assessment process, this left the Water Corporation and its consultants (Strategen) with the unenviable and perhaps unrealistic task of ‘managing’, or at least attempting to influence, the various regulators within the overall process. The analogy was drawn to “a pawn, surrounded by bigger pieces”<sup>18</sup>. The many institutional challenges of the SWY assessment are discussed in detail in Section 6.3.3<sup>19</sup>.

Both the Gorgon and the SWY processes were overseen by a Project Team. In the case of Gorgon, this was the SIAC Reference Group consisting of officers from relevant government agencies and regulatory bodies, while SWY was coordinated by a team led by the Water Corporation, Strategen and the sub-consultants. The difference in membership reflects the stage of decision-making at which the sustainability assessment was conducted and in turn had important implications for the process. Whereas the Gorgon Reference Group included members of the competing discourse coalitions, members of the SWY team were broadly ‘on the same side’, that is they shared the aim of developing the best possible, most sustainable SWY proposal.

*The South West Yarragadee water supply development: Sustainability evaluation/Environmental Review and Management Programme (ERMP)* (Strategen, 2006a, 2006b, 2006c) was released for public comment in February 2006 for a period of three months. At the time of writing in October 2006, the proponent is preparing responses to these submissions and the Sustainability Panel is in the process of preparing its advice to Government.

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<sup>18</sup> SWY interviews – Project Team (2).

<sup>19</sup> The situation was further complicated for the Water Corporation by the presence of two local water authorities within the South West region, Aqwest in Bunbury and the Busselton Water Authority. These organisations have existed for approximately 100 years and their jurisdictions have never been within the mandate of the Water Corporation or its predecessors. Consequently there has traditionally been an uneasy relationship between the Corporation and the two smaller organisations, which was exacerbated by the SWY proposal. One interviewee spoke of “a fairly indifferent relationship between the two local urban water suppliers at Bunbury and Busselton and the Water Corporation and an unwillingness of the two to share any infrastructure”, noting that “if there had been a different relationship, then logically you would have had some degree of interconnection between the infrastructure that was being built and those existing, to improvise” (SWY interviews – Project Team (3)).

### 6.2.2 A personal experience

My involvement in the SWY assessment commenced in July 2004 when the Director of Strategen, consultants to the Water Corporation, approached me to ask if I would be interested in playing an advisory role to the Project Team on matters relating to sustainability assessment processes<sup>20</sup>. My consulting role in the SWY process was quite informal and consisted mainly of attending meetings and workshops and contributing to the discussions that determined how the sustainability assessment process should be managed. This included several meetings of the Sustainability Panel, where I variously represented the Sustainability Policy Unit (SPU) of the Department of the Premier and Cabinet (DPC), the Water Corporation and Strategen, and myself as a researcher.

One contribution I was able to make came about through my friendship and professional association with the Water Corporation's sustainability manager, who asked me, in August 2004<sup>21</sup>, to assist her in reviewing a draft of the SWY scoping report. At the same time, she was assisting me in my role in DPC in planning for a workshop on sustainability assessment, which was held in September 2004 (refer to Chapter 1). Through our ongoing discussions we had both become convinced that 'asking the right question' was a cornerstone of effective sustainability assessment, and it was not clear to us what question was being asked of the SWY assessment. In response to our concerns, the Project Team developed a diagram representing the SWY assessment process as a cycle (see Figure 6.1). Other points of discussion, to which I contributed were offsets for potential negative impacts and how they might be managed, the meaning of 'integration' in sustainability assessment, the criteria for

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<sup>20</sup> My involvement commenced with a meeting at the Strategen offices on 19 July 2004 with the company director. Although we had not met in person prior to this, he had recently undertaken work with the DoIR on the implementation of the recommendations of the *Keating Review* of the project approvals system (Government of Western Australia, 2002b), which I discussed in Chapter 1 and had become aware of my role there, particularly my contribution to the Gorgon retrospective review process, as well as of my work with the Water Corporation. I was also well known to the Water Corporation; having commenced my engineering career with the organisation in 1989. I had also undertaken a number of consulting contracts there from 2000-2004 in the areas of environmental management and sustainability.

<sup>21</sup> This meeting was held at The Water Corporation on 10 August 2004.

an acceptable proposal within a sustainability context, and how trade-offs could be evaluated for acceptability<sup>22</sup>.

My particular research interest was in the SWY as a learning process, and so I turn at this point to briefly review the growing body of literature on ‘policy learning’. I then draw on this literature to describe the different forms of learning that can be discerned from the SWY experience.

### **6.2.3 Introduction to policy learning**

Most commentators agree that the term ‘policy learning’ was first coined by Hugh Heclo in his 1974 book *Modern Social Politics in Britain and Sweden*. Heclo defined policy learning as “a relatively enduring alteration in behaviour that results from experience” (Heclo, 1974, p306), a definition consistent with the idea of ‘learning by doing’. Since Heclo, the term has been adopted by a range of researchers and policy practitioners all proposing slight variations of Heclo’s theme. The uniting concept in the literature, however, is the recognition that learning in its various forms, and particularly the knowledge acquired through learning processes, has a role to play in the policy process<sup>23</sup>.

Policy learning theory accepts that policy analysis and impact assessment processes cannot be accurately described as an objective process of information provision, and hence knowledge and information are not the ‘answer’ to policy questions but both inputs to and results of learning processes<sup>24</sup>. At the same time it acknowledges the counter position that policy making is best described as a power struggle and strategic manoeuvring between competing interests (Kemp & Weehuizen, 2004), that is, the ‘group theories’ of policy discussed in Chapter 5. Thus policy learning and power plays are viewed as two components of the complex process of developing public policy. The particular contribution of learning in this context was eloquently expressed by Heclo (1974, p304) himself:

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<sup>22</sup> In addition, I drafted certain sections of the Sustainability Evaluation/ERMP, specifically Chapter 1 Section 1.2 ‘What is a sustainability assessment?’, Chapter 3 Section 1.2 ‘International experience in sustainability assessment of major projects’; and Chapter 6 Sections 3.1 – 3.3 relating to the application of trade-off rules to the proposal.

<sup>23</sup> Owens and Rayner (1999) refer to this as the ‘knowledge perspective of policy making’.

<sup>24</sup> Learning has been equated with incrementalism in relation to organisational strategic planning, and contrasted with the rational-comprehensive model (Brews & Hunt, 1999).

Politics finds its sources not only in power but also uncertainty – men collectively wondering what to do... Governments not only ‘power’... they also puzzle... Policymaking is a kind of collective puzzlement on society’s behalf... Much political action has constituted a process of social learning expressed through policy.

Heclo’s original definition embodies two important points: firstly that learning must be accompanied by change, and secondly that learning arises from experience. Both of these may be, and have been, disputed, as the contours of policy learning have been further explored (see for example Huber, 1991; Waddell, 2005). The evolving body of policy learning literature was reviewed by Bennett and Howlett (1992) in another important and much-cited work. They recognised that different contributors to the literature had sometimes significantly different interpretations of the core concepts, and they endeavoured to expose and describe these differences by considering the various descriptions of policy learning processes in the context of three questions: Who learns, what do they learn and what are the effects of this learning on policy itself?<sup>25</sup> These questions remain useful as a starting point in discussions, and I address them in the course of my analysis.

Most contributors to the literature recognise different forms of policy learning, sometimes distinguishing between technical and conceptual learning, social and cognitive learning, experience-based and future-orientated learning, or individual and collective learning (see for example Fiorino, 2001; Glasbergen, 1996; Waddell, 2005). Some refer to first-, second- and third-order learning (Hall, 1993; Scrase & Sheate, 2002; Waddell, 2005); while others attempt to translate Argyris and Schön’s (Argyris, 1999; 1996) single-loop, double-loop and triple-loop learning from an organisational to a public policy context<sup>26</sup>. It is often argued that these forms of learning may evolve into each other (Caldwell, 1989; Fiorino, 1999).

Although the point is well made that different forms of learning play a role in policy-making generally and in assessment more specifically, these terms are not used consistently throughout the literature. To avoid this complication, I start from a

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<sup>25</sup> Similarly, Kemp and Weehuizen (2004) suggest that policy learning research should identify the form of learning taking place, what is being learnt, how it is being learnt, and should also consider a learning explanation for policy change alongside other explanations.

<sup>26</sup> Single-loop learning involves the detection of errors and an acceptance of new knowledge that may be utilised in the pursuit of set objectives, while double-loop learning involves the transformation of values and assumptions (Poncelet, 2001).

different point and use the four-quadrant heuristic introduced in Chapter 5 to guide my analysis. This model, derived from integral theory (Wilber, 2000), recognises the epistemological distinctions between the exterior and interior, and between the individual and the collective dimensions of learning, as discussed in Chapter 5.

### **6.3 Exterior learning in the South West Yarragadee**

Exterior learning, also termed ‘technical learning’ (Fiorino, 2001; Glasbergen, 1996) or ‘single-loop learning’, can be either individual or collective. The former includes the acquisition of scientific knowledge, while the latter develops institutional and process-orientated knowledge of the type that was the subject of the discussion in Chapter 4 of learning from Gorgon. In this section, I build upon the lessons of Gorgon through an analysis of exterior learning in the SWY case study.

#### ***6.3.1 Impact-oriented learning***

It is well recognised (see Chapter 5) that real-life policy decisions are more complex than the ‘information provision’ model would suggest; however, technical learning about impacts, or ‘learning to know’ (Nicolescu, 1997), by which knowledge about causes and effects is gained through the application of scientific methods, remains fundamental to the practice of impact assessment. This form of learning can occur in relation to an individual decision, and over time, where decision-makers learn about actual impacts of past decisions through monitoring and cumulative effects assessments. The learners may be the scientists carrying out the studies, the impact assessment practitioners or policy analysts who process it, or members of the broader community who are involved through community engagement and consultation processes (Diduck & Mitchell, 2003).

In the SWY case, a number of scientific and technical studies were conducted that greatly enhanced the understanding of the hydrogeology of the region (Strategen, 2006c) and which generated information used to modify technical aspects of the proposal such as the location of bores<sup>27</sup>. The data and the models from which they were derived are now available to aid in the future management of the aquifer. The knowledge gained through the scientific investigations also helped to shape the views of members of the Sustainability Panel; in the words of one, “They gave me

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<sup>27</sup> SWY interviews – Sustainability Panel (4).

greater comfort about the fact that probably it wouldn't do damage and if it would do damage, it could be identified early enough so the damage could be stopped"<sup>28</sup>.

Perhaps even more importantly, the juxtaposition of the data emerging from the various studies enabled the much sought-after and often elusive 'integration', a point I explore in Section 6.3.2.

The point was also made several times that in the unexplored vastness of Western Australia impact assessment processes are often the means by which technical and ecological knowledge is gained. One interviewee said<sup>29</sup>:

We know a lot more about Western Australia now because we have had development here that has paid for an environmental assessment to discover what the environmental possibilities are. This is a classic case - \$10 million worth of studies. They now have a much better model of Yarragadee and how it works".

Another acknowledged this but argued that this situation is often problematic from the perspective of the project proponent<sup>30</sup>:

That means that part of the problem of doing resource business in [Western Australia] is that it is being done against the background of this gap of knowledge, so on the one hand it means that we dare not do anything because we might be damaging something valuable, but on the other hand, it might not be valuable at all, it is just that we haven't actually done the work to find out. That just puts up some additional problems [for proponents].

### 6.3.2 Process-oriented learning

Process-oriented learning is a form of institutional learning, and its importance to impact assessment practice is reflected in persistent calls for improved impact assessment process methodologies (T. B. Fischer, 2003)<sup>31</sup>. Collective exterior learning, like the individual form of technical learning discussed in the preceding section, is instrumental, but has a greater potential to extend beyond the sphere of an individual decision as the learning becomes embedded in practice and in

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<sup>28</sup> SWY interviews – Sustainability Panel (1).

<sup>29</sup> SWY interviews – Sustainability Panel (4).

<sup>30</sup> SWY interviews – Sustainability Panel (1)

<sup>31</sup> As discussed in Chapter 5, the case for improved procedural methodologies is usually posed as an alternative to the argument that impact assessment should 'learn from' and 'shape itself to' policy and decision-making processes.

‘institutional memory’ as ‘the way we do things’ (Jachtenfuchs, 1996)<sup>32</sup>. ‘Learning to do’ (Nicolescu, 1997) is commonly based upon past experience and leads to incremental change (Bennett & Howlett, 1992; Fiorino, 2001; Hecl, 1974). This is ‘learning by doing’, the form of learning to which this research was always intended to contribute. As one Gorgon interviewee said<sup>33</sup>:

As a Government you just don’t put yourselves through this process to say, well, we did the Barrow thing in 2003/4 and then we kind of shelved it. You clearly want, with the investment made, to get a return from that investment in public policy formulation terms, by saying, ‘What have we learnt? What should we discard? What more do we need to do?’

The evidence for 'learning by doing' comes mainly from a comparison of the Gorgon and SWY case studies, showing where the latter was improved by virtue of lessons learnt from the former. The following discussion draws upon the process-oriented recommendations made in Chapter 4, discussing the SWY experience in the light of Gorgon observations and also highlighting some additional points of learning that became apparent through the experience of the SWY.

### **The ‘question’**

I argued in Chapter 4 that the ‘question’ framing an assessment determines what can be discussed and addressed within the process and what cannot. It therefore embodies aspects of context, including earlier decisions and defines the process of assessment. As one interviewee reflected, “With any sustainability assessment, you really have got to put the effort in at the beginning to actually think about what questions you are asking”<sup>34</sup>.

As a result of the Gorgon analysis, I recommended in Chapter 4 that:

The questions framing the assessment should be open, encouraging the consideration of alternatives; the incorporation of different value sets; and the generation of creative, mutually supportive outcomes. Ideally they would be strategically framed to encompass

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<sup>32</sup> The evolution of the ecological modernisation discourse that I discuss in detail in Chapter 7 (Berger et al., 2001; Christoff, 1996; Hajer, 1995) can be viewed as an institutional learning process “according to which the existing institutions internalized the ecological dimension into their thinking but without addressing this cultural critique” (F. Fischer & Hajer, 1999, p3). Cultural critique, as I discuss later, arises from interior learning.

<sup>33</sup> Gorgon interviews – Expert Panel (3).

<sup>34</sup> SWY interviews – Project Team (2).

issues beyond the technicalities of the proposal, but it is realised that strategic issues are the responsibility of Government, while many of the proposals likely to be subject to sustainability assessment in Western Australia are private projects.

The questions framing the SWY process were:

- Is the proposal to extract 45 GL/year from the Yarragadee formation aquifers for supply into the IWSS acceptable? and
- What is the most sustainable way of developing this water source?

The first question is a threshold question similar to the one framing Gorgon. The second question is considerably more open and reflects a different relationship between the assessment and the process of developing the proposal in this case. Whereas the Gorgon assessment was conducted entirely reactively (as dictated by existing regulation of private sector resources exploitation proposals), the SWY was more proactive and therefore had a far greater influence on the final proposal. Open questions guiding proactive assessment processes provide the greatest opportunities for maximising the net benefits of a proposal (Morrison-Saunders & Thérivel, 2006; Pope & Grace, 2006; Pope et al., 2005).

Despite this improvement over Gorgon, the SWY questions were specifically related to only one water source and did not allow higher level strategic questions (for example, “What is the best way to provide public water supply”) that would have allowed the SWY to be compared with other potential sources, to be asked<sup>35</sup>. It was suggested that this was a function of the Water Corporation, as an engineering organisation responsible for service delivery, being “very focused on providing the solutions to a problem”<sup>36</sup>. The narrowly defined question effectively separated the assessment of the SWY proposal from the wider context of water management in Western Australia, and created particular challenges for the Sustainability Panel, as I discuss later.

The point was made during the interview process that the framing of the questions was not only unstrategic but confrontational to the people of the South West, who viewed the proposal as an unfair appropriation of their resource by wasteful city

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<sup>35</sup> SWY interviews – Sustainability Panel (8).

<sup>36</sup> SWY interviews – Project Team (7).

dwellers. It was suggested by one member of the Project Team that perhaps a better question, bringing an important “degree of commonality”, might have been, “What is the future of water in Perth and the South West?”<sup>37</sup>.

In summary, the SWY assessment was framed more openly than Gorgon, and I argue in the following sections that this led to an improved process and more sustainable outcomes. The question was, however, insufficiently strategic to embrace all of the dimensions of the broader context that were relevant to the decision, and this created tensions and additional challenges.

### **Basis for decision-making: The ‘sustainability decision-making protocol’**

Although Gorgon was framed by a threshold question, the basis for the determination of ‘acceptability’ within a sustainability context was unclear. Reflecting upon this, I made the following recommendation in Chapter 4:

Each sustainability assessment process should be guided by clearly defined decision criteria, in the form of ‘a sustainability decision-making protocol’ that ‘operationalises’ sustainability for the decision at hand, and includes relevant sustainability factor acceptability criteria and aspirational objectives or targets for each factor where possible. The protocol should guide the process of developing the proposal, including the consideration of alternatives and the refinement of the preferred alternative, and therefore must be established sufficiently early to enable this. It should also form the basis for the subsequent regulatory approvals process, and therefore should be developed in consultation between Government, proponent and community to incorporate the sustainability aspirations of each.

In contrast with Gorgon, the SWY assessment did commence with the development of a sustainability decision-making protocol, which included the sustainability factors that were considered relevant to the decision in each case<sup>38</sup>, and aspirational

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<sup>37</sup> SWY interviews – Project Team (7).

<sup>38</sup> The scoping process, that is the identification of relevant factors, determined requirements for both the qualitative social analysis and the scientific and technical studies. One interviewee said, “It gave much clearer direction to the Water Corporation about what they should be thinking about in assessing the project, and perhaps that’s the strength of it. It helps proponents understand what the issues are” (SWY interviews – Sustainability Panel (8)). While the same argument could be made with respect to the scoping of the Gorgon assessment, the difference between the two cases was the clear articulation of aspirational objectives and acceptability criteria for the SWY assessment.

objectives and acceptability criteria for each factor<sup>39</sup>. The protocol was defined in the SWY scoping report (Strategen, 2005), which was eventually approved by the EPA, the WRC, the Sustainability Panel and the Commonwealth Department of Environment and Heritage (Strategen, 2006b).

The process of developing the protocol was informed by the sustainability principles of the *State Sustainability Strategy* (Government of Western Australia, 2003b), criteria identified by the WRC, the *Social Values and Impacts Study* conducted by a division of the Commonwealth Scientific and Industrial Research Organisation (CSIRO) (Australian Research Centre for Water in Society, 2003), comments on the draft scoping report received from the community and the Sustainability Panel, and the EPA's draft *Position Statement* on environmental offsets (Environmental Protection Authority, 2005). The EPA *Position Statement* defines 'critical environmental assets' that became the environmental 'acceptability limits' for the proposal (Strategen, 2006a)<sup>40</sup>.

Although the sustainability objectives could not be quantitatively or unambiguously defined, as I advocated earlier (Pope et al., 2004), they proved invaluable in establishing the boundaries within which the proposal was to be developed (Pope et al., 2005). The apparent tension between some of the objectives, particularly the social and economic issues relating to the most appropriate use of the water source, was the catalyst for the shifts in the conceptualisation of the proposal, an important point which is discussed further in Section 6.4.

Even with a clearly defined protocol, however, there was considerable debate around the question of what constituted 'acceptably sustainable'. While evaluating negative impacts against acceptability criteria is well within the normal scope of environmental impact assessment, with considerations of significance at the fore (Sippe, 1999), acceptability in relation to aspirational objectives was discovered to

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<sup>39</sup> The notion of acceptability limits or 'bottom lines' reflects the view, reconfirmed for the SWY proposal at the May 2005 workshop, that the environmental standards should not be lower for sustainability assessment than they would be for EIA alone, and that the proposal should not generate significant adverse impacts on an already fragile environment.

<sup>40</sup> There was some debate about whether the notion of 'critical environmental assets' would apply to the SWY proposal, since it is a 'public good project' for which exemptions may be sought. The EPA, however, was unwilling to unequivocally classify the proposal in this way, and hence the issue remains open for debate during the external regulatory assessment process.

be considerably more nebulous. These positive outcomes were less clearly defined and it had to be determined whether the standard was to be the achievement of each individual objective to give a positive outcome with respect to each sustainability factor, a positive outcome in each overall account (that is environmental, social and economic), or simply a positive overall outcome. The third case would clearly allow for some trading off of the environment for socio-economic gain and was therefore rejected. The final decision, made at a workshop involving members of the Project Team on 11 May 2005, was that an acceptably sustainable proposal would require a net benefit in each ‘account’ (that is environmental, social and economic), but that a net benefit with respect to each factor would also be sought<sup>41</sup>.

This clarified the process and its intentions considerably, but the challenge remained as to how performance against some of the more qualitative objectives might be measured in the process of determining whether the proposal was finally acceptably sustainable. It was generally concluded that it would be a matter of determining ‘when it feels right’. Above all, as the information came in, the Project Team became more and more confident that the proposal did not represent significant environmental risks and addressed the community’s sense of ‘futures foregone’ (see Section 6.4)<sup>42</sup>. In the words of another interviewee, “I do think that where we got to at the end is something that will lead to major benefits and will lead to good sustainability considerations”<sup>43</sup>. Another said, “I think the product that has been delivered ... is a really good one, and I guess all involved can be proud of what’s been developed”<sup>44</sup>. For another, social considerations were the most significant issue<sup>45</sup>:

Once the ‘futures foregone’ was taken away, that social fatal flaw was removed. That would have been a fatal flaw for me. It would have been. I think if that hadn’t been

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<sup>41</sup> There was also some debate about whether or not achieving each of the environmental objectives would automatically mean a net positive environmental outcome. This is possibly not the case, since some objectives are phrased as neutral statements so it would be possible to have some insignificant, but still adverse impacts with respect to some objectives that may outweigh positive outcomes with respect to other objectives (Notes from 11 May 2005 workshop).

<sup>42</sup> SWY interviews – Project Team (9).

<sup>43</sup> SWY interviews – Project Team (7).

<sup>44</sup> SWY interviews – Project Team (2).

<sup>45</sup> SWY interviews – Sustainability Panel (4).

resolved, it would have been very difficult to keep on – it was like you would have had to ride roughshod over that part of it and say, ‘Well, we got two parts of it right’<sup>46</sup>.

The relationship between the Water Corporation’s protocol and the regulatory decision-making process is ambiguous<sup>47</sup>, and it remains unclear whether the regulators will fully accept the Water Corporation’s methodology and protocol. With a certain amount of despair, one member of the Project Team reflected<sup>48</sup>:

What’s happened with the project is that we developed what we believed was a good sustainability evaluation, and it is, I think it is a good effort. It is then lobbed into the regulatory...assessment ...and [WRC] are probably ignoring it. They are saying, ‘Well, no, that’s not what we wanted’. And they are actually doing their own work. And they are doing their own little matrix which says, ‘This is how we are going to make the decision’...So, what was the point?

It can therefore be concluded that while the SWY represents a significant improvement over Gorgon by virtue of its sustainability decision-making protocol, the SWY experience emphasises the importance of engaging regulators in the protocol development to ensure alignment with their expectations and decision-making processes.

### **Process methodology**

As previously noted, the second of the two questions framing the SWY assessment supports a proactive approach to sustainability assessment in which the assessment helps to shape the final proposal. This aligns with the process methodology recommendations made in Chapter 4, where it was argued:

Sustainability assessment should be promoted as a proactive tool that commences early enough to meaningfully influence the proponent’s planning process. In practice this will require the early engagement between proponent and Government.

I expanded on the discussion in Chapter 5 where I argued for a formal methodological framework commencing with the identification of the goal and the

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<sup>46</sup> It was also suggested that sustainability was gradually enhanced in several ways, and not only ways directly related to the project itself; for example, water planning and other policy deficiencies were addressed, and an adaptive approach to environmental management developed and proposed, which became part of the overall proposal (SWY interviews – Project Team (9)).

<sup>47</sup> This issue pertains to the role of the regulators in such sustainability assessment processes, a point to which I return in Section 6.3.3.

<sup>48</sup> SWY interviews – Project Team (2).

related question to be addressed, followed by the establishment of the sustainability decision-making protocol, the identification of alternatives and options, the analysis of impacts, and the selection and enhancement of the preferred alternative. However, the SWY approach was somewhat different: rather than issues and strategic objectives, the starting point was a ‘rubbery proposal’, and there were no distinct alternatives on the table describing different ways by which the objective of developing the aquifer could be achieved<sup>49</sup>. Instead, the process of finalising the proposal to make it ‘as sustainable as possible’ was iterative and has been represented as a circle (see Figure 6.1).

The circular diagram clarified that the process of assessing impacts, evaluating their acceptability against defined objectives and targets (the sustainability decision-making protocol), and identifying necessary modifications, mitigations and offsets, would continue until the proposal was deemed acceptably sustainable. While this may seem quite a straightforward process in concept, in practice it left considerable room for debate as discussed previously. The informality of the SWY assessment process, however, was cited by several interviewees<sup>50</sup> as a vital factor in enhancing creativity and positive outcomes, and something that should be retained in future assessment processes<sup>51</sup>. Along similar lines, Gibson et al. (2005, p131) argue that “there are good reasons for avoiding a proliferation of rules. The pursuit of sustainability requires creativity as well as commitment and clarity of agenda”. Accordingly, several participants in the process concluded as a result of their involvement that if sustainability assessment were to be legislated in Western Australia, it should be guided by principles rather than by a fixed methodology that could become restrictive and stifle creativity<sup>52</sup>. Some of the suggested principles were the simultaneous consideration of social, environmental and economic issues; timeliness; transparency, community involvement; a values-based approach to social impact assessment; and a philosophy of adaptive management.

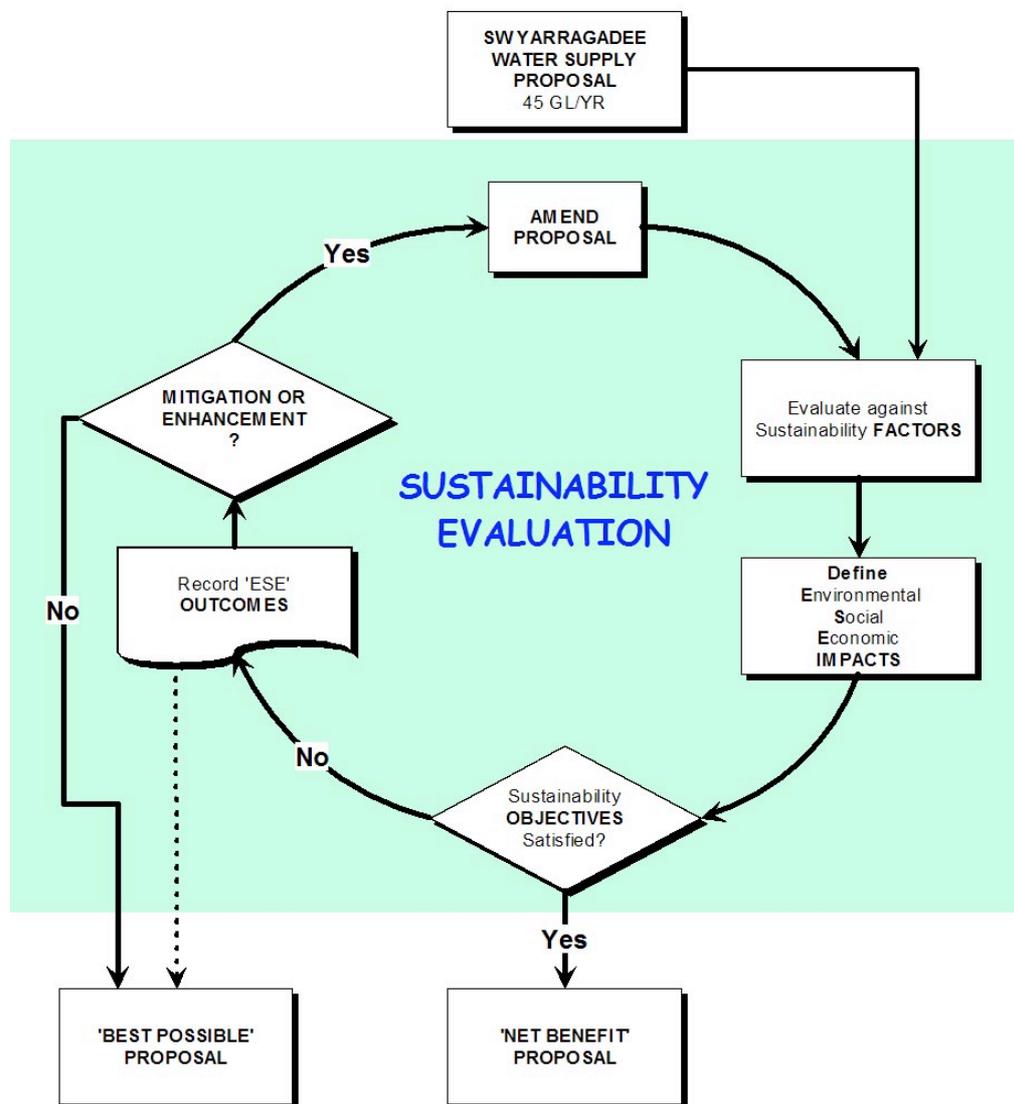
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<sup>49</sup> The proponent, however, argued that although the process did not set out to compare alternatives, there were some technical options available, including well-field configuration; piping and infrastructure routes; staging of the supply development, as well as various impact mitigation and offset opportunities (Strategen, 2006b).

<sup>50</sup> SWY interviews – Sustainability Panel (8), Project Team (7).

<sup>51</sup> This harks back to Glasbergen’s (1996) observation (see Chapter 1) that processes that are less constrained by past practices and resilient institutions have the greatest transformative potential

<sup>52</sup> SWY interviews – Sustainability Panel (4 and 8); Project Team (7).



**Figure 6.1: The SWY sustainability assessment framework (source: Strategen (2005))**

### Community engagement

Formal community engagement in Gorgon was limited to commenting upon documentation, and I consequently made the following recommendation in Chapter 4:

Sustainability assessment processes should meaningfully engage the community in ways that extend beyond ‘instrumental’ forms of consultation such as the release of documents

for public comment, facilitating the incorporation of community values into decision-making.

The broader community, and particularly the community of the South West region, was engaged in several different ways through the SWY process. Firstly, a *Social Values and Impacts Study* was commissioned by the WRC in 2003, in which the views of regional and metropolitan communities were sought (Australian Research Centre for Water in Society, 2003). Other forms of engagement included communication through the Community Reference Group (CRG), issue identification studies, market research, public information sessions and ‘walk-ins’ through major regional centres, interviews with interest groups, local residents and other identified stakeholders, technical information progressively being made publicly available, focus groups, and public review of the draft *Scoping Report* and *Sustainability evaluation/ERMP*, and response to comments (Strategen, 2006b).

One member of the Project Team identified the community engagement as one of the two aspects of the SWY process that most improved upon the Gorgon experience, the other being the scoping process already discussed. He said, “I felt on the social side we should do a lot differently in terms of consultation and empowerment for the local community, or the regional community in particular”<sup>53</sup>, and, referring to the Water Corporation:

I think they did a lot more this time than they had done before. They set up a...Community Reference Group which I am not sure they had done before at this stage of a project.

The CRG was established as the forum through which the proponent could disseminate information about the proposal and its potential impacts as it became available, and the community representatives could bring issues forward and could also challenge the proponent. It was also hoped that it might be a mechanism by which appropriate mitigation and offset measures might be identified and discussed, although this only happened to a limited extent in practice<sup>54</sup>. As such the CRG was more of an information exchange than a deliberative forum, most of its members

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<sup>53</sup> SWY interviews – Project Team (9).

<sup>54</sup> SWY interviews – Project Team (2).

held fast to the positions they held as representatives of the broader community, whether for or against the proposal<sup>55</sup>.

The Water Corporation's aim with respect to the CRG was mainly to just "keep people round the table"<sup>56</sup>. In the first few meetings, the sheer volume of information with which the proponent 'bombed' the group was a problem in terms of the amount of time consumed by these presentations. As the process progressed, greater percentages of time were able to be spent in discussions, which were productive for the community representatives and the proponent alike, particularly when the topics of discussion included the potential for community monitoring of the project and involvement in a water futures study. One interviewee said<sup>57</sup>:

When we started to get to that sort of level and allowed for it to go just where it needed to go then we started to get some good stuff back, and I think that's where people felt that they were being heard.

The same interviewee also said:

There certainly was a point where the Project Team felt that they weren't fighting it any more, they were now fighting for what they could get from it, which was a change...and then it was a case of starting to contribute more constructively to where it was going.

A member of the Sustainability Panel cited the benefits of the consultation process as being that it "brought a whole range of information to members of the community that they would not otherwise have had access to". It also empowered the community, allayed some community fears, and "educated the Water Corporation" and "made a lot of people within the Water Corporation realise that consultation can be a very positive thing"<sup>58</sup>. It led to the formation of relationships between the Water Corporation and members of the community<sup>59</sup>, and therefore the groundwork for future water planning in the South West, and for the community monitoring of the SWY project<sup>60</sup>, an idea that emerged from the CRG<sup>61</sup>.

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<sup>55</sup> SWY interviews – Project Team (7).

<sup>56</sup> SWY interviews – Project Team (7).

<sup>57</sup> SWY interviews – Project Team (7).

<sup>58</sup> SWY interviews – Sustainability Panel (8). In making these comments, the interview was referring both to the CRG and to the values-based social impact assessment process.

<sup>59</sup> SWY interviews – Project Team (9).

<sup>60</sup> SWY interviews – Project Team (9).

One interviewee favourably compared the engagement process with previous models of seeking social benefits from development projects in Western Australia, whereby<sup>62</sup>:

Businesses put in police stations or community halls or recreational jetties. What you get with that is minimalist and a compliance response by the businesses, whereas if they actually have to engage with the community, you get a better process.

The opposing view was also expressed, however, that the CRG was merely a ‘posturing exercise’ and that it had ‘no teeth’ in the overall process, since it lacked statutory backing<sup>63</sup>. This interviewee advocated integrated land and water management in the South West through a collaborative partnership between government regulators and the community, similar to other Western Australian models such as natural resource management.

In addition to the CRG and other information mechanisms, a social impact assessment was conducted by a consultant member of the Project Team using a qualitative, values-based approach. This work essentially captured the ‘stories’ through which each of the communities in the region cast the SWY proposal. The result of this work was the emergence of ‘futures forgone’ as a primary concern. These results fed directly into the sustainability decision-making protocol in the final report (Strategen, 2005), and the social impact assessment process gathered important information that contributed to the learning process.

In conclusion, the SWY process engaged the community more effectively than did Gorgon, particularly through the CRG and the values-based approach to the social impact assessment. The CRG, however, was limited in practice to a mechanism for providing information and receiving feedback, rather than a being a forum for deliberation. Furthermore, CRG membership was limited to ‘the usual suspects’ and did not engage the wider community<sup>64</sup>. There is, however, potential to utilise the community capacity enhanced through the SWY process in more innovative ways in the future, and particularly in the South West Water Futures Study that has been proposed as a result of the SWY assessment (Strategen, 2006a). With respect to the

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<sup>61</sup> SWY interviews – Project Team (2).

<sup>62</sup> SWY interviews – Sustainability Panel (1).

<sup>63</sup> SWY interviews – Sustainability Panel (5).

<sup>64</sup> SWY interviews – Project Team (7).

recommendations from Gorgon, the social impact assessment process was an important mechanism for incorporating community values into the decision-making process, which in turn contributed to the reframing of the proposal, which I discuss further in Section 6.4.

### **Integration, trade-offs and offsets**

As discussed previously, the term ‘integration’ in sustainability assessment often refers to ‘horizontal integration’, or the interactions between the different sustainability considerations of a proposal<sup>65</sup>. These interactions are either supportive (win/win/wins) or conflicting (trade-offs), where trade-offs in turn can be categorised as ‘between pillars’ or ‘within pillars’, the latter also being known as ‘offsets’. Following the complete failure of the Gorgon assessment process to demonstrate any horizontal integration of sustainability considerations, a great deal of effort in the SWY assessment was put into the question of how an integrated sustainability assessment might best be conducted. The inter-linkages between the various sustainability factors and the predicted impacts they represent is emphasised in the *SWY Sustainability evaluation/ERMP* (Strategen, 2006b). Offsets, as a form of mitigation measure, were an integral part of the SWY process as reflected in the circular process model.

It was also decided that another acceptability test should be applied to the final proposal and the trade-off rules proposed by Gibson (2006; 2005) were selected as an appropriate yardstick. Box 6.1 is an extracted section of which I was the author, from the *SWY Sustainability evaluation/ERMP*, explaining the use of these rules within the context of the SWY sustainability assessment (Strategen, 2006b).

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<sup>65</sup> As described in Chapters 2 and 4, other forms of integration include vertical integration or tiering and the integration of the assessment with the process of developing the proposal (Lee, 2002). It has also been frequently argued that the ‘three pillar’ model of sustainability, upon which most theories of horizontal integration are grounded, fails to acknowledge the essentially integrative nature of the sustainability concept (Gibson, 2006). I explore this further in Chapter 7.

**Box 6.1: The use of the Gibson trade-off rules**

The Sustainability Evaluation/ERMP of the South West Yarragadee Water Supply Development proposal has involved only a limited comparison with alternatives, as the fundamental proposal is not an alternative to other major sources of water such as desalination, water trading, water use efficiency gains, or other surface water or groundwater sources. The decision being requested is whether this source can be considered for development as part of a broader source development program. In this context, the issues to be addressed by the sustainability evaluation are:

- the contribution of the proposed development to sustainability in Western Australia
- the acceptability of the final proposal within a sustainability context.

To assist the decision makers in assessing the contribution of the proposal to sustainability in Western Australia, and its acceptability within a sustainability context, the outcomes and processes for the development were evaluated against the sustainability principles of the State Sustainability Strategy. They have also been evaluated against a sustainability decisionmaking tool emanating from some very recent work from Canada, termed here the “Gibson tradeoff rules” (Gibson, Hassan, Holtz, Tansey, & Whitelaw, 2005).

Evaluation of the overall proposal in the context of the Western Australian sustainability principles is vital to the assessment process, since sustainability assessment should be a process for determining whether a proposal can be considered to make the best possible contribution to sustainability (Gibson 2005). The principles are an articulation of what sustainability means in Western Australia. This evaluation looks at the proposal as a whole, and also at the level of the three accounts of sustainability – the environmental, social and economic aspects of sustainability. It asks whether the proposal as a whole can be considered to make a positive contribution to sustainability overall, and to each of the three accounts.

Assessment against the Gibson tradeoff rules plays an important supplementary role in the sustainability decisionmaking process. As already stated, the aim of sustainability assessment should always be to achieve mutually beneficial outcomes with respect to sustainability objectives, since to begin with an assumption that tradeoffs are unavoidable will compromise the assessment and limit opportunities to find these

winwinwin outcomes. The Gibson tradeoff rules arise from the acknowledgement that despite the best efforts of planners and decisionmakers, almost every decision offers both advantages and disadvantages and, therefore, the process of making any decision inherently involves tradeoffs since gains are rarely achieved in one area without some losses in another. The question then is whether the losses (which we may also term as adverse impacts or tradeoffs) are acceptable. It is important to bear in mind that finding ways to manage tradeoffs is a “last resort” option and should not be the starting point of the assessment. In applying the Gibson tradeoff rules to this proposal, it is acknowledged that a decision to approve this proposal will involve making tradeoffs, just as a decision not to approve it would also involve tradeoffs. The tradeoffs equate to the adverse impacts, as well as the lost opportunities for positive impacts, that would result from a decision to approve, or not approve, the project.

The Gibson tradeoff rules provide the basis for dealing with tensions and conflicts that may be identified in the process of applying a well considered set of sustainability principles. They can be used to guide the evaluation of the acceptability of a proposal within a sustainability context by examining the acceptability of the inherent tradeoffs that would be made in approving the process.

They are therefore an extremely valuable tool to aid sustainability decisionmaking. They also have the advantage of having been developed outside Western Australia, which effectively allows crosschecking our decisionmaking processes in an international context.

**Source: Strategen (2006b, Chapter 6)**

These rules are summarised as follows (Gibson et al., 2005):

- Maximum net gains;
- Burden of argument on trade-off proponent;
- Avoidance of significant adverse effects;
- Protection of the future;
- Explicit justification;
- Open process.

Indicators were established for each rule and the SWY proposal was reviewed against these indicators, as well as against the sustainability principles of the *State*

*Sustainability Strategy* (Government of Western Australia, 2003b). It was concluded that (Strategen, 2006b, p6-19)<sup>66</sup>:

the proposal is considered to be sustainable in terms of providing a net social, economic and environmental benefit. This conclusion is supported by the evaluation of the proposal in terms of comparison with the principles of the *State Sustainability Strategy* and the Gibson tradeoff rules...that is able to demonstrate practical compliance with those principles and rules.

Integration in the SWY, however, went beyond this recognition of interactions to influence the way in which the studies were conducted, the data gathered and the results interpreted<sup>67</sup>. For example, the data generated through the various economic and environmental studies supported the values-based social impact assessment process, since as issues were raised the consultant was able to make a judgement about the extent to which the community's expressed fears were technically grounded. The social consultant "needed to know enough to know that these fears were unfounded"<sup>68</sup>. Similarly, the economic consultant incorporated equity issues arising from the social values study into the economic efficiency analysis, "I think it gave us a greater interest in the equity issues than we would have traditionally had"<sup>69</sup>. Based on these successes, it was suggested during the interviews that the ultimate form of integration in sustainability assessment would be greater interdisciplinary collaboration among the Project Team and the application of a 'human ecological approach'<sup>70</sup>.

It appears that the more proactive approach to sustainability assessment adopted in the SWY case bears out the great hope expressed in the *State Sustainability Strategy* (Government of Western Australia, 2003b) that an integrated approach, in which the

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<sup>66</sup> This application of his work was reviewed by Professor Robert Gibson himself, who expressed some concerns that the trade-off rules had been taken somewhat out of the context of his holistic framework for an integrated approach to sustainability assessment (Gibson, 2006), particularly since the proposal did not fully consider alternatives nor the indirect impacts of the project (for example the potential impacts of increased industry in the region facilitated by the water supply).

<sup>67</sup> For example, it was suggested that, "On the environmental side of it was that it became fairly clear that the bore holes which were placed there for maximum hydrological impact, were going to have negative environmental impacts unless shifted, so they shifted them. That may well have happened in the environmental assessment process without the social and economic part of it. But the social and economic part of it was there and helped them to decide where it could be still economic to do and would not impact on communities as well" (SWY interviews – Sustainability Panel (4)).

<sup>68</sup> SWY interviews – Project Team (7).

<sup>69</sup> SWY interviews – Project Team (3).

<sup>70</sup> SWY interviews – Project Team (9).

full spectrum of sustainability issues are considered together<sup>71</sup>, has the potential to catalyse learning, new ways of thinking and ultimately more sustainable outcomes. One Panel member said<sup>72</sup>:

I learnt that sustainability assessment does work and that the world will move in this direction, however slowly. It was very confirming really. That the *State Sustainability Strategy*, which is based on those principles, will have a life, because I can see that as people take these ideas and work them through, it does actually weave some magic.

### 6.3.3 Context-oriented learning

In Chapter 5, I described neo-institutionalist policy theories that recognise that the power embedded in rules, organisations and institutions should not be underestimated (Wilber, 2003). Awareness and change towards policy and institutional arrangements that might be supportive of sustainability is thus one form of exterior collective learning, and the potential for impact assessment to contribute to this process has been increasingly observed. Drawing on Argyris and Schön's concepts (1996), Lawrence (1997, p95) argues that:

EIA theory-building and practice should not simply adapt passively to context. Such a single-loop learning approach (i.e., satisfy existing government variables) is inconsistent with the purpose of EIA. In seeking to affect the environment positively, EIA may need to challenge governing variables and reshape context. The double-loop approach to EIA theory-building can contribute to systemic change in theories and practice<sup>73</sup>.

The importance of political context to a project proposal was emphasised by one interviewee, who observed<sup>74</sup>:

You can't put a neat little barrier around your project. You draw in all this baggage and history from everywhere... So there are so many layers and when you get a project like this, you are not dealing with a proposal, you are dealing with something much bigger and more sinister and vague. So the politics of it all was outrageous.

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<sup>71</sup> Particularly in response to an open question (Morrison-Saunders & Thérivel, 2006; Pope et al., 2005).

<sup>72</sup> SWY interviews – Sustainability Panel (4)

<sup>73</sup> This idea is reflected in several of Bartlett and Kurian's (1999) models of EIA. For example, their 'political economy model' "alters financial opportunities, risks, and constraints, with the attendant internalization of externalities leading ultimately to anticipation and prevention of environmental harm" (Bartlett & Kurian, 1999, p419). Closely related are the 'organisational politics model' and the institutionalist models, which seek changes in procedures, missions and cultures.

<sup>74</sup> SWY interviews – Project Team (2).

Since political context can be conceptualised in terms of the ‘hardware’ of institutions that embody the ‘software’ of culture, history, meanings, values and stories, as discussed previously, contextual change may occur as a result of both exterior and interior forms of learning. The former are the main subject of the following discussion.

### **Policy context**

The subject of the SWY sustainability assessment was a specific project proposal, which was assessed in the context of the high-level *State Water Strategy* (Government of Western Australia, 2003a) but in the absence of any more tangible plans relating to water management and allocation in the South West<sup>75</sup>. Neither did it include a comparison of the SWY with other potential water sources. Given its mandate to provide integrated advice on the sustainability of the proposal to Cabinet, some members of the Sustainability Panel felt these gaps acutely and felt ‘uneasy’ about the way the proposal had been framed<sup>76</sup> and that their role had been ‘compromised from the beginning’<sup>77</sup>. In the words of one Panel member<sup>78</sup>:

In fact everybody on the Panel, were very highly concerned about the fact that this was just one project and we were reviewing it like a mining lease or a mining project and there was no context in which to actually apply any analysis. So the ‘compared with what?’ stuff came up and the ‘how does it fit into the longer term strategy?’ came up... It is really I think one of the biggest flaws in the whole thing.

Some additional ‘scene-setting’ material was subsequently added to the documentation at the request of the Panel to explain the previous policy decisions and the context within which the assessment was to be conducted, “including climate change issues as a backdrop to the project itself and why it was being assessed”<sup>79</sup>. The need for a water allocation plan in the South West, however, and for a process by which the ‘reasonable regional needs’ of the South West community, required by the *State Water Strategy* (Government of Western Australia, 2003a) could be

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<sup>75</sup> One interviewee noted, “From about 1998 there has been no substantial water planning done, yet there are people responsible for it”, referring to the WRC (SWY interviews – Project Team (9)).

<sup>76</sup> SWY interviews – Sustainability Panel (8).

<sup>77</sup> SWY interviews – Sustainability Panel (6).

<sup>78</sup> SWY interviews – Sustainability Panel (6).

<sup>79</sup> SWY interviews – Sustainability Panel (8).

determined became increasingly clear as the assessment progressed. One member of the Sustainability Panel said<sup>80</sup>:

One of the things that has come out of that is a very clear recognition that you've got to have better planning in place. We didn't have a State Water Plan, we don't have Regional Water Plans, we don't measure the use of water properly, we don't have any sort of irrigation plan. We've got more work to do on allocation issues in WA, so that whilst there's been a recognition that there are those gaps, the fact that this project has come forward and had to be assessed, has highlighted the gaps even more strongly than they might have been before. It has actually galvanised the government into taking some more concerted action<sup>81</sup>.

Ultimately the SWY proponent and its consultants have actually made policy recommendations in the gap areas as a result of the assessment (Strategen, 2005), but to an extent that many of those involved found inappropriate<sup>82</sup>:

But what has to be taken into account with this one is that the proponent was actually doing a lot of the big picture planning work which should already have been in place, and which the government probably should have initiated many moons ago.

This view was reiterated by several other interviewees<sup>83</sup>, with one specifically calling for sustainability assessment to be applied within a planning, rather than a project, context to facilitate serious consideration of alternatives<sup>84</sup>. Still others, however, held the opposing view that the *State Water Strategy* (Government of Western Australia, 2003a) provided an adequate policy context within which the

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<sup>80</sup> SWY interviews – Sustainability Panel (8).

<sup>81</sup> It has been noted elsewhere that it is common for major projects to drive and even encompass strategic planning (Hacking & Guthrie, 2006) through a process of 'trickle-up' (Pope & Grace, 2006) and this phenomenon also occurred in the Gorgon case study (see Chapter 4). As a direct result of the SWY sustainability assessment, the Water Corporation has proposed a South West Public Water Supply Future Planning Study be conducted to address future public water supply demand, potential sources for public water supply, source development programme for public supply, assessment of quality and security of existing public water supplies, a programme for upgrading existing quality and security of public water supplies where required, and a programme for new connections to the extended IWSS or other sources (Strategen, 2006b, p8-27). In addition, Strategen has prepared a position paper on 'reasonable regional needs' to guide future water allocation policy.

<sup>82</sup> SWY interviews – Sustainability Panel (8). The same interviewee also said, "I think that the ideal starting point is to recognise where the gaps are already and start to do that big planning, big thinking stuff first, and if you have all that in place...if you have done all the big picture stuff already, you know what the environmental constraints are and you know whether there's sufficient water to allow this to happen or not, then it makes the assessment of any particular project that comes forward a lot easier".

<sup>83</sup> SWY interviews – Sustainability Panel (1).

<sup>84</sup> SWY interviews – Project Team (9).

SWY could be assessed, particularly since the Strategy identifies the SWY as a potential water source for the IWSS. One said<sup>85</sup>:

We did have a *State Water Strategy*. It is substantially ‘motherhood’, but a high level plan can only ever be motherhood and it has then to be negotiated down to the detail and interpreted.

Others argued that any additional planning in advance of the project assessment would have been both impractical and costly. One said, “It doesn’t mean that you can’t do these things until you have got all the policy context in place, otherwise you would never do anything”<sup>86</sup>, while another defended the approach taken by saying<sup>87</sup>:

People often say, we should be doing a sustainability evaluation at a higher level, but then if you had done that, you are not going to spend \$12 million on SWY and \$12 million on investigating groundwater recharge<sup>88</sup> and \$12 million on investigating all your options. So you get this whacking great load of information - it’s not going to happen. So if you try and do it at the higher level, all you can do is get a sort of a ranking, an indication, you have still then got to go in a do a whole lot more detailed work. Imagine how long it is going to take to do all of this.

The political difficulties of such planning were also acknowledged, and one interviewee wryly noted the lack of strategic planning on important but unpopular issues such as the siting of a new industrial precinct or airport<sup>89</sup>. Yet another interview warned from an economic perspective of the dangers of top-down governmental ‘over-planning’ of resource allocation but saw sustainability assessment as an important part of future, more ‘dynamic’, ‘evolutionary’ and ‘organic’ planning efforts<sup>90 91</sup>.

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<sup>85</sup> SWY interviews – Project Team (3).

<sup>86</sup> SWY interviews – Sustainability Panel (4).

<sup>87</sup> SWY interviews – Project Team (2).

<sup>88</sup> This comment refers to a study into the potential to recharge groundwater aquifers with treated wastewater.

<sup>89</sup> SWY interviews – Project Team (2).

<sup>90</sup> SWY interviews – Sustainability Panel (1).

<sup>91</sup> Jenkins and his colleagues, writing in Western Australia in 2003, recognised that project sustainability assessment should not be considered in isolation but as an element within a broader governance framework for sustainability. They highlighted the need for systems to address government, as well as proponent, actions arising from sustainability assessments, which would include addressing the policy gaps exposed by the assessment; and for higher level planning, specifically Regional Sustainability Plans, that would shape the context in which project-level assessments could be conducted (Jenkins et al., 2003).

Participants in the SWY assessment also raised the ‘bigger question’ of traditional attitudes to water use in Western Australia, which has one of the driest climates on Earth, and one that is likely to become even drier through climate change. Although the assessment process, with its relatively narrowly defined question, did not provide a space within which such questions could be addressed, this observation demonstrates how sustainability assessments of project proposals could open up deeper questions relating to fundamental aspects of society and its institutions, a point to which I return.

In summary, the SWY sustainability assessment exposed several policy gaps, particularly the lack of a water allocation strategy for the South West and the lack of a clear policy on the concept of ‘reasonable regional needs’. While it can be argued that it is appropriate that major projects drive policy reform through a process of ‘trickle-up’, there is also a strong case for Government-led strategic planning in a number of key areas such as resource usage, energy and water supply.

### **Institutional arrangements**

The Gorgon process, which resulted in two competing assessments, reflected sustainability assessment’s ‘bad fit’ with prevailing institutional and regulatory arrangements, and particularly the current structure of the bureaucracy (Gibson, 2006). Several inter-related institutional issues were identified as a result of Gorgon, particularly the lack of regulatory support and capacity within Government to conduct social, and to a lesser extent economic assessment<sup>92</sup>; and the lack of a body responsible for providing integrated sustainability advice to Government<sup>93</sup>. As a result the conclusion was drawn in Chapter 4 that:

Effective integration of competing concerns, and the environmental, social and economic dimensions of sustainability, would be facilitated by a body whose role it is to consider the proposal from a holistic sustainability perspective.

Institutional matters also threatened to become problematic in the SWY case for the same reasons. However, as already discussed, the situation was further complicated

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<sup>92</sup> In the Gorgon case, this led to the appointment of the Expert Panel responsible for the social, economic and strategic assessment.

<sup>93</sup> Although the Standing Inter-agency Committee of CEOs (SIAC) was nominally responsible for the integration of the environmental, social and economic implications of Gorgon, the decision was made to simply present Cabinet with the two opposing pieces of advice arising from the two assessments (refer to Chapter 3).

by at least two other characteristics that were unique to the SWY assessment process: firstly that it was built around two statutory processes<sup>94</sup>, and secondly that it was coordinated by the proponent rather than by Government. The institutional arrangements for the SWY, including the Sustainability Panel, are shown in Figure 6.2.

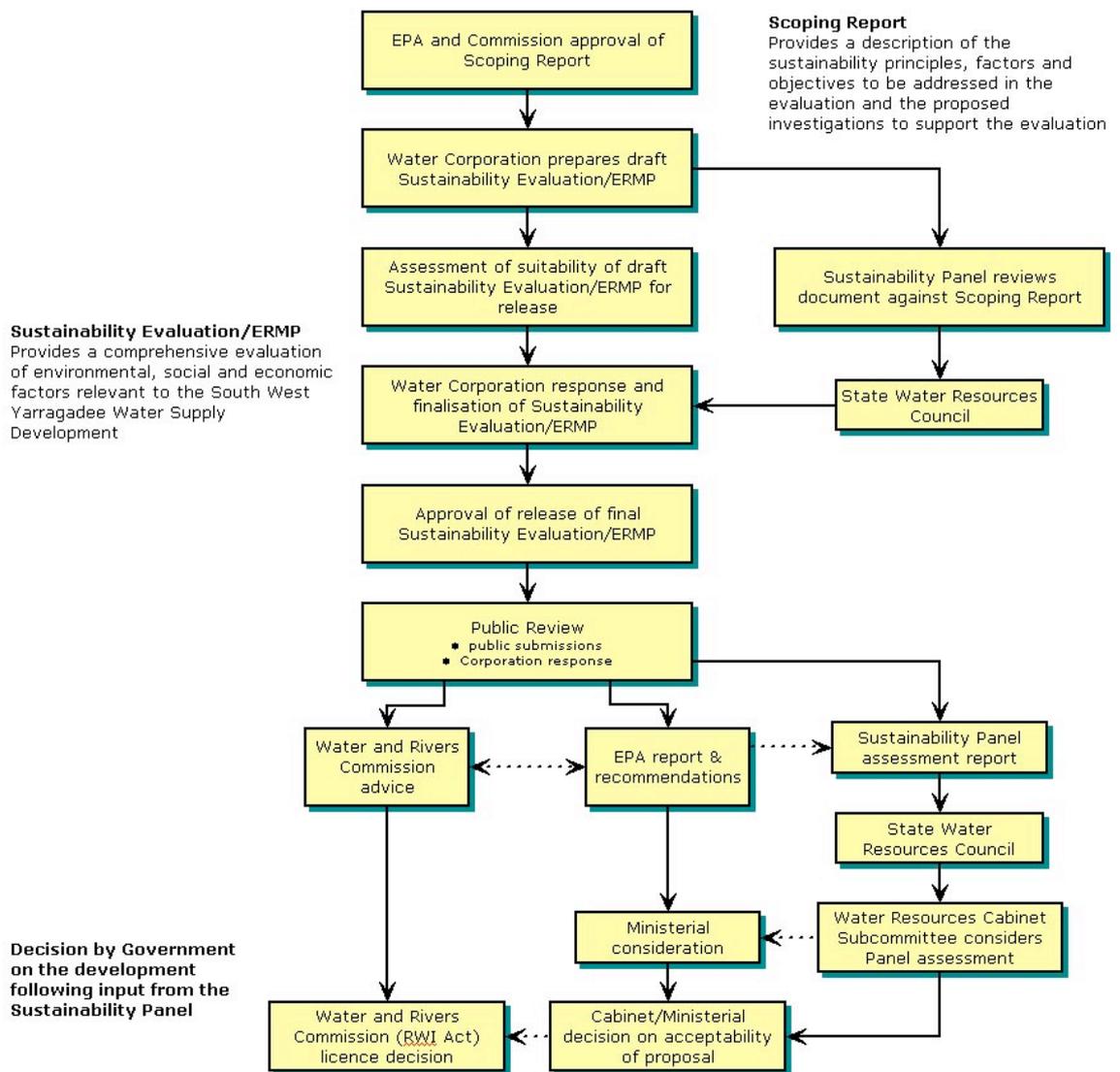


Fig 6.2: SWY assessment institutional arrangements (Source: Strategen (2005))

In the following discussion I explore the implications and challenges of the institutional arrangements the SWY, including the role of the Sustainability Panel;

<sup>94</sup> EIA under the *Environmental Protection Act* 1986 conducted by the EPA and water licensing under the *Rights in Water and Irrigation Act* 1914 conducted by the WRC.

the relationships between the proponent, the Panel and the regulatory bodies; the case for and against regulatory reform; and the issue of coordination of sustainability assessment processes.

The SWY Sustainability Panel was appointed at the suggestion of the Water Corporation and its consultants to provide feedback to the proponent and to provide integrated advice to Cabinet on the sustainability implications of the proposal. The Panel has five members, including acknowledged social, economic and sustainability experts, together with a local representative with considerable experience in water management in the South West. It was generally agreed that the Panel embodied “a good range of expertise”<sup>95</sup> and that its role as an independent entity was valuable<sup>96</sup>. As discussed previously, the Panel made several significant suggestions to the Water Corporation, including the need to locate its argument of the need for the SWY more firmly within the context of other decisions and water supply options<sup>97</sup>.

Members of the Panel agreed that it quickly developed into a cohesive group. This meant that although members each contributed their particular views and expertise, there was little conflict or debate over the issues raised and opinions gradually converged<sup>98</sup>. It was suggested that this was at least partly due to a genuine agreement on the issues and that the group would have been willing to debate had serious disagreement arisen<sup>99</sup>. One Panel member in particular believed that the level of agreement was at least in part due to the community representative on the Panel

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<sup>95</sup> SWY interviews – Sustainability Panel (8).

<sup>96</sup> SWY interviews – Sustainability Panel (5).

<sup>97</sup> When asked about the role of the Panel, one member set the scene by acknowledging the challenges of sustainability assessment and the role of the Panel in contributing to the process, “Well, as near as damn we picked a group of people who might just be able to stumble on something that could be a sustainability assessment. We were all very aware that there weren’t too many rule books written on how to do it, but we had enough of a sense of direction for where we could go with some wise people around the table. So the group was set up with strong political connections. As the Chair came from the Premier’s Office, it was set up with good scientific and technical people and good representation across the sectors. We were charged with guiding this process and advising the Government as to whether or not the assessment was a sustainability assessment and could be seen to be fulfilling those high ideals”. (SWY interviews – Sustainability Panel (5)).

<sup>98</sup> SWY interviews – Sustainability Panel (8).

<sup>99</sup> SWY interviews – Sustainability Panel (6). This interviewee went on to say, “But I don’t detect in the group... anything but people just saying what they think and trying to accommodate, because I think we all realise that if one of us wants to get flaky, you are going to end up with problems, and we do have to come to an agreement. I think probably there is a lot of compromise in the sorts of debates that we have. Nobody actually presents anything at all in an aggressive or even over definite way, it is all posed politely, so I think there are probably a lot more deep feelings around the room that don’t come out because of the function that you have. When you are trying to deal with a highly general concept like sustainability how can you be definite?”

‘coming round’ to the point that he could say, ‘Well, it would be a pity if this didn’t go ahead’, suggesting that had this not happened, the other Panel members would have “probably been much more negative” about the proposal<sup>100</sup>. There was, however, a sense of unease that in their cohesion the Panel became “far too close to the Water Corporation”<sup>101</sup>. The situation was summarised by another Panel member<sup>102</sup>:

Over time, for better or for worse, we have tended to become a team. I think that that’s very good in the sense that we are each open to each other’s suggestions and have a sense of working towards a common goal, but it can be bad in the sense that in any team, people make concessions towards a group goal. I think perhaps, to be honest, our group goal has become a little bit too closely aligned with what the Water Corp wants.”

It was suggested that the alignment of the Panel with the Water Corporation was a function of the ‘peculiar new situation’ in which the Panel depended upon the Water Corporation for data and information, having no resources of its own<sup>103</sup>. The same interviewee argued for any future Panels to “have some resources to actually commission their own bits and pieces”, which might include public hearings, in line with the Canadian model. In turn this would require “a clear listing of powers” whereby a Panel, like the EPA, could “call people to brief us as we would like”<sup>104</sup>.

The value of the Panel in providing an overall perspective on the sustainability of the proposal role was acknowledged, but it was also recognised that the Panel did not overcome all of the problems of bureaucratic and regulatory segregation. One interviewee said<sup>105</sup>:

I think a Panel can help, but part of the problem is that if the regulatory process at the end of the Panel process then degenerates back into its separate silos, gatekeepers then there is actually much less point in having a Panel.

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<sup>100</sup> SWY interviews – Sustainability Panel (4).

<sup>101</sup> SWY interviews – Sustainability Panel (6).

<sup>102</sup> SWY interviews – Sustainability Panel (1).

<sup>103</sup> SWY interviews – Sustainability Panel (6).

<sup>104</sup> In the Canadian system under the Federal *Environmental Assessment Act*, the highest level of assessment is the Review Panel, whereby a Panel is specially appointed and its Terms of Reference and links with other regulatory bodies are established clearly at the commencement of the process. The Panel is then responsible for co-ordinating the assessment process, including data gathering and community engagement that may be a model that should be considered in Western Australia in the future.

<sup>105</sup> SWY interviews – Sustainability Panel (1).

This comment was made in response to the EPA's request to the Water Corporation and Strategen to separate the environmental discussion and ERMP requirements<sup>106</sup> from the overall sustainability evaluation, thus disrupting the flow of the sustainability argument and raising the issue of the relationship between the EPA as a statutory body and the non-statutory Sustainability Panel<sup>107</sup>. The EPA's request was seen by some as a function of the 'gate-keeping' role played by the regulating agencies in the sustainability assessment process and their consequential preference to maintain an 'arms length' relationship with the proponent and the Panel<sup>108</sup>. This led Panel members to reflect that the Panel's "relationship with the EPA is pretty nebulous" and to wonder 'how seriously' the Panel's report might be taken<sup>109</sup>. One said<sup>110</sup>:

Having hit that regulatory wall where suddenly all of this integration has to be picked apart again, is a real concern, and it actually devalues the work that has been done by quite a considerable extent... EPA and CALM and other agencies are just waiting to see what happens, they are not actually going to engage in the process, they are going to wait for the outcome...It would be a whole lot more healthy if they were engaged, especially if the integrity of their process is going to be maintained.

Others made similar observations, suggesting that perhaps the regulatory agencies may have 'felt a bit threatened' by the sustainability assessment in general and the Panel in particular, and noted the lack of role clarity, "It has made it very difficult, I think, for everybody involved to work out exactly where they fit in, in the scheme of things<sup>111</sup>".

The first formal interaction between the Panel and the regulators occurred towards the end of the process when the Panel convened a meeting to which representatives

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<sup>106</sup> The ERMP is the highest level of assessment under the *Environmental Protection Act 1986*

<sup>107</sup> SWY interviews – Sustainability Panel (4).

<sup>108</sup> While the EPA interacted with the proponent and its consultants throughout the sustainability evaluation, the relationship with the WRC was somewhat antagonistic, and CALM chose to 'play its cards close to its chest'. There was a perception from the Project Team that this reflected to a large extent the relationships between the Water Corporation and the regulating agencies, and particularly the WRC. One interviewee suggested of the Water Corporation that "frankly they have had the expertise, whereas those people who have been trying to catch up with them and regulate them and argue with them, haven't" and "the reality is that Water Corp will continue to do that more than happily for as long as there is a regulatory vacuum around it" (SWY interviews – Sustainability Panel (1)).

<sup>109</sup> SWY interviews – Sustainability Panel (6).

<sup>110</sup> SWY interviews – Sustainability Panel (1).

<sup>111</sup> SWY interviews – Sustainability Panel (8).

of the EPA, WRC and CALM were invited. One Panel member spoke of this meeting with some frustration<sup>112</sup>:

Well, we actually tried wherever possible to bring them in. We wanted them to talk to us about the kinds of issues that they would be worried about... They tend to operate in secret and they start gathering information – it gets its own momentum and it is not part of an interchange of discussion, it is not part of a dialogue... The worst of all was CALM who, even though we brought them in, refused to even discuss it with us. They said, ‘No, we don’t operate that way, we keep our powder dry’. From what I hear they are quite happy to shoot it down and on a very flimsy basis, and a basis that could easily have been resolved in discussion.

Another, however, viewed this meeting in a more positive light<sup>113</sup>:

I am not sure whether we felt confident in wheeling people in because you aren’t sure really about how seriously you are being taken. I have always had the feeling that this is a little wide-eyed advisory group. Now suddenly it seems, because of our role and because we are aware now we have to write some sort of report, we have become quite a good catalyst to get people together and the last meeting with the agencies was really good in that regard. It was fun and you could see all their different tactics.

It was suggested by several interviewees from both the Panel and the Project Team that the regulatory agencies be more actively involved in the sustainability assessment process from an early stage<sup>114</sup>, “in a contributory way, not just in a regulatory way”<sup>115</sup>, perhaps even as members of future Sustainability Panels. In addition to the value that the agencies could contribute to “finding solutions to problems really rather than just identifying them” it was suggested that there could be “a corpus of expert opinion out there which we haven’t really accessed”<sup>116</sup>.

One interviewee, however, reflecting on the apparent degree of convergence of the views that occurred within the Sustainability Panel process itself, offered a word of caution. Instead of ongoing involvement throughout the process, it was suggested that the regulators could be more involved in the scoping phase of the assessment

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<sup>112</sup> SWY interviews – Sustainability Panel (4).

<sup>113</sup> SWY interviews – Sustainability Panel (6).

<sup>114</sup> SWY interviews – Sustainability Panel (6); Project Team (2, 9).

<sup>115</sup> SWY interviews – Project Team (9).

<sup>116</sup> SWY interviews – Sustainability Panel (1). Similar comments were made by Project Team (9).

and then ‘bow out’ until the final stages in order to preserve their independence<sup>117</sup>. Although it was also argued that this was the model that had been applied, since “they did all have the opportunity to comment on the *Scoping Report*, which they did quite comprehensively, so they knew exactly what we were intending to do”<sup>118</sup>, the agencies commenting on the *Scoping Report* did not involve interacting directly with the Panel. One member of the Panel suggested a more appropriate approach<sup>119</sup>:

I think they could have come in and briefed us with, ‘These are the issues that generally concern us’. We would like whatever your definition of sustainability is. We would really need to be assured of the following sorts of things. That’s not compromising them. It is just saying: ‘Look, hello, how do you do, you are a new body, these are the things we would like you to take into consideration if you are going to be of use to us’.

Similar frustrations with regulators were expressed by members of the Project Team<sup>120</sup>. One spoke specifically of the challenges of coordinating the sustainability assessment and its interaction with the various regulatory processes from a proponent’s perspective<sup>121</sup>:

Government made a statement that this is what it wanted to do, so you got sort of a Government pseudo-policy sitting there that says, ‘We want to do sustainability assessment’ without really knowing what it is. Then you have a whole lot of regulators and agencies that sort of ignore that and just do their own thing in any case. So, what was lacking was any agreement from any of the agencies and regulators about, in fact, what was going to be done.

Accordingly there were calls for Government to take a stronger lead in coordinating future sustainability assessments and to clarify the roles of future Panels in relation to existing regulatory bodies. Legislative constraints, however, particularly the restriction on the EPA to the consideration of biophysical issues (see Chapter 1),

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<sup>117</sup> SWY interviews – Sustainability Panel (1).

<sup>118</sup> SWY interviews – Project Team (2).

<sup>119</sup> SWY interviews – Sustainability Panel (6).

<sup>120</sup> SWY interviews – Project Team (9).

<sup>121</sup> SWY interviews – Project Team (2). The same interviewee went on, “So if the State is serious about it, then it has got to help in some way. It can’t leave it up to proponents to try and corral regulators into doing something, because then it is not going to work. They sit there and say: Get lost. We have got all the power. You will do what we ask you to do. And if we don’t like what you have done. Stiff”

were acknowledged<sup>122</sup>. While one interviewee suggested that informal arrangements between agencies might be possible given the right ‘personalities’ within the agencies<sup>123</sup>, another called for “more clout and more obvious connection to the Minister”<sup>124</sup>. Yet another suggested regulatory and institutional reform that would overcome the ‘silo mentality’ of the current structures<sup>125</sup>:

There is major need for institutional change. I think on these major projects you have just about got to create a process that integrates all the others together. I don’t think you can piggyback. We tried to piggyback and it has been uncomfortable...In my world I would have an Integrated Assessment Act.

The question of whether or not sustainability assessment should have legislative backing in the future was also discussed by others. One interviewee reflected<sup>126</sup>:

On the one hand, I think that it’s just inevitable within government that unless something is given statutory backing it won’t receive the attention or importance that it ought to have. On the other hand, it’s very difficult to frame legislation in such a way that preserves some of the dynamism of the sustainability assessment process, and the ability to create as you go, which I think has been one of the most exciting parts of the whole assessment process from my perspective.

This latter view was endorsed by other Panel members, who appreciated the opportunity provided by the informal structure for the Panel to “do things unconventionally” and to be able to “think of things differently and do things differently, and actually maybe I guess come up with novel ideas and really

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<sup>122</sup> SWY interviews – Project Team (2). This interviewee elaborated, “Unless you separate out the various bits and say, ‘Right, you have got a Panel, they are going to take advice from EPA, Treasury, whoever is going to provide advice on social aspects, but the Government will take advice from the panel’. But then you’ve got: Who is going to impose conditions? It is very messy. One way is to make the EPA the body that does sustainability evaluation and you change the role or you expand the *EP Act* so they become, if you like, the body that does sustainability evaluations. They have got constraints I guess in terms of they are there to protect the environment, so they are going to be challenged, because there will be cases where you have to say: Well, we are going to sacrifice that environmental value because it is of such benefit to the State. [It’s] difficult. So, as a concept, I guess the Panel is a good one, but how it actually gets any power, clout, the respect of the other agencies, because they obviously all like to think that they are the last port of call I would think. At the moment that tends to be the EPA”.

<sup>123</sup> SWY interviews – Sustainability Panel (4). This interviewee went on to suggest that while the ‘right personalities’ were already incumbent within the EPA, this was not necessarily the case with other agencies.

<sup>124</sup> SWY interviews – Sustainability Panel (6).

<sup>125</sup> SWY interviews – Project Team (9).

<sup>126</sup> SWY interviews – Sustainability Panel (8).

implement them that way, and really fill in some of the gaps”<sup>127</sup>. Thus there is a tension between prescription in law, and the flexibility and creativity that is arguably necessary for sustainability.

The other issue highlighted by the SWY process is that of the coordination of sustainability assessment processes and the present lack of a “home [for sustainability assessment] within the current institutional arrangements”<sup>128</sup>. While the Gorgon process was managed by DoIR, the agency responsible for promoting industrial development, the SWY was driven and coordinated by the proponent with the help of its consultants. It has been recognised for some time that neither of these approaches is ideal (Government of Western Australia, 2002b). Project assessment coordination responsibilities now rest with a newly established Office of Development Approvals Coordination (ODAC) within DPC. While this body has specifically been established to manage the assessments of private resource development projects, there is no reason why it could not also be responsible for the assessment of public infrastructure projects such as SWY.

In summary, the SWY assessment made a significant contribution to learning by including a Sustainability Panel within its institutional structure. While the Panel can be considered to have been a successful innovation, by virtue of its ability to challenge the proponent and its role in providing integrated advice to Government, certain issues also emerged: in particular, the role and status of the Panel compared with statutory bodies such as the EPA, and whether or not legislative reform is required for effective sustainability assessment. The SWY process, building upon the earlier Gorgon experience, has thus been an important source of process and context-oriented learning that can contribute to the future of sustainability assessment in Western Australia and elsewhere. All of these forms of learning can be classed as collective forms of ‘exterior’ or ‘technical’ learning. I now go on to consider the role of ‘interior’ forms of learning within the SWY case study and sustainability assessment in general.

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<sup>127</sup> SWY interviews – Sustainability Panel (6).

<sup>128</sup> SWY interviews – Project Team (2).

## 6.4 Interior learning and reflexivity

In contrast with exterior learning, which generates either ‘hard’, ‘factual’ data or ‘how to’ knowledge through adaptation and the development of appropriate responses in a way that leaves underlying frames, meanings and moral views unchallenged (Edwards, Ranson, & Strain, 2002; Weiss, 1977, 1991), interior learning generates ‘soft’ knowledge such as new concepts, moral perspectives or frames. Interior learning is thus firmly located within a post-empiricist policy orientation, that rejects the positivist view of objective knowledge where by ‘facts’ are separate from ‘values’ and ‘meaning’ (F. Fischer, 2003a).

Interior learning excavates and potentially transforms the lens through which the world is viewed, but not through an instrumental process as a result of “new information and careful logic” (Boothroyd, 1995, p121), but rather through what has been termed ‘reflexivity’. Reflexivity has been defined as “the capacity to develop critical awareness of the assumptions that underlie practices, especially the meta-cognitive, interpretative schemata that constitute worlds” (Edwards et al., 2002)<sup>129</sup>. The process of challenging unconsidered values and beliefs has also been termed ‘deliberation’ (Dryzek, 2000; Gundersen, 1995). Reflexivity or deliberation is by definition context-dependent (Glasbergen, 1996) and action-based (Gundersen, 1995; Laws & Rein, 2003; Schön, 1983). The concrete nature and the context-specificity of impact assessment processes thus provide ideal grounds for such learning, in both collective and individual forms, under the right circumstances. In the following sections I distinguish between these two forms and explore their roles in the context of the SWY case study.

### 6.4.1 *Collective reflexivity: Towards new frames and storylines*

Policy change through reflexivity is associated with a new way of collective thinking (Robinson, 2004)<sup>130</sup>, and has been called ‘atypical’ policy change, as distinct from

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<sup>129</sup> In their analysis of policy learning in EIA, Sinclair and Diduck (2001, p114) use the idea of ‘adult transformative learning’ that occurs through “critical self reflection on the underlying assumptions of the various parts of one’s meaning perspective or scheme”.

<sup>130</sup> This draws from an anthropological concept of culture that enables the ontological possibility of treating collectives – communities of meaning, for example – as “‘real’ for analytical purposes” and something more than an “aggregate of individuals”, which is a more psychological approach (Yanow, 2003, p232). Location and membership of groups gives shared meaning.

‘normal’ policy change (Howlett & Ramesh, 2003)<sup>131</sup>. This can equate to a revision of policy goals that is sometimes called ‘conceptual learning’ (Fiorino, 2001; Glasbergen, 1996; Sabatier, 1987); ‘double-loop learning’ (Argyris & Schön, 1996); or ‘third-order policy change’ (Hall, 1993; Scrase & Sheate, 2002; Waddell, 2005). It may take the form of ‘reframing’, or recasting the policy discourses and storylines that shape the way in which policy issues are collectively understood, distinguishing its effects from those of other forces operating within the policy context such as bargaining, strategic power plays or even voting (Argyris & Schön, 1996; Jachtenfuchs, 1996; Laws & Rein, 2003)<sup>132</sup>.

In Chapter 5, I deconstructed the two competing storylines framing the Gorgon proposal and discussed how the ‘green’ discourse was subordinate to the ‘pro-development’ discourse. Gorgon was characterised by strategic manoeuvring and power plays, and there was no evidence of any learning that might have led to the reconstruction of these framing storylines and the construction of new collective meanings (Poncelet, 2001). Instead, the policy issue was framed as one of technical uncertainty and the consequent focus of the sustainability assessment was on gathering data in an attempt to address these uncertainties through technical impact-oriented learning<sup>133</sup>.

This is perhaps the most significant difference between Gorgon and the SWY, since unlike Gorgon, the SWY sustainability assessment process not only permitted but encouraged the explicit discussion of values, meanings and the ethical dilemmas posed by the proposal. This was exemplified by the consultant responsible for social impact assessment, who adopted a values-based approach and set out to explore the

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<sup>131</sup> An example from transport planning in the UK was the shift towards new storylines of ‘integrated transport planning’ and stories that challenged the supremacy of the car over pedestrians and cyclists (Owens & Cowell, 2002).

<sup>132</sup> Reframing, however, may not always be a robust indicator of reflexive learning: actors or coalitions of actors may deliberately develop new frames or storylines that align better with their interests, in a strategic action that does not involve learning (Jachtenfuchs, 1996). An example of this is neo-liberal economic theory, which was deliberately formulated to change the ‘tracks’ upon which economic policy travelled (F. Fischer, 2003a). Reframing may occur as a result of external factors; for example Owens and Cowell (2002) discuss the reframing of the policy issue of aggregate mining for road bases in the UK, pointing out that while learning may have contributed to the reframing, the reduced availability of suitable quarry locations has also contributed, as has failing demand for aggregate. They therefore caution against assuming that the frame shifts occur solely through policy learning.

<sup>133</sup> The Gorgon experience thus bears out Forester’s (1993a, p104) warning to planners, “If planners render the ambiguous as simply the uncertain, they will fail to learn about the normative and contextual dimensions of their work – and their practice is likely to suffer”.

stories that framed the various communities' attitudes towards the proposed development<sup>134</sup>. Thus the social analysis was positioned firmly within an interpretive epistemology, in contrast with more the descriptive and quantitative forms of social impact assessment conducted in the Gorgon case (see also Bradbury & Rayner, 2002). One interviewee reflected on these differences, saying<sup>135</sup>:

Yes, you can go and do your studies on tourist numbers and tourist attractions, and you can look at planning reports and extract all your statistical stuff from those, but I don't think that really gets you to the heart of why people feel the way they do...I do think that having gone and looked at the communities and tried to understand what else was going on in the community so you could see where water fits into it all, gave it a context that allowed you to say, well, if we do get these sorts of results then this is what people are going to understand, why they are going to be concerned, what they are going to say about it, and how it might be resolved. I think you are just making assumptions unless you actually go and talk to people<sup>136</sup>.

This approach to social impact assessment provided a means for qualitative 'softer' data in the form of community values and perceptions to be integrated into the assessment process along with the 'harder' analytical data generated by scientific or technical studies. Specifically, the social analysis found that the South West communities opposition to the proposal to pump water to the city was founded on a storyline of 'futures foregone' by the people of the region, that is, the fear that future opportunities might be restricted by a lack of availability of water<sup>137</sup>. Thus, in the public's mind, the proposal would not meet its social objective of ensuring that 'reasonable regional needs' for water would be met into the future.

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<sup>134</sup> Arguably, the interpretive approach was more appropriate to SWY than to Gorgon since there is no permanent community on Barrow Island with which to consult, and the island is sufficiently remote from most of the population of Western Australia to ensure a degree of apathy outside the 'green' community.

<sup>135</sup> SWY interviews – Project Team (7).

<sup>136</sup> Similarly, one Panel member said, "The people who are making decisions really had to listen to what the community was saying, not only the immediate fears that were being expressed but the underlying fears that were informing the initial responses. It's a deeper assessment than just hearing from people about feeling threatened that their economy might not move forward. It's about saying 'you say your economy might be threatened but have you thought about the benefits that something like this could bring and are there any actions that could be taken that would shift your opinion about on that matter?'. It's about really understanding what people are thinking and not just listening to their initial words or their complaints. And current assessment processes don't do that effectively at all" (SWY interviews – Sustainability Panel (8)).

<sup>137</sup> Options currently available to the people of the region include drilling private bores for the purposes of irrigating crops and grazing animals.

At the same time, the economic objective of allocating water according to its highest economic value suggested that the SWY water resource should contribute to an integrated public water supply. In the context of the decision, and in the absence of an integrated water scheme in the South West Region where each town has its own small water source, this meant that from an economic perspective at least, the pumping of the water into the IWSS serving Perth was the highest benefit option for its use.

While this meant that the proposal as it stood met its economic objective, further reflection led to the realisation that the economic argument was not to supply the city over the country *per se*, but to supply the community over individuals. When these meanings became clear, the solution became obvious: the South West region should also be connected to the IWSS, so that water-dependent futures would not be foregone and yet the highest economic value of water could still be achieved. Thus the result was a new storyline that made sense to the group as a whole (Laws & Rein, 2003), the creation of a ‘single overarching norm’ that was commensurate with two previously competing storylines (Thacher & Rein, 2004). The new storyline was simply that ‘the pipe has two ends’ and that ‘water can go both ways’. One Panel member summarised<sup>138</sup>:

The turning point for me was when, in that policy learning space that was created for us to try and draw these things together, it became obvious that we needed to turn the project on its head and see it as an extension of the integrated system rather than being a mining of the south west for the needs of Perth. That then enabled us to see it in a different way and potentially turn it into a net benefit situation and the detail of that is still being worked through, but that for me was the critical point<sup>139</sup>.

The feature distinguishing interior from exterior learning is not the magnitude of change, since arguably filling a policy gap as described previously (exterior) is at least as significant as reframing a proposal so that a water scheme is extended from

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<sup>138</sup> SWY interviews – Sustainability Panel (4).

<sup>139</sup> This was explained in the project documentation, “The proposal concept at the commencement of this sustainability evaluation was to supply 45 GL/yr to the IWSS to meet only growing demand in areas currently connected to this scheme. However, through the sustainability evaluation, the concept has evolved to consider this development as extending the IWSS to the South West. Under this concept, the extended IWSS would provide the opportunity of extending public water supply to areas in the South West close to the proposed scheme infrastructure and its possible future extensions” (Strategen, 2006b, p1-24).

the city to certain country towns (interior). As the SWY assessment approaches its conclusion, however, it is considered by most to have been successful, to a large extent by virtue of this reflexive learning process and the potential that it represents<sup>140</sup>. One interviewee said<sup>141</sup>:

On the social side I thought were the major gains in which I think it helped change the proposal in Water Corp's mind...the social ends and economic ends it set were changed. I think that was the big gain.

Another said<sup>142</sup>:

I think [the shift in the framing of the proposal has] been one of the most interesting parts of it, and one of the most exciting parts of the sustainability assessment. It's been a really positive thing.

The same interviewee continued:

I mean that's just a fantastic example of just thinking about an issue differently. In some ways, it's not a huge shift in actual terms of what could be done, it's just a different way of thinking, and that's what this sort of assessment can achieve.

Similarly<sup>143</sup>:

For me that was a magic moment and one where I felt that the system had provided a solution that would not have happened if we hadn't had the sustainability assessment process.

The same interviewee also reflected on the conceptual difference between the provision of compensation to the South West community in return for the 'appropriation' of the water, which represents an exterior approach, and the interior process of reframing that emerged as an alternative and more satisfactory solution<sup>144</sup>:

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<sup>140</sup> One Project Team member reflected on his changing perception of the proposal, and specifically his gradual realisation that "this infrastructure was actually going to be tremendous benefit for the region" since it is "an enabling piece of infrastructure that could really bring some real development opportunities". Prior to this point, this interviewee struggled with the question of why SWY should be favoured over a desalination plant, which would mean "that you could have your cake and eat it too", by supplying the IWSS while preserving the SWY resource for the people of the South West (SWY interviews – Project Team (2)).

<sup>141</sup> SWY interviews – Project Team (9).

<sup>142</sup> SWY interviews – Sustainability Panel (8).

<sup>143</sup> SWY interviews – Sustainability Panel (4).

<sup>144</sup> SWY interviews - Sustainability Panel (4)

The phrase ‘future foregone’ was the neat way of summarising what the essence of the problem was from the south west...It was this sense that Perth is taking away something that they may need for their future – the ‘future foregone’...The phrase that was raised by [a member of the Panel] was ‘baksheesh’. That conversation about baksheesh was significant because in a way it dramatised that we could do baksheesh, but it would be cheating, it would not be a serious addressing of the underlying issues. Baksheesh was never going to be more than a temporary giving of something like Gorgon has done – their way of buying off the public. It essentially doesn’t work. People see through it. So baksheesh was raised and dropped...Then at some point it twigged: No we need to give them something more significant, which is that they should be linked to the entire system and therefore they are part of a grid with pipes flowing two ways, all kinds of things can flow from that in the future, and there is an assured water future. So they play a part in giving water to that system, but they are also part of a system that can ensure they don’t have a ‘future foregone’.

Language is the basis of deliberation in groups, through which people can communicate shared knowledge and beliefs, and potentially create new meanings and new ‘social realities’ that are in turn expressed in language (van der Knaap, 1995). The change in thinking in the SWY case was reflected in a new storyline. In the words of one member of the Project Team<sup>145</sup>:

It was possibly as much as anything, a change in the way we described it, the language changed. We really didn’t have to do much to our reports to reflect that, it was really a matter of a little bit of restructuring and some different words.

Some expressed scepticism as to whether this meant the reframing was just a matter of ‘spin’, with one interviewee suggesting its significance had been ‘overplayed’ by the Water Corporation<sup>146</sup>, and questioned whether or not the project would bring real benefits to the South West towns. In relation to this concern, one Panel member said<sup>147</sup>:

I suppose I would be extremely disappointed if it didn’t happen now. I have got all the reassurances that it would... If they had done nothing about it and just gone ahead and

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<sup>145</sup> SWY interviews – Project Team (3).

<sup>146</sup> SWY interviews – Sustainability Panel (5).

<sup>147</sup> SWY interviews – Sustainability Panel (4).

said: Oh, sometime we will do that, then I would have worried, but they are not. They seem to be taking it seriously<sup>148</sup>.

Beyond this relatively limited focus, however, there is evidence in the Gorgon and SWY case studies of the potential for policy processes to facilitate a level of reflexivity that extends beyond the stories framing the decision at hand into the deeper context in which the decision-making takes place. In both cases questions were raised that challenged some more fundamental stories, and even some of the prevailing macro-level political discourses, potential that has been widely observed (Argyris & Schön, 1996; Healey et al., 2003; Sinclair & Diduck, 2001). I discuss this further in Chapter 7.

#### 6.4.2 *Personal reflexivity*

Consideration of personal reflexivity recognises that, as well as being grounded in collective cultural and social norms, the behaviours and actions of individuals are shaped by personal frames of reference and beliefs<sup>149</sup>. For some participants, involvement in the SWY process catalysed a process of deep reflection upon personal assumptions and frames. For example, one interviewee said<sup>150</sup>:

This process has started me thinking more deeply about some of those bigger issues... I'm not sure what it has achieved for me, but it's just made me think differently about it and more deeply. If it can achieve that for me, just working on one little project in our little corner of the world, if we can encourage more of it on other big initiatives and strategic projects and get more and more people involved in looking at things that way, it is going to have an impact.

Acknowledging the importance of building reflexive capacity, another interviewee said<sup>151</sup>:

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<sup>148</sup> A member of the Project Team referred to the other major project of inter-regional water transfer in Western Australia, that I have already mentioned, the goldfields pipeline developed in 1901 to bring water from the hills of Perth to Kalgoorlie. He noted that this scheme has gradually extended in scope over the years to open up adjacent agricultural regions as well as the Goldfield through the supply of fresh water, arguing that the same process can be expected to occur naturally in the SWY project, whether or not The Water Corporation chooses to deliberately link up towns from the commencement of the project (SWY interviews – Project Team (2)).

<sup>149</sup> This contrasts with the 'rational actor' model of understanding behaviour that argues that action is based upon information (Caldwell, 1999).

<sup>150</sup> SWY interviews – Sustainability Panel (8).

<sup>151</sup> SWY interviews – Sustainability Panel (6). This suggestion raises the question of who should be involved in these deliberative learning processes, and the earlier discussion highlighted the issues

I would really love all of my group, each one of them, to get on a Sustainability Panel and to go through the learning process that we have gone through. That would be exactly the sort of training [they need].

The growing realisation emerging from these remarks is that involvement in a deliberative process, such as a sustainability assessment, that is context-dependent and action-oriented, can change the way those involved view the situation at hand and the world in general. As discussed previously, the influence of the perceptions and mental models of participants in decision-making processes has been recognised by communicative planning theorists<sup>152</sup> and others who have considered public policy and decision-making through the lens of critical theory<sup>153</sup> (see for example Fay, 1975; Forester, 1993a; Hillier & Gunder, 2003), seeking to understand the nature of the power structures within which decision-makers operate, in turn liberating participants from unseen constraints (F. Fischer, 2003a; Meppem & Gill, 1998; Torgerson, 1985, 2003).

The SWY case study provides a tiny glimpse into the transformative potential of the interior individual dimensions, which also embraces psychological and spiritual transformation that may be conceptualised as ‘learning to be’ (Nicolescu, 1997). I expand upon these dimensions in Chapter 7. In the following discussion I consider how reflexive learning, both collective and individual is catalysed, how it might be facilitated, and what barriers to such learning might arise.

### ***6.4.3 Catalysing reflexivity***

What catalyses reflexive learning in which assumptions, belief and frames are exposed, challenged and perhaps recast? The literature suggests that policy actors, whether operating individually or collectively, must experience some form of tension that triggers doubt about previously unchallenged aspects of one’s belief system. In this vein, Argyris and Schön (1996) speak of the ‘detection of errors’; Fay (1975) of

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caused in the SWY process due to the late engagement of regulators. Others have questioned the role of politicians, recognising that deliberative processes might not influence the final decision made within the structures of liberal representative democracy (Klijn & Koppenjan, 2000; Owens et al., 2003; van Eeten, 2001), and advocates of deliberative democracy call for the inclusion of the community in policy processes, a point to which I return in Chapter 7.

<sup>152</sup> For example, Hillier and Gunder (2003) apply a Lacanian framework to enhance planning theory.

<sup>153</sup> Critical theory is about “the progressive emancipation of individuals and society from oppressive forces” (Dryzek, 2000, p20-21) through the development of the “competence of citizens themselves to recognize and oppose such forces”.

‘suffering’; Laws and Rein (2003) of ‘uncertainty and doubt’<sup>154</sup>; Sinclair and Diduck (2001) of a ‘disorienting dilemma’; and van der Knaap (1995) of ‘cognitive dissonance’<sup>155</sup>. As a result of these tensions, the inadequacy of an existing frame may become apparent and the psychological discomfort of the dissonance will motivate an individual or a group to reduce dissonance by revising underlying cognitive schemata (van Eeten, 1999).

In the SWY case, one important aspect of this tension appears to have been the impact data that demonstrated the apparent incommensurability of the economic and social objectives of the proposal, coupled with the desire among members of the Project Team to find a way to make the proposal acceptable to the community. According to the varied recollections of the Project Team members, this frame shift probably occurred gradually over time, perhaps commencing with the Water Corporation project manager, after which “the idea spread like wildfire”<sup>156</sup>. It was first articulated at a workshop in May 2005 involving the Water Corporation and other members of the Project Team. At this workshop, the results of the various studies were presented against the ‘sustainability decision-making protocol’ in a way that highlighted the tension between the competing storylines. The protocol therefore not only guided technical learning related to an understanding of the potential impacts of a proposal, but also facilitated conceptual learning as a result of technical learning (Fiorino, 2001; see also Glasbergen, 1996; Laws & Rein, 2003; Scrase & Sheate, 2002).

When asked what enabled this shift, one Panel member said<sup>157</sup>:

The social part was always going to be a problem. We just didn’t know how to handle that. It clearly meant you had to find out what the social was, which meant surveying and

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<sup>154</sup> Laws and Rein (2003, p175) also acknowledge the potential for ‘strategic interplay’ as a driver for change, but argue that to focus on this, as has been usual in studies of political processes, is to miss the “moments of doubt when accepted stories are challenged or events upset conventional accounts and an indeterminate situation arises that requires attention”. They are referring at this point to “the interplay between belief and doubt within a frame” as a “struggle that generates efforts to make sense of a changing situation and to coordinate action” (Laws & Rein, 2003, p174). “These moments of doubt are precisely the moments when systems are open to new insights, ideas and behaviour” (Laws & Rein, 2003, p175).

<sup>155</sup> Defined as “a state of doubt whether current knowledge and beliefs are still valid” (van der Knaap, 1995, p195).

<sup>156</sup> SWY interviews – Sustainability Panel (4).

<sup>157</sup> SWY interviews – Project Team (7).

relating to the community, and the people who did that did that very effectively and came out with some significant issues that really undermined the entire project as it was.

The tension was clearly between the social and economic objectives, and while some interviewees emphasised the role of the social analysis in the process, as above, others emphasised the economic<sup>158</sup>:

[The Water Corporation project manager] said that it was the work that [the economic consultant] did, where [the consultant] was saying that this is the best use of the water, and so it was from that that he started to think about well, yes, it doesn't need to be something that's just a one-way take. We could actually look at this. And I'm hoping that...he would have [also] seen the sorts of issues that people were raising...but I think it was the economic argument.

Tensions are often generated through the juxtaposition of potentially competing frames or discourses (Dryzek, 2000), and therefore bringing together groups with competing interests and values may provide a mechanism by which strategic action may be converted to communicative action, or reflexive learning (Palerm, 2000)<sup>159</sup>. The tensions may also arise from 'subsystem interaction' or 'venue change' whereby new policy communities come together, or a policy issue is framed in a different way than has occurred previously (Howlett & Ramesh, 2003). It can also be argued that sustainability represents a new venue for the consideration of major project proposals, in which different policy subsystems or coalitions come together to make joint decisions in a way that they might not have done before.

Furthermore, sustainability assessment may provide the perfect vehicle for learning, since tensions are inherent within the discourse of sustainability itself as it seeks to reconcile the environment and development (Owens & Cowell, 2002; Robinson, 2004), as I discuss further in Chapter 7<sup>160</sup>. This was certainly the case with Gorgon, manifested through the SIAC Reference Group, although the tensions generated did

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<sup>158</sup> SWY interviews – Project Team (7).

<sup>159</sup> This frame competition often arises within processes of public engagement in decision-making. In particular "confrontation between generalists and experts often succeeds in bringing out unstated assumptions, conflicting interpretations of the facts, and the risks posed by new projects" (Majone, 1989, p5). In his model of 'social learning and change' (SLC), Waddell focuses on the formation of new relationships through partnerships between government, business and the community as a catalyst for tension and therefore learning (Waddell, 2005).

<sup>160</sup> Owens and Cowell (2002) go as far as to argue that conceptualisations of sustainability that seek to 'paper over' these tensions, in fact do the discourse an injustice by limiting its transformative potential, a point to which I return.

not lead to reframing or learning in this case, for reasons already discussed. The inherent and healthy tensions within the sustainability discourse were acknowledged by a member of the SWY Sustainability Panel<sup>161</sup>:

There were always tensions between the priorities of the three key areas within sustainability, and that's actually a healthy process and part of the dynamic...that different views do get aired and that they get aired in a way that is not too insistent on compromise and consensus, because sometimes you just don't get those things<sup>162</sup>.

#### **6.4.4 Facilitating reflexivity**

While Dryzek (2000, pvi) believes that “deliberation can be a personal decision process, in which the individual mulls things over in his or her mind, not necessarily a collective social process at all”, others have argued that processes of reflexive transformation are more likely to occur within group processes in which one's assumptions and beliefs are challenged by others (Gundersen, 1995)<sup>163</sup>. According to van der Knaap (1995, p197), in group settings:

Both the information and the logic with which individuals or groups are confronted may differ from their internal schemata. In a dialectic connection, mutual convictions and opinion are continuously tested and verified. Some argue that truly innovative learning is only possible in processes of collective argumentation: the individual can only learn something fundamentally new when her or his learning process involves the assimilation of or accommodation to the dynamics of social interaction.

Group processes have the potential to establish identities, developing shared meaning, increasing capacity, develop new heuristics, innovation and institutional change, and to deepen knowledge about an issue (Innes & Booher, 2003; Pellizzoni, 2001). In the words of one SWY Panel member, “It is like if we had all been in separate rooms we might have come up with the same solution, but as a group we came up with it and who knows who actually thought of it” and similarly, “You had

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<sup>161</sup> SWY interviews – Sustainability Panel (1)

<sup>162</sup> Similarly, another said, “What I have seen is that there is too much expression that this process will produce better results all round and in my view an inadequate recognition that (1) there are always environmental impacts, no development is possible without some environmental impacts, (2) there are always social impacts, and more importantly there are always in any major investment and major project, always winners and always losers. This process to me is too glossy. It attempts to pretend that we can create only winners. I have concerns about that”. (SWY interviews – Project Team (3))

<sup>163</sup> In this way, reflexive learning may equate to social or communicative learning (Diduck & Mitchell, 2003; Healey, 2001; Owens & Rayner, 1999; Waddell, 2005).

to have the all-in-a-room process of integration and a committee that can enable that integration”<sup>164</sup>. This point alludes back to the discussions of the Sustainability Assessment Working Group in 2002 (see Chapter 2) where the potential for deliberation for sustainability was identified.

What then were the characteristics of the SWY process that allowed for interior learning and frame shifts to occur? There are a number of contributing factors, most of which I have already mentioned: the question framing the assessment was more open and strategic and thus allowed ‘room to move’<sup>165</sup>; the process was guided by a ‘sustainability decision-making protocol’ that highlighted inherent tensions within the proposal; there was a genuine willingness to revise and reshape the proposal through the assessment process, perhaps in turn partly due to the Water Corporation’s responsibility to the community as a public utility; and the community engagement process deliberately sought to articulate the social meanings of the proposal.

Another factor supporting learning was that the group of consultant and client representatives meeting to discuss SWY was considerably more cohesive than Gorgon’s Reference Group, since all participants were working for the project in some way. Learning through collective decision-making is most likely to occur if the parties have some degree of commonality that enables them to participate in meaningful discussion (Torgerson, 2003)<sup>166</sup>. In contrast, members of the Gorgon Reference Group were charged simultaneously with ensuring that their agencies’ interests were met, as well as facilitating the assessment process itself<sup>167</sup>.

Owens and Cowell (2002, p162) relate the potential for reflexive learning and transformation to ‘institutional spaces’ or apertures in the planning process, which, whether purposefully created or not, “take new storylines closer to the heart of

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<sup>164</sup> SWY interviews – Sustainability Panel (4). This interviewee went on to point out that the learning may not have occurred had the individuals involved not been so well equipped, by virtue of their extensive ‘tacit knowledge’ gained through years of policy experience.

<sup>165</sup> Although there was a certain amount of luck that a reframing was possible that still met the broad project objective of delivering 45GL/year water to the IWSS.

<sup>166</sup> Several Project Team members expressed the view that the process would have been further enhanced by more regular meetings of the team (SWY interviews – Project Team (6 and 9)).

<sup>167</sup> Perhaps the most compromised agency in this sense was DoIR, which struggled throughout with accusations of its being the ‘fox in charge of the henhouse’, as discussed previously. The dual role of project manager and development advocate generated considerable discussion and soul-searching within the agency as well as accusations from outside.

decision making”. In the SWY process, these deliberative institutional spaces were provided by the Sustainability Panel and the Project Team, both of which had influence over the development of the proposal and over the conduct of the sustainability assessment process. Both of these groups, however, were strongly influenced by the Water Corporation. Perhaps a weakness of the process was its failure to provide spaces in which the broader community could have been engaged in deliberative processes in a way that might have led to the incorporation of a wider range of values into the process (Weale, 2001) and the creation of opportunities for deliberation and learning extending beyond the decision-makers to the community at large (Blatner, Carroll, Daniels, & Walker, 2001; Sinclair & Diduck, 2001). It was suggested by a SWY interviewee that the benefits of deliberation demonstrated by the internal groups could be extended into the broader community by involving more people in sustainability assessment processes<sup>168</sup>:

It is the old capacity building in a way, but at a community level institutional capacity. If we start and do the things we are talking about. It will give people confidence to learn too.

The CRG could potentially have served this purpose, but as already discussed, its activities concentrated in assimilating analytical information and facilitating technical, impact-oriented forms of learning, reflecting an instrumental form of participation (Bradbury & Rayner, 2002)<sup>169</sup>.

Recognition of the potential for broad social learning through involvement in policy decision-making is one of the principles behind calls for more inclusive and deliberative forms of democracy than commonly occur within Western systems of governance. Reflexivity or deliberation is at the heart of deliberative democracy (Gundersen, 1995; Warren, 1992)<sup>170</sup>, which I discuss in Chapter 7.

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<sup>168</sup> SWY interviews – Sustainability Panel (6).

<sup>169</sup> In relation to this point, van Eeten (2001, p423) has argued that “repeated displacement of deliberation by participation is a core problem undermining the wider use of deliberative practices and needs to be addressed”.

<sup>170</sup> Gunderson (1995) emphasises the interpretive dimension of deliberation when he defines deliberation as the process of challenging unconsidered values and beliefs. ‘Deliberation’ is a much-contested term (Elster, 1998). Much has been written about appropriate models and processes for deliberation, whether it occurs within or outside the bounds of the administrative state (Dryzek, 2000). While followers of Habermas might seek ‘communicative rationality’ through the rules and restrictions and place their faith in ‘the power of the best argument’ (Innes & Booher, 2003), others

### 6.4.5 Barriers to reflexivity

As evidenced by the Gorgon assessment, in some circumstances, new knowledge or discussion within a group may not necessarily lead to reflexive learning; instead, the information may be incorporated into the old frame, which Argyris and Schön (1996) term ‘single-loop learning’, or rejected altogether. The first line of defence is an individual’s ‘defensive routines’ (van der Knaap, 1995), and it was noted that the frame shift that occurred through the SWY assessment process was in no small part due to the reflexive capabilities of the Water Corporation project manager<sup>171</sup>.

Power plays an important part, since “[t]he context of power relationships in which policy is developed determines learning possibilities to an important degree” (Glasbergen, 1996, p176). There will always be those whose interests are not served by ‘opening the black box’ and who will therefore seek to limit deliberation and reflexivity (Laws & Rein, 2003). Owens and Cowell (2002) argue that power can be latent, and ensure that fundamental questions challenging core beliefs can be kept off the agenda entirely<sup>172</sup>, as occurred in the Gorgon case (see Chapter 5). The balance between learning and power plays may depend upon levels of trust between players, since where trust is lacking there may be a stronger resolve to maintain beliefs and existing frames. The perceived lack of trust between the agencies represented on the Reference Group was a recurring theme in the Gorgon interviews<sup>173</sup>.

Diduck and Mitchell (2003) also point out that reflexivity is difficult within a ‘pro-development political context’. This was very much the case with Gorgon, where the

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argue that such processes are likely to exclude those groups who might be less well equipped to participate in accordance with such rules (Dryzek, 2000) and envisage a less constrained version of deliberation, which embraces argument, rhetoric, humour, emotion, testimony or storytelling, and gossip” (Dryzek, 2000, p1). Other contributors have followed Bohm in turning to the procedures of the ancient Greek concept of ‘dialogue’ (Majone, 1989). Roberts (2002, p6) also uses the concept of dialogue, which she defines as “the co-creation of new meaning through mutual understanding and reciprocal communications between two or more parties” that involves surfacing deep seated assumptions and beliefs.

<sup>171</sup> SWY interviews – Project Team (7).

<sup>172</sup> An example is that in transport planning in the UK, car culture itself has not been challenged and has continued to operate in a ‘parallel universe’ to attempts at sustainable transport planning, ultimately proving more powerful. This was demonstrated by the petrol strikes of September 2000 following attempts to raise fuel duty (Owens et al., 2003).

<sup>173</sup> Gorgon interviews - Conservation Commission/CALM (7); DoIR (2 and 9). It was suggested by one interviewee that advocating for a particular position, as occurred extensively during the Reference Group meetings, was indicative of a lack of trust between agencies (Gorgon interviews – DoIR(2)). This, however, was refuted by another interviewee who argued that each agency had its own mandate and role to play in the process (Gorgon interviews – EPA/DoE (14))

hegemonic pro-development paradigm framed the ‘question’ and shaped the assessment process. This created conflict within the Reference Group that was not conducive to deliberation and reflexivity and ensured a ‘decide-announce-defend’ approach to community engagement that effectively also curtailed opportunities for learning within the broader community (Diduck & Mitchell, 2003).

Unlike the Gorgon Reference Group, the SWY Sustainability Panel was a cohesive group that was also generally aligned with the proponent, as already discussed. This ‘group think’, however, can also undermine deliberation. As Weale (2001, p419) notes “creating the conditions under which people feel comfortable with one another may inhibit their putting unpopular points of view. The dangers of ‘group-think’ are always present when small groups are asked to consider a problem, especially when consensus is the goal”. This observation alludes to a tension between learning and consensus that I explore further in the following section.

## **6.5 Beyond the decision: Learning and change over time**

The preceding discussion has demonstrated the potential of deliberation to catalyse reframing of assumptions and mental models at both the individual and collective levels. Models of communicative decision-making founded on these principles are increasingly posed as alternatives to the widely discredited rational-comprehensive model of policy making, or the ‘information provision’ model of impact assessment, and are particularly prevalent in the field of planning (Lawrence, 2000)<sup>174</sup>. Inspired by Habermas’s Theory of Communicative Action, it is common for writings about such decision-making models to emphasise their potential to reach a consensual conclusion.

This assumption, however, is now widely discredited, and it is increasingly argued that communicative and deliberative processes do not necessarily lead to consensus and may simply excavate the nature of underlying conflicts (van Eeten, 1999), particularly when applied to ‘wicked’ policy problems (Weale, 2001)<sup>175</sup>.

Furthermore, as discussed previously, the communicative model retains a focus on a specific decision-point, leading to the observation that even if consensus is reached

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<sup>174</sup> Owens et al. (2003) also refer to an example of communicative impact assessment.

<sup>175</sup> This concern is reflected by one of the debates within the deliberative democracy literature as to whether the concept is intrinsically valuable with or without better outcomes, however they are defined, and whether consensus is the over-riding aim (Dryzek, 2000).

among members of a deliberative forum, the final decision-maker may not be influenced by the group's recommendations (Owens & Cowell, 2002). This may yet prove to be the case with the external assessment and approval process for the SWY<sup>176</sup>.

Certain planning theorists have recently argued that group consensus is not only often infeasible, but may be also undesirable. They speak in positive terms of the 'agonism' of residual disagreement, as opposed to the more negative concept of 'antagonism', arguing that disagreement and competing views are not only essential to a rich and engaged society, but also represent potential forces of change (Hillier, 2003)<sup>177</sup>. The horizon of these views extends well beyond an individual decision to a more long term consideration of change through processes of deliberation and learning<sup>178</sup>. Rather than consensus over a specific decision, the outcome of reflexivity and learning might be "shared meaning and purpose, usable new heuristics, increased social and intellectual capital, networks through which information and feedback can flow" (Innes & Booher, 2003, p55) or a more diffuse process of 'enlightenment' and "a generalized sensitivity to concepts" (Weiss, 1977, p533). In this conceptualisation, change occurs over time as perceptions and frames gradually shift and individuals become linked with networks (Laws & Rein, 2003), a point to which I return in Chapter 7.

Moreover, learning develops capacity for further learning whereby people "become capable of more sophisticated undertakings" (Lopes et al., 2003, p22). Accordingly, Huber (1991, p89) suggests that "[a]n entity learns if, through its processing of information, the range of its potential behaviors is changed", where an entity may be an individual, and institution or organisation, or society as a whole. It can be argued that capacity-building is one of the main benefits of deliberative practice (Bryson & Bromily, 1993; Michael, 1973) As capacity is developed, so are the future "possibilities for self-transformation" (Hajer & Wagenaar, 2003b, p24). It was

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<sup>176</sup> In the case of sustainability assessment the question must also be raised as to whether any consensus (and/or the final decision) adequately reflects 'sustainability'.

<sup>177</sup> Along the same lines, Owens and Cowell (2002) criticise forms of sustainability that 'underplay conflict' and assume there is no further need for conflict 'only for collaboration' (F. Fischer & Hajer, 1999, p4), and Flyvbjerg (1998b) suggests that social conflicts are actually the cohesive forces that hold 'modern democratic societies' together.

<sup>178</sup> This view is in sharp contrast to perceptions of policy learning dating back to Hecló (1974) that argue that if no change is immediately apparent then learning can not be said to have occurred

argued that the CRG process of the SWY developed a capacity within the community<sup>179</sup>:

It did change it. It impacted the way we thought. I think it also enormously influenced relationships...and empowered people in the process of influence... So if it never gets up on an environmental basis, I think there are some major differences as a result of that process.

By facilitating this form of learning, impact assessment processes can become a catalyst for societal change. The Berger Inquiry in Canada conducted in 1977 into the Alaska Pipeline provided glimpses of a process in which “political change beyond problem-solving is at issue” (Dryzek, 1997, p91) and attention is turned “to a larger political and historical context of forces that, though perhaps largely continuous over time, are also subject to change” (Torgerson, 2003, p131)<sup>180</sup>. The recasting of impact assessment as a transformative process for sustainability has also been made (Diduck & Mitchell, 2003). Rees (1988, p274) believes that environmental assessment should adopt a ‘radical approach’ that calls for Western society to examine the socio-cultural roots of the environmental crisis and to “consider seriously whether a change in our basic beliefs and perceptions is not essential to get us where we want to go”.

Furthermore, the analysis of Chapter 5 explored the various dimensions of policy processes and the interactions between them, highlighting the respective roles of science, the behaviours of individual actors, and the power of institutions and the discourses that shape them. Therefore it can be argued that interior learning that leads to change in one dimension has the potential, through these interconnections, to also facilitate change in others. Chapter 7 is devoted to exploring these arguments further, and to ‘putting sustainability back into sustainability assessment’.

## 6.6 Conclusion

The heuristic framework introduced in Chapter 5 has also formed the basis of my analysis of the various dimensions of ‘policy learning’ in this chapter, where I have distinguished between exterior and interior, and individual and collective forms of

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<sup>179</sup> SWY interviews – Project Team (9).

<sup>180</sup> The Berger Inquiry is often held up as an early example of sustainability assessment, although the term was not in common usage at that time (Gibson et al., 2005).

learning, using the SWY sustainability assessment as my case study. In the exterior collective, or systems dimension, both process-oriented and context-orientated learning were considered. The discussion built upon the conclusions drawn from the analysis of the Gorgon case study in Chapter 4, endorsing them in each case but drawing additional conclusions.

Firstly, the SWY assessment was framed more openly than Gorgon and was guided by a sustainability decision-making protocol, which together promoted a deliberative learning approach that led to improvements to the proposal as a result of the assessment. The question, however, was insufficiently strategic to embrace all of the dimensions of the broader context relevant to the decision, and this created tensions and additional challenges; in particular the boundaries of the assessment did not encompass the consideration of alternatives to the SWY as a potential water supply source. Although the cyclical process of iteratively evaluating potential impacts and modifying the proposal accordingly appears to have been successful in improving its overall sustainability, ideally sustainability assessment processes would begin with a deliberative and inclusive process commencing with the identification of the ‘right question’; followed by the development of a sustainability decision-making protocol; and the identification, evaluation and enhancement of alternatives in accordance with the protocol.

Like Gorgon, the SWY assessment generated calls for Government-led strategic planning in key areas such as water management, with many participants believing this would simplify future project sustainability assessments by providing an adequate policy framework, and would enhance sustainability. Specific recommendations for South West Public Water Supply Future Planning Study have been made as a result of the SWY assessment, and this would provide an appropriate opportunity for the process framework I have recommended be adopted and trialled.

Secondly, while the sustainability decision-making framework that guided the SWY assessment formed the basis for consideration of integration, trade-offs, offsets and the overall acceptability of the proposal in sustainability terms, it remains to be seen whether it will be fully accepted by the two regulatory agencies or whether they will apply different criteria in assessing the proposal. Although the regulatory agencies reviewed the *Scoping Report* (Strategen, 2005), the ambiguity over the extent to

which they are fully accepting of it emphasises the need for the roles and responsibilities of the various bodies involved in a sustainability assessment to be clearly defined.

This is particularly true if the concept of the Sustainability Panel is retained within future institutional structures for sustainability assessment, as I argue it should be. In advance of regulatory reform, for I argue the time is not yet right in Western Australia, the relationships between a non-statutory Panel and the statutory authorities must be clarified. At the very least, this requires meaningful regulatory input into the development of the sustainability decision-making protocol, and a clear understanding of how the Panel's advice to Government relates to that of the regulatory agencies, although a more active engagement of the regulators in processes of deliberation would promote further institutional learning and change. Furthermore, the sustainability assessment process should be coordinated by Government and not by the proponent, and consideration should be given to empowering the Panel to conduct its own investigations to limit dependency on the proponent for information.

Thirdly, the SWY experience demonstrated the importance of meaningful community engagement through the Community Reference Group (CRG) and the values-based approach to the social impact assessment. The latter in particular was instrumental in catalysing an interior form of learning. The CRG, however, was limited in practice to a mechanism for providing information and receiving feedback, rather than being a forum for deliberation. There is potential to utilise the community capacity enhanced through the SWY process in more innovative ways in the future, and particularly in the South West Water Futures Study.

Fourthly, the SWY assessment process provided the 'institutional spaces', within which the Project Team deliberated over the proposal. The sustainability decision-making protocol highlighted the tensions between the social and economic objectives, which in turn catalysed an interior or collective learning that resulted in the proposal being reframed from being a water supply for Perth to being a system for both the metropolitan and regional areas. This was a significant point of difference between the Gorgon and SWY assessment; both were inherently controversial projects with competing objectives and tensions, but whereas the

former degenerated into a ‘dialogue of the deaf’, in the latter case conflict was transformed into learning that challenged and reframed the assumptions upon which the original proposal was built. In addition it encouraged those involved in the process to reflect deeply on their personal worldviews and beliefs, thus also catalysing a personal reflexivity.

In reflexive or interior forms of learning that excavate, reveal and potentially transform hidden assumptions, discourses and personal beliefs, lies great potential for change. I observed previously how discourses and institutions collectively form the context that shapes policy processes. Both case studies have demonstrated the potential for sustainability assessment to influence the exterior dimensions of context, in terms of policy and institutional change, and the SWY has also hinted to the potential for discursive change through sustainability assessment, albeit at the micro-level of the storyline framing the proposal. In Chapter 7 I argue that sustainability calls for reflexive learning that extends way beyond what has been observed in this case study, to reach deeply into the framing discourses of modernity, and I explore the potential of sustainability assessment as a mechanism to facilitate this process.

## Chapter 7: Putting sustainability back into sustainability assessment

### 7.1 Introduction

In September 2005, I co-chaired<sup>1</sup> a stream entitled ‘SEA and sustainability appraisal’ at the International Association for Impact Assessment’s special topic conference ‘International Experience and Perspectives in SEA’, held in Prague, Czech Republic. The broad purpose of this session was to discuss the relationship between strategic environmental assessment (SEA) and sustainability assessment<sup>2</sup> and to identify any points of distinction. I later wrote in the Editorial of a consequent special edition of the *Journal of Environmental Assessment, Planning and Management* on sustainability assessment, “The ultimately defining characteristic of sustainability assessment, when compared with EIA, SEA and other forms of assessment, is that it is underpinned by the concept of sustainability” (Pope, 2006b, pvi). I went on to admit that this is a somewhat facile statement that appears to be stating the obvious, but also to point out that ‘obvious’ does not equate with ‘simple’, since very little about sustainability can be considered so.

The purpose of this chapter is to emphatically ‘put the sustainability<sup>3</sup> back into sustainability assessment’. At this point in my argument, I have examined the conduct of sustainability assessment (Chapter 4), its contextual influences and interior dimensions (Chapter 5), and its potential as a process of learning (Chapter 6). It is therefore time to return to the concept at the heart of sustainability assessment theory and practice. Sustainability was also a central concept in my

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<sup>1</sup> With Barry Dalal-Clayton of the International Institute for Environment and Development (IIED).

<sup>2</sup> I use the more general term ‘sustainability assessment’, noting that ‘sustainability appraisal’ has a specific meaning in the UK.

<sup>3</sup> Although some authors use the term ‘sustainability’ as distinct from ‘sustainable development’, the two are often conflated and are used interchangeably in Agenda 21, the sustainable development blueprint arising from the 1992 Rio Earth Summit. In common usage, ‘sustainability’ has become shorthand for ‘sustainable development’ (Davison, 2001). Despite this lack of clear distinction, Davidson notes that ‘sustainability’ is often associated with a radical environmentalist orientation in contrast with the ‘sustainable development’ favoured by government and business and those with more conservative aspirations (Davidson, 2000). Similarly, Davison hints that sustainability embodies the potential for critique and challenge by suggesting that it is “an essentially contested and culturally rich discursive domain” (Davison, 2001, p41), while sustainable development is less contested and narrower, as a result of the influence of ecological modernisation arguments, as I discuss in this chapter. Throughout this thesis I have preferred the term ‘sustainability’ to ‘sustainable development’, because of its dominance within the Western Australian policy context, because it is arguably more general than sustainable development, and because its more radical nature better aligns with my personal views.

literature review of sustainability assessment processes, reproduced in Chapter 2, where I identified three models of sustainability assessment distinguished by their implicit interpretations of sustainability (Pope et al., 2004). I have self-critiqued the views expressed in this review throughout the thesis, at different points in my own learning process, and my need to return to sustainability again at this late point in my argument marks another point on the journey<sup>4</sup>.

I commence by reflecting upon my own process of grappling with sustainability, before examining the interaction between the concept of sustainability and the practices of decision-making exemplified by case studies of sustainability assessment in Western Australia. Guiding my research is the primary concern, expressed in Chapters 1 and 2 and re-emphasised here, of how sustainability assessment as a policy tool might contribute to sustainability. To address this point, I review the evolution of the sustainability discourse from a sociological perspective, exploring its relationship to modern industrial society. This macro-level analysis enables a new level of understanding of the reflexive learning potential of sustainability assessment.

## **7.2 Grappling with the concept**

My personal process of learning about sustainability began prior to the commencement of this research, and was, in fact, my motivation for its undertaking. I was not alone in seeking to understand sustainability: all over Western Australia, and the world others were doing the same. While my initial forays into the subject area were mainly at the conceptual level, my interest quickly took a practical turn as I confronted the interaction between the concept of sustainability and decision-making in the form of the sustainability assessment case studies analysed in this thesis.

### ***7.2.1 A personal perspective***

It is difficult to remember when I first heard the word ‘sustainability’, but I was certainly aware of it in May 2001 when I decided to return to Murdoch University to undertake postgraduate study towards a Postgraduate Diploma in Policy Studies

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<sup>4</sup> Chapters 2 and 7 are thus the ‘bookends’ or the delimiters of the particular period of learning about sustainability that has been my research process, but of course recognising that the learning process is ongoing.

(Ecologically Sustainable Development) in the Institute for Sustainability and Technology Policy (ISTP). This timing coincided with the establishment of the Sustainability Policy Unit (SPU) within the Western Australian Department of the Premier and Cabinet (DPC) and the early stages of the preparation of the *State Sustainability Strategy*. ‘Sustainability’ was the word of the moment, and ISTP was close to the action by virtue of its Director, Professor Peter Newman, having been appointed as Acting Director of the SPU. I, along with my fellow students, became caught up in the passion and opportunity of the moment (see Chapter 1).

During 2001 and 2002, I was also undertaking a period of consultancy for the Water Corporation of Western Australia, an organisation that was, along with many others at the time, grappling with the meaning of sustainability within a corporate context. As a consultant to its Environment Branch, I was quickly drawn into these discussions. Frustrated at my lack of understanding of the concept, I began to attend every seminar, workshop or course available in Perth that had the term ‘sustainability’ in the title. It transpired that there were many of these, but for a while they fuelled my confusion rather than tempering it, since it seemed that everyone whose advice I sought in this way had a different view of what sustainability meant. This was exemplified by three experiences in particular. I attended a training course on The Natural Step process in June 2001, and was inspired by the simplicity of its concepts and the clarity of the ‘four system principles’ for sustainability (The Natural Step, 2001)<sup>5</sup>. Then, in May 2002 I was sponsored by Water Corporation to attend a corporate-oriented sustainability seminar entitled *Investing in partnerships: Making the case* and attended by leading members of Perth’s business community. Here the focus was the business case for a triple bottom line perspective<sup>6</sup>. This was quickly followed by the 11<sup>th</sup> Annual Students and Sustainability Conference held at

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<sup>5</sup> These state, “In the sustainable society, nature is not subject to increasing: 1. Concentration of substances extracted from the Earth’s crust; 2. Concentrations of substances produced by society; 3. Degradation by physical means and in that society; 4. Conditions do not systematically undermine the capacity of people to meet their needs” ([www.thenaturalstep.org.au](http://www.thenaturalstep.org.au)).

<sup>6</sup> The speakers at this event were Claude Fussler (Director – World Business Council for Sustainable Development); Christian Kornevall (Senior Vice President, Sustainability Affairs – The ABB Group); Bart Jan Krouwel (Managing Director, Sustainability and Social Innovation – The Rabobank Group); and Jane Nelson (Director, Business Leadership and Strategy – International Business Leaders Forum). I also attended the 2003 event, entitled *Boards, brands and business models: Beyond the triple bottom line*, at which the speakers were Sir Mark Moody-Stuart (Anglo-American); John Elkington (SustainAbility); Dorothy MacKenzie (Dragon Brand Consulting); Deborah Zemke (Ford Motor Company); and Noel Purcell and Ann Sherry (Westpac).

Murdoch University in July 2002, where sustainability seemed to be equated with environmental and social activism and alternative lifestyles<sup>7</sup>.

As a result of these and other contrasting influences<sup>8</sup>, my views on sustainability evolved into an eclectic mix of perspectives. I believed in the need for radical societal change, and was frustrated by a purely community-based approach, but for a long time argued that this change could only be led by the corporate sector by virtue of its power within the increasingly globalised economy<sup>9</sup>. I gradually became disillusioned with the corporate world, however, due to my frustrations working within it and a perception of a lack of obvious change; the rather self-congratulatory rhetoric of the business-oriented seminars where the superiority of western economic and political views went unchallenged; and my broader reading<sup>10</sup>. I was particularly sceptical of the concept of sustainability equalling ‘win-win-win’ outcomes, which appeared to be the prevailing view of the business community, but which seemed to disregard the concept of ecological limits and to assume that ‘more of everything’ was good. It also had little to say on the global sustainability issues that were of increasing concern to me.

I had sympathy with the activists but did not feel at home amongst them, self-conscious as I was of my conservative middle-class upbringing that showed in my appearance and my lifestyle, and my engineering career on the ‘dark side’. So instead I placed my faith in the power of Government to bring about change and

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<sup>7</sup> According to the conference website ([www.studentsofsustainability.org](http://www.studentsofsustainability.org)), “Students of Sustainability (SoS) is the largest student-run environmental based conference in Australia. Each year SoS offers an amazing opportunity for students, activists, academics, environment and indigenous groups, and members of the wider community from around Australia to come together to share and gain knowledge, skills and information on environment and social justice issues. Featuring a vast array of inspiring speakers, practical workshops, field trips and empowering activities, SoS is the most important event of the year for environmental activists and people wishing to learn more about how to create positive social change in their communities”.

<sup>8</sup> At around the same time, I joined the Western Australian chapter of the Australian Corporate Citizenship Alliance (ACCA) and attended regular seminars on Corporate Social Responsibility and sustainability in a business context. Through different contacts and influences, I became interested in the work of Oxfam and its campaign for fair trade, and I began to subscribe to *New Internationalist* magazine and read its stories on the effect of the global political economy on the majority world. In my studies, I began to learn about community engagement and governance and grass-roots, ‘bottom-up’ approaches to sustainability at a local level, an example being the efforts of municipal governments in Western Australia to implement ‘Local Agenda 21’ programmes.

<sup>9</sup> In a unit of study entitled ‘Ecologically Sustainable Development’ in first semester 2002, I argued this point in a seminar on mining and sustainability.

<sup>10</sup> I found one article on corporate power and political influence in the July 2002 edition of *New Internationalist* particularly disturbing.

threw my passion into the *State Sustainability Strategy* process and the development of sustainability assessment processes in Western Australia. It was in this frame of mind, and at the first discernible resting point of my learning journey, that I wrote the sustainability assessment literature review, a version of which appears in Chapter 2.

### 7.2.2 *Sustainability and sustainability assessment in Western Australia*

While I was processing my conceptual confusion, the Western Australian policy community as a whole was embarking on its own journey towards understanding sustainability within a decision-making context. In fact, practice can not be separated from conceptual understanding, since it has been argued that it is only through the transcription from the conceptual to the practical in the ‘messy world of politics’ that the meanings of concepts such as sustainability fully emerge (Owens & Cowell, 2002)<sup>11</sup>. Owens and Cowell (2002) have explored the two-way interactions between the concept of sustainability and the UK planning system<sup>12</sup>, which in many places is the forum for coordinating environmental, social and economic considerations and therefore a natural home for sustainability. In Western Australia, for reasons described in Chapter 1, one significant natural home for deliberations over the nature of sustainability at present is the sustainability assessment of major project proposals that are the subject of this thesis<sup>13</sup>.

When the Gorgon assessment process commenced in 2002, the *State Sustainability Strategy* was still in draft, and in the absence of any clear policy direction no real attempt was made to clarify what sustainability should mean in the context of the Gorgon decision (see Chapters 3, 4 and 6). This was perhaps indicative of a naïve assumption that the various parties and stakeholder groups were broadly of a common mind in their support of the concept of sustainability. This in turn may be a

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<sup>11</sup> According to Marquand (1988, p12 cited in Owens and Cowell, 2002), “usable doctrines do not spring, fully armed, from a theorist’s brow. They have to be hammered out in the give and take of a debate, provoked and shaped by the lived experience of particular societies at particular times”. Thus, “In practice, conceptual and operational approaches proceed in parallel”.

<sup>12</sup> ‘Two-way’ in the sense that the concept of sustainability might be expected to influence planning, and at the same time, the process of planning itself might be part of the process of exploring the meaning of sustainability.

<sup>13</sup> Other ‘nodes’ of sustainability debates in Western Australia include the land development and building industries, the corporate sector, certain State Government agencies and local governments that are implementing Local Agenda 21 programmes.

reflection of the observation that while it is hard to disagree in principle with the high level ‘concept’ of sustainability, its more concrete ‘conceptualisations’, often developed through decision-making practice, are many, varied and often conflicting (Denniss, 2005; Dryzek, 1997; Owens & Cowell, 2002; Rein & Schön, 1993)<sup>14</sup>. In the absence of the depth of understanding that comes through practice and experience, the degree of commonality was arguably far greater at the commencement of the Gorgon process than it was at its end<sup>15</sup>.

The common understanding amongst the Western Australian policy community in 2002 was that sustainability meant the integration of the triple bottom line of environmental, social and economic concerns, and that the goal was to avoid trade-offs between these three pillars and to achieve ‘win-win-win’ outcomes (Government of Western Australia, 2003b). As I described in Chapters 3 and 4, no real integration was achieved in the Gorgon process in which two separate assessments, one environmental and one socio-economic, were conducted that could not be reconciled. Neither was a ‘win-win-win’ outcome achieved, since the EPA argued that the proposed ‘net conservation benefits’ did not constitute an environmental ‘win’ (Environmental Protection Authority, 2003).

Since sustainability was not clearly defined prior to the Gorgon case, the proponent attempted to develop its own sustainability principles and objectives, which were not necessarily consistent with those eventually developed by the Government (Pope et al., 2005). One interviewee said of the proponent’s claims<sup>16</sup>:

But to then go through at the end and say these are our sustainability principles and then say blithely that they’ve met all of them is just errant nonsense. So it makes a mockery of whole sustainability process as far as I’m concerned....Their sustainability criteria were

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<sup>14</sup> As Dryzek (1997, p123) says, “It is at the discursive level that dilemmas are dissolved by sustainable development, not at the level of policies and accomplishments”. Even more bluntly from Denniss (2005), “When was the last time you met someone who was opposed to increasing environmental sustainability? Not someone who merely disagreed about the best way to achieve it, but someone who actively opposed the concept?”

<sup>15</sup> It must be acknowledged that some tensions may be inherently reconcilable, a point illustrated by Owens and Cowell (2002), who argue that while justice is a useful concept to aid sustainability, social and environmental justice may conflict in practice with other forms of justice, such as property rights, or perhaps mineral rights. Similarly, pluralists acknowledge that “in the everyday world we inhabit, at some point the great values begin to contradict each other” (Hajer & Wagenaar, 2003b, p21).

<sup>16</sup> Interviews – Community Groups (12).

erroneous in the first place, and then even if you accepted that they were OK, they didn't meet them anyway, even though they say they did.

The same interviewee expressed views on sustainability from the 'green' perspective, challenging the hegemonic discourse of economic growth and development and articulating the divide between the 'green' and 'pro-development' perspectives that had begun to open up by this time:

It always seems to me at the moment that it's the environment that we'll trade, not anything else. I must admit, I do get a bit worried that sustainability is now the 'in' concept to use to try to get developments through. And I think if it continues to be misused, I for one, from the environment side of things will stop supporting sustainability... As much as I think yeah, sustainability is the way to go, I still think we overemphasise the economic side of things. So I think we've got a way to go on that and we're certainly not there yet.

The Gorgon process was entirely unequipped to reconcile the competing discourses; as was discussed in Chapters 4 and 5, its inherently descriptive nature marginalised normative issues and the more radical views<sup>17</sup> and arguably served only to highlight a fundamental tension between alternative conceptualisations of sustainability. In contrast, the SWY process was more successful than Gorgon in integrating the 'factual' and the value-based aspects of the decision.

The presentation of the SWY case study in Chapter 6 focused on the internal process conducted by the proponent and its consultants, and presents the views of the Project Team and the Sustainability Panel. As discussed previously, members of these groups were considerably more aligned in purpose and perspective than those of the Gorgon Reference Group, and therefore ideological arguments did not feature prominently in the SWY analysis. Instead, these groups grappled deeply with the concept of integration and sustainability, finding ways to maximise mutually beneficial outcomes (win-win-wins), assessing trade-offs and finding offsets, and generally considering the interactions between sustainability factors and potential impacts (see Section 6.3.2).

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<sup>17</sup> Owens and Cowell (2002, p104) suggest that the interpretation of sustainability principles "is mediated by institutions and power" that constrain the options that are available. In this case the power was held by the proponent and the Department of Industry and Resources (DoIR) as discussed in Chapter 5, and the conceptualisation of sustainability applied to Gorgon, unclearly articulated as it was, reflects this.

As project proposals, both the Gorgon and SWY assessments were confronted with the question of what sustainability means in the context of a single decision. One Gorgon interviewee suggested only large projects could ever be subject to a sustainability assessment in place of EIA since they would be the only ones that could demonstrate significant socio-economic impacts to be considered alongside environmental impacts. He suggested that in order to consider small mining projects within a sustainability framework the sector would have to be considered as a whole<sup>18</sup>. Furthermore, the principle of intergenerational equity sat uneasily with the Gorgon proposal, relating as it did to the exploitation of non-renewable resources.

In sustainability decision-making, the focus is usually on a specific locality, as was the case in both Gorgon and SWY. While this is consistent with a pragmatic argument for ‘situated judgement’ (Thacher & Rein, 2004), it raises the question of spatial scale since this often determines what is ‘good’<sup>19</sup>. Ultimately this evokes the relationship between the local and the global dimensions of sustainability, since what appears reasonable and even sustainable at the local level may be irrelevant, or even in opposition to notions of global sustainability<sup>20</sup>. As Gibson et al. (2005, p90) note, “For practical decision making in a world facing sustainability problems at multiple intersecting scales, reliance on locally situated discourse alone is not workable”.

Both Gorgon and SWY faced dilemmas of scale and questions of indirect impacts outside the bounds of the proposal; for example, a promoted benefit of the SWY project was the provision of water to a developing industrial area, and the question was raised as to whether the further development of industry in this area was a good thing in terms of sustainability<sup>21</sup>. The relationship of Western Australians to their limited and therefore precious water resources, and particularly the desire of Perth residents for European gardens in what is one of the driest climates on Earth, was also questioned.

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<sup>18</sup> Interviews – ChevronTexaco (5).

<sup>19</sup> What is good for a country, for example an airport, may not be good for a locality adjacent to the airport (Owens & Cowell, 2002). Owens and Cowell (2002, p148) also note that “local communities may not necessarily arrive at conceptions of sustainability or justice that would be regarded as defensible in a wider society”.

<sup>20</sup> The discourse itself has different meanings at different levels of consideration; clearly, issues of equity and development have different implications within the context of a local community than they do at a global scale.

<sup>21</sup> This point was one of many made by Dr Robert Gibson from the University of Waterloo in Canada during a presentation to the SWY Sustainability Panel on 30 March 2006.

Global issues were considered to some extent in both assessments, particularly greenhouse gas emissions, but the boundaries of the decisions excluded consideration of indirect impacts such as the effects of selling Gorgon gas to China to further its industrial development. While a more comprehensive assessment of indirect impacts like this would clearly be cumbersome, and would provide no way of considering the impact of the Gorgon decision compared with a million other decisions affecting the Chinese economy, to most of which sustainability assessment will not be applied, such questions allude to a deep challenge to the status quo.

The experiences of these two case studies and their engagement with the concept of sustainability have exposed some of the tensions inherent within the discourse. The nature of the tensions can usefully be considered through the lens of ‘integration’, which is a recurring theme in most discussions of sustainability. As discussed previously, this is usually simplistically limited to discussions of mechanisms by which the three pillars of environmental, social and economic might be reconciled within sustainability decision-making processes. Integration, however, is more complex and multi-faceted than this. As I wrote recently (Pope, 2006b, pvii), drawing on Gibson’s (2006) articulation of sustainability as ‘an inherently integrative concept’:

The concept of sustainability is holistic, ambiguous, future-orientated, global, and normative, and these characteristics translate into calls for the integration of transboundary (and even global) considerations with local; the qualitative and abstract with the quantitative and concrete; future considerations with present ones; and the particular with the conceptual.

The case studies each struggled with these tensions in their different ways, and through this struggle helped to shape the Western Australian conceptualisation of sustainability, although it seemed that sustainability assessment was raising at least as many questions as it answered about the nature of sustainability and what it might mean for sustainability decision-making in Western Australia. Together with my process of reading and researching, my involvement in the Gorgon process in particular served to strengthen my view that sustainability calls for a fundamental questioning of the trajectory of development. It therefore became important to understand the discourse of sustainability in more depth and to relate it to what I was observing around me.

### 7.3 Sustainability: The evolution of a discourse

Sustainability, or sustainable development, has become the dominant discourse in environmental politics, at the international level and particularly in developing countries. The discourse of sustainability has its origins in the environmental movements of the 1960s, which emerged in reaction to the modern, industrial society that defines it (Christoff, 1996; Dresner, 2002; Dryzek, 1997; R. J. Smith, 1996). For this reason it is important to briefly review the trajectory of modernity at this point, before discussing the evolution of environmentalism and sustainability.

#### 7.3.1 *The institutions of modernity*

Modernity has its roots in the Enlightenment ideal of progress driven by science, technology and the instrumental control of the material world through the application of reason (Dresner, 2002). As Wagenaar and Cook (2003, fn p139) have noted:

Modernity is, of course, a notoriously slippery concept, but we understand it here as an all-encompassing economic-political-scientific-cultural movement that has its roots in the scientific enlightenment, the political revolutionary upheavals of the late eighteenth century, and in the industrial revolution of the early nineteenth century. Conceptually, the diverse manifestations of modernity are united by a pervasive individualism and a quest for mastery of one's natural and social environment.

The defining tenets of modernity have been variously identified as capitalism, industrialisation, military power and surveillance<sup>22</sup> (Giddens, 1990); faith in technological progress and increasing control of nature, belief in positivism and rationality, and belief in the superiority of western values and culture<sup>23</sup> (Norgaard, 2004); "individualism, science, rationality, efficiency, free speech, democracy, progress, competition, a 'Christian' god, moral superiority, technological know-how, male dominance" (Michael, 1993, p82); or nation-states, individualisation, gainful employment, exploitation of nature, scientisation and functional differentiation

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<sup>22</sup> Although industrialisation does not depend upon capitalism and can in fact feature in political ideologies ranging from Marxism to fascism (Dryzek, 1997), capitalism has evolved with technology into techno-capitalism in which "science, technology, industry and administration interlock in a circular process" (Outhwaite, 1994, p21). Or, in the words of Giddens (1990, p57), "Capitalist society... is characterised by technological advance as a result of the competitiveness and expansionism of capitalism". In turn this has led to laissez faire government approaches to economic management and the evolution of liberalism (Balakrishnan, Duvall, & Primeaux, 2003).

<sup>23</sup> Accordingly, postmodernism responds with views on cultural diversity and interpretivism, and highlights that faith in 'progress' towards utopia is misplaced, as revealed by the ecological crisis (Norgaard, 2004).

(Beck, Bonss, & Lau, 2003)<sup>24</sup>. Others have emphasised economic growth and the increasing integration of the global economy ('globalisation') as a characteristic of 21<sup>st</sup> Century modernity (Balakrishnan et al., 2003; Paehlke, 2003)<sup>25</sup>.

I argued in Chapter 5 that positivism and instrumental rationality, the foundations of the rational-comprehensive policy model, represent 'flatland' (Wilber, 2000), in which the exterior elements have been cast adrift from the interior dimensions that give them depth and meaning. Separation is the theme of policy 'flatland': means from ends; politics from policy analysis; facts from values; bureaucratic policy makers from each other, from politics and from broader society; policy processes from their context. The theme of separation, however, extends well beyond policy practice, since assumptions of positivism have shaped the development of modern industrial society itself (F. Fischer, 2003b). As a consequence (Slaughter, 1998, p523):

Individuals and cultures were stripped of inner meaning and the external world (including the global ecology) was rendered into a set of things, mere resources. Consequently the world of modernity was built on the illusion that only half of reality mattered: the external, objective, measurable part.

Thus modernity itself is a manifestation of 'flatland' and characterised by the dissociation of the 'big three' of 'I', 'we' and 'it' (Slaughter, 1998). Modern industrial society, in which individuals are separate from their communities, their environment, and in many ways aspects of themselves, is the social context within which environmental discourses have evolved<sup>26</sup>.

### ***7.3.2 The first and second environmental movements***

Davison (2001) speaks of the first and second waves of environmental concern. The first wave emerged in the post-war years with a message of pessimism and

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<sup>24</sup> This functional separation results in a fragmented society of specialists, each with a particular perspective or epistemology, where nobody can see the whole (Norgaard, 2004).

<sup>25</sup> Globalisation shifts power, "disrupts traditional cultures and societies and changes relationships between the individual to his state and community" (Roberts, 2002, p4).

<sup>26</sup> Extending the argument, Giddens (1990, pp16-17) argues that modernity separates "time and space into a realm that is detached from immediate experience", that is, it disembeds social systems from their cultural context. Furthermore, market economies have disrupted the sense of connection with past and future and obligations and responsibilities to others. "By severing ties of place, kin, and occupation, by making tradable and transportable commodities of them, the market undermines those institutions which link future harms or well-being to present actions" (Davidson, 2000, p38).

apocalyptic ‘bad news’, critiquing the basic structures of modernity (Jamison, 2000). The discourses included ‘Survivalism’, characterised by the ‘limits to growth’ argument, and green radicalism (Dryzek, 1997). The environmental movement complemented other reform agendas such as peace, civil rights and feminism (Davison, 2001).

This first wave of environmentalism, however, which emerged from the rich North<sup>27</sup>, was met with scepticism and accusations of elitism by the nations of the South, where concerns about poverty took precedence over environmental issues (Davison, 2001) and social conditions were more immediately pressing than conditions of ‘physical sustainability’ (Dresner, 2002). It was unsuccessful in gaining global political traction, although the industrialised nations of the North in particular began to implement measures to limit the environmental impacts of their activities<sup>28</sup>. It survives in a few counter-cultural enclaves of the modern world, which were well-represented at the Students and Sustainability Conference I attended in 2002.

In contrast with the first, the second wave of environmentalism was characterised by optimism<sup>29</sup> that global environmental and development imperatives could be reconciled within the institutions of modernity and without challenging the dominant ‘Promethean’ discourse of limitless economic growth (Davison, 2001; Dryzek, 1997). In fact economic growth and ‘green capitalism’ were to be the panacea for the world’s ills (McManus, 1996; Rees, 1988), and the banner for this movement was ‘sustainable development’. In the 1980s, the World Commission on Environment and Development (WCED), chaired by Gro Brundtland, produced its sustainable development manifesto *Our Common Future* (World Commission on Environment and Development, 1987). The Brundtland Commission developed the definition that has become ubiquitous:

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<sup>27</sup> I use the terms ‘North’ and ‘South’ to distinguish between developed and developing nations. The term ‘Western’, used in other contexts can be taken as equivalent to ‘Northern’.

<sup>28</sup> The US *National Environmental Policy Act* 1969, discussed in Chapter 5 in relation to environmental impact assessment (EIA), is an example of this.

<sup>29</sup> However, Dresner views this apparent optimism as an attempt to put on a brave front, “A Victorian would also be struck by the extent to which we, who live in a world that has seen so much progress in the last century or so, have lost faith in the ideal of a better world in the future. Unlike Victorians, who generally looked to the future optimistically, we tend to look to the future with the feeling that optimism is passé. The slogan ‘sustainable development’ is an attempt to sound optimistic which reveals a degree of doubt about the future that most Victorians did not share. Our intellectual mood would strike them as very similar to Romanticism. They would wonder quite why that has happened” (Dresner 2002, p18).

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

By acknowledging the link between economic development and environmental protection at a global scale, sustainable development seemed to be about ‘having it all’, including “ecological protection, economic growth, social justice, and intergenerational equity” (Dryzek, 1997, p124). There has always been ambiguity, however, about the nature of this link and what it means in practice (Davison, 2001), and it has been pointed out that it is more defensible at the global scale than in the context of policy decision-making at a smaller scale (Gibson et al., 2005). For this reason, the environmental movement has viewed sustainable development with deep suspicion, “haunted by the dilemma of whether to argue on the terms set by the government or to insist of their own mode of expression” (F. Fischer, 2003a, p88) along the counter-hegemonic lines of the first environmental movement<sup>30</sup>.

### ***7.3.3 Sustainability, business and public policy***

In contrast with the caution of the environmental movement, business has often responded enthusiastically to the mantra of sustainable development, an endorsement that has arguably led to a redefinition of the sustainable development discourse (Davison, 2001). Some have suggested that adoption and redefinition was a deliberate strategy on the part of the business sector. For example, Richard Denniss (2005), representing public policy think tank The Australia Institute said in a recent newspaper article:

In a clever rhetorical shift, big business and apathetic governments realised that they could placate their critics and protect their friends simply by talking about the importance of sustainability. Even better, once they began to talk about sustainability, they could begin the process of redefining it.

Owens and Cowell (2002, p163) offer further analysis along these lines:

A review of post-Brundtland developments suggests that environment-led interpretations, initially acceptable if only on ‘past deficit’ grounds, came to be seen as a threat to core aspects of political economy. The response from corporate interests and governments was not to reject sustainable development – the Trojan horse was already through the gate –

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<sup>30</sup> Gibson et al. (2005) argue that despite its reconciliatory nature, sustainable development still represented a critique of the status quo.

but to capture and mould the idea in a variety of ways to produce their own conceptions in which growth and competitiveness remained at the core. Thus the shift towards ‘Panglossian’<sup>31</sup> interpretations in official policy discourse in the UK can be seen as one in which dominant political ideologies reasserted themselves.

In this light, the acknowledgement of the relationship between social inequity and environmental degradation inherent within the sustainable development discourse, combined with the assumption that economic growth is the panacea for poverty (Davison, 2001; Robinson, 2004), has evolved into an assumption about the mutual reinforceability of environmental protection and economic growth not just globally but at the level of individual business strategies and public policy decisions from the level of the nation-state down (Ashford, 2002; Berger et al., 2001; Christoff, 1996; Jamison, 2000). With the endorsement of the business sector, sustainable development has thus been aligned with the hegemonic discourse of neo-liberalism, in a marriage termed ‘ecological modernisation’ (Davison, 2001; Owens & Cowell, 2002).

At the core of the ecological modernisation discourse in all its variations is the belief that economic growth can be decoupled from environmental degradation (Barry, 2003; Christoff, 1996; Hajer, 1995; Weale, 1992). Unlike Brundtland’s sustainable development, however, the ecological modernisation discourse explains the nature of this link and prescribes how it might be made (Dryzek, 1997): if environmental concerns can be built into established processes, then unwanted environmental side effects can be designed out at their source (Jamison, 2000)<sup>32</sup>. The message of ecological modernisation is that even though the processes of modernisation can be considered to have caused many of the world’s environmental problems in the first place, further (enlightened) modernisation provides the answers. The key to this strategy is eco-efficiency, defined as achieving more with fewer resources, which has led to the proliferation of concepts and business strategies such as environmental management, cleaner production, waste minimisation, eco-efficiency, ecological

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<sup>31</sup> Owens and Cowell (2002, p17) take this interpretation from Voltaire’s *Candide* and Dr Pangloss who says ‘all is for the best in the best of all possible worlds’.

<sup>32</sup> Ecological modernisation is thus often described as a deliberate policy strategy by governments to shift from a previous ‘end of pipe’ to preventative approaches to environmental protection (Ashford, 2002; Barry, 2003; Christoff, 1996; Weale, 1992), of which environmental impact assessment (EIA) is often cited as an example. Typical policy concepts include the polluter pays principle and the precautionary principle.

consumption, life-cycle analysis and industrial ecology. These aim to internalise environmental externalities and to realise economic opportunities arising from the increasing demand for 'green' products and services (Berger et al., 2001; Davison, 2001; Gibson, 2001; Jamison, 2000). The role of government in this discourse is to facilitate the ecological modernisation efforts of business (Hajer, 1995)<sup>33</sup>.

Ecological modernisation has a shorter horizon than Brundtland's sustainable development, and is silent on issues such as development in the context of the South; equity, both intra- and inter-generational (Christoff, 1996; Davison, 2001); and social concerns in general, particularly their 'softer' dimensions such as 'social cohesion' (Berger et al., 2001; Giorgi & Redclift, 2000; Pepper, 1999)<sup>34</sup>. While Brundtland envisaged sustainable development as a new trajectory for industrial society, sustainable development redefined as 'weak'<sup>35</sup> ecological modernisation excludes any form of critique of the status quo represented by industrial society, material growth and consumption (Berger et al., 2001; Davison, 2001; F. Fischer & Hajer, 1999; Robinson, 2004).

From a personal perspective, undertaking this review has enabled me to reconcile the competing perspectives on sustainability that so confused me at the beginning of my journey. I can see now that in my career as an industrial environmental engineer I was an 'ecological modernist'. My role was to improve the environmental performance of the industrial plants on which I worked, through technical improvements and environmental management systems. I did not challenge the morality of these industries or their place in global politics; in fact, I was oblivious to corporate political power altogether at that time. I took any criticism of my employers' environmental credentials as a personal attack, arguing that everything that could reasonably be expected of industry in the name of the environment was

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<sup>33</sup> For example by setting environmental performance standards, to which business is usually amenable since they provide a degree of market certainty (Berger et al., 2001; Christoff, 1996); the provision of research grants; and supportive regulatory regimes including voluntary agreements and partnerships (Berger et al., 2001; Hajer, 1995), consensual negotiations and supportive market mechanisms.

<sup>34</sup> Recast in the terms of ecological modernisation, the global aspects of the debate have come to mean the globalisation of capital rather than global coordination in achieving sustainability (Davison, 2001). Several European commentators have observed that the concept of equity is also missing from the European Union Fourth Framework Programme on the Environment, which is couched in the language of sustainable development (Berger et al., 2001; Giorgi & Redclift, 2000).

<sup>35</sup> I discuss 'strong' ecological modernisation later in this chapter.

being done. I defended the rights of industry and business in general to grow responsibly. My mission to internalise sound environmental management practices within the business at the micro scale of the individual oil refinery exactly mirrored a macro, policy-level application of the discourse of ecological modernity.

It was from this basis that I first met the idea of ‘sustainability’, and working within the corporate sector as I was, the first conceptualisation of sustainability to which I was introduced was the ‘three pillar’ model of the triple bottom line (TBL)<sup>36</sup>. During my period of sustainability initiation, two particularly notable books that crossed my desk were John Elkington’s (1997) *Cannibals with Forks* and *Natural Capitalism* by Paul Hawken, Amory Lovins and L. Hunter Lovins (Hawken, Lovins, & Lovins, 1999). If these are the Bibles of ecological modernisation as a business strategy, the ‘integration’ of the ‘three pillars’ or the ‘triple bottom line’ of environmental, economic and social concerns is the Holy Grail. This is perhaps the most common interpretation of sustainability, found in business strategies and government policies alike. Of vague conceptual origins (Marshall & Toffel, 2005)<sup>37</sup>, TBL has a special resonance with ecological modernisation, although it does not necessarily share the latter’s focus on efficiency, especially in a planning context (Owens & Cowell, 2002). It also reinstates a version of the social dimension central to Brundtland, although the social has reduced in scale from issues of poverty, equity and social justice at a global scale to mainly local planning concerns.

The effect of the incorporation of TBL sustainability into the UK planning system, as observed by Owens and Cowell (2002) has been the gradual expansion of the concept to include all kinds of issues already taken into account in planning processes, such as ‘amenity, townscape and culture’. Sustainability has become something of a ‘catch all’ (George, 2001), a trend that is viewed with despair from some quarters (Marshall & Toffel, 2005, p674):

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<sup>36</sup> Variations on the TBL concept exist which either reduce the pillars to two (ecological and socio-economic) or add extras, for example ‘culture’ or ‘political’ (Gibson et al., 2005).

<sup>37</sup> Riedy (2005) notes that the Johannesburg Declaration of 2002 (paragraph 5) refers to three “mutually reinforcing pillars of sustainable development – economic development, social development and environmental protection”.

Streets should have sidewalks, and buildings should have wheelchair ramps, but are such design features aspects of sustainability? More environmentally friendly goods and services are desirable, but does that make them or their use sustainable?

The TBL conceptualisation of sustainability raises all conceivable objectives to the same level and perceives sustainability as a balancing act between the competing values and policy goals represented by the three pillars. It is inherently reductionist, as I have argued in Chapter 2. It emphasises the potentially competing nature of the ‘three pillars’ (Gibson, 2001), making trade-offs between them are all but inevitable, as exemplified by the Gorgon case study<sup>38</sup>. Furthermore, while many efforts and even improvements over previous practices have been made by business, governments and others in the name of the TBL, ecological modernisation and sustainable development, there is no evidence that any of these are bringing us any closer to a safer, more equitable and more ecologically sustainable world (Marshall & Toffel, 2005; Owens & Cowell, 2002). Despite these limitations, the TBL is the discourse underpinning most sustainability assessment practice and writing, including the Gorgon and SWY case studies.

### ***7.3.4 The rationalisation of sustainability?***

The discourse of sustainability has thus evolved as a product of modernity. Whereas the first wave of the environmental movement, however, was couched in cultural and normative, rather than technical terms (Davison, 2001), and used “the ecological crisis to reflect on the practices, values, knowledges and institutions of industrial society and therefore to rethink social relationships” (Davidson, 2000, p40), the second wave has become imprisoned within the exterior-focused modernist ‘flatland’ and rationalised<sup>39</sup> (Davison, 2001). This is particularly evident in the mainstream

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<sup>38</sup> Owens and Cowell (2002, p140) note that jobs frequently appear in pro-development arguments, where sustainability is presented as “a national project of progress and growth, where providing jobs for a community with high unemployment and limited economic opportunities could outweigh the minimal environmental effects that a well-managed quarry would cause”.

<sup>39</sup> Rationalisation is a characteristic of modernity itself, “the negative side of the Enlightenment project” (R. J. Smith, 1996, p29). Davison (2001) suggests that the rationalisation of the discourse is epitomised by the proliferation of suites of sustainability indicators. Another example is Dobson’s (1996) typology of sustainability discourses, which is based upon four dimensions: what should be sustained; why; and object(s) of primary and secondary concern, where objects of concern relate to needs and wants, now and in the future, and human and non-human; and the allowable degree of substitutability between human-made and natural capital. Another is Dresner’s (2002, p167) concern with the difficulty of predicting “the extent to which new knowledge and technology will be able to substitute for various natural resources”.

discourses of Government and business, who favour the TBL conceptualisation of sustainability<sup>40</sup>.

Missing from the rationalised version of sustainability, it is argued, are the interior dimensions, the norms, ethics, and values (Davison, 2001; Slaughter, 1998). Similarly, cultural diversity has been “relegated to a care for the diversity of folklore” (F. Fischer & Hajer, 1999, p8), at the expense of a fuller, anthropological understanding of culture as “the implicit systems of meaning and frames of reference that underpin the various institutional practices through which we conduct environmental politics” (F. Fischer & Hajer, 1999, p6), out of which views on preferred social orders emerge (Davison, 2001; Jamison, 2000)<sup>41</sup>. Local perspectives are often limited to expression within instrumental consultation processes in which participation becomes an add-on designed to contribute “a user-friendly aspect to the hardware of technocratic development” (Davison, 2001, p53).

The concern from some quarters is that countercultural movements have been ‘swamped’ by ‘sheer political force’, driven by those whose interests lie in maintaining the status quo, who have strengthened their stranglehold by ‘colonising’ the language of social critique and adopting and redefining the discourse of sustainability (Davison, 2001, p42). The result is that there is no unique language available with which to express these counter views, and that as the sustainability discourse is reduced, important meanings are lost (F. Fischer & Hajer, 1999; McGregor, 2004; Rees, 1988; Rydin, 1999). The danger is that by losing language and meaning, society’s collective capacity for social critique through normative reflection upon how we should live is reduced. The marginalisation of the interior and normative in the prevailing conceptualisations of the sustainability discourse “does not compel existing institutions to reconsider the normative and cultural assumptions and premises underlying their operational practices” (F. Fischer & Hajer, 1999, p4). The assumption is made that the existing structures of modern

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<sup>40</sup> A particularly rationalist view emerged during the SWY interview process when one interviewee said, “I suppose I am a bit of an economic imperialist in that I believe that sustainability is only really conceptually a more extensive and systematic version of cost benefit analysis” (SWY interviews – Sustainability Panel (1)).

<sup>41</sup> Fischer and Hajer (1999, p6) go on to argue, “It is our conviction that the discourse on environmental policy is plagued by the fact that it has been cut off from the cultural dimension of environmental politics. Given that environmental discourse emerged in large part as a cultural critique of modern society, this is more than a little ironic”.

technological society provide the appropriate tracks upon which future development should travel (Davidson, 2000; Rees, 1988)<sup>42</sup>.

In this context “sustainability now seems to have more to do with sustaining the status quo than it does with sustaining the environment” (Denniss, 2005)<sup>43</sup>. This begs the questions: ‘How sustainable is the status quo?’ and ‘How sustainable is modernity?’ While it can be argued from a philosophical viewpoint that any uncritical trajectory of development is dangerous (see for example F. Fischer, 2003b, p216), why is social critique important? I briefly consider these questions in the following section.

## 7.4 The state of the world

Global society in 2006 is a very long way from being sustainable. Slaughter (1998, p519) describes it as:

islands of affluence in seas of poverty and despair; technical virtuosity amid global pollution and species extinctions; profound insight into the structure of the universe contrasted with a nihilistic, often angry pop culture endlessly lost in its own hostility and fear.

It is not my intent here to review the data that describes the state of the world; I believe it is well-known and obvious to those who care that the gap between rich and poor is increasing; non-renewable resources are being depleted; renewable resources are being depleted at far greater rates than can be replaced; social unrest is rife; human-induced climate change is now exerting its influence, not least upon the scarce water resources of Western Australia; ecosystem integrity is decreasing and species are becoming extinct. As Gibson et al. (2005, p14) observe, “If the extraordinary popularity of the sustainability language reveals only one thing, it is widespread recognition that what prevails today is not sustainable and that changes of some sort are needed”.

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<sup>42</sup> Davison (2001) argues that the ‘spaceship Earth metaphor’ that galvanised environmental concern in the 1960s and 70s has become a metaphor for how this spaceship might be overhauled and improved to extend its life.

<sup>43</sup> Denniss (2005) continues, “Coal mining companies champion the need to sustain jobs and exports while impeding serious attempts to reduce greenhouse gas emissions. Farming groups cite the need to sustain their local communities when opposing attempts to reduce the amount of water they take from dying rivers to irrigate their crops. And [genetic modification] companies claim that they simply want to invent sustainable crops when they oppose environmentalists seeking moratoria on the release of new species into fragile ecosystems. Everyone is in favour of sustainability”.

My concern is that the causes of unsustainability are structural and cultural and reach deep into the foundations of modern industrial society, the same foundations that go unchallenged by sustainability recast along rationalised lines (Boyle, Thomas, & Wield, 2000; Davidson, 2000; Davison, 2001; Dovers, 2001; Pepper, 1999)<sup>44</sup>. These have not only become taken for granted and therefore ‘insufficiently problematised’ (Slaughter, 1998) but have become institutionalised (Davison, 2001)<sup>45</sup>.

#### 7.4.1 *The institutions of unsustainability*

Davison (2001, p39) speaks of the “globalised institutions of the technological society” as sources of global unsustainability, enumerating the spread of hyperconsumerism in the North<sup>46</sup>; oppressive conduct by transnational corporations, especially in Southern countries; colonial legacy in the postcolonial corruption and collusion in many Southern governments; hegemony perpetuating the continued use of fossil fuels; and the marginalisation of woman and indigenous peoples (Davison, 2001, pp47-48). Accusatory fingers have equally been pointed at the tendency of the market economy to concentrate wealth and promote inequality, which is itself a cause of environmental and social problems (Boyle et al., 2000; Pepper, 1999), and “the simplistic need to maximise returns on capital for private shareholders” (Boyle et al., 2000, p225), an imperative that provides the platform for the behaviours of transnational corporations operating in the South<sup>47</sup>. Similarly, international organisations such as the World Trade Organization (WTO) and the International Monetary Fund (IMF), and bi- and multi-lateral trade agreements are often cited as institutions of unsustainability, since it is argued that their policies and actions subordinate environmental and social concerns (Dresner, 2002)<sup>48</sup>.

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<sup>44</sup> By way of summary, Slaughter (1998, p519) articulates these as “economic growth, globalization, the pre-eminence accorded to science and technology, and man’s conquest of nature”.

<sup>45</sup> This view contrasts with that which sees “a number of discrete environmental problems that may be resolved by separate action to each one of the – ‘growing pains’, largely incidental to the mainstream of a growing economy” (Caldwell 1999, p5).

<sup>46</sup> Dresner (2002) observes the power of consumerism, noting that even the collapse of communism was not based on political ideals but on the envy of consumer goods, when Eastern economies could not keep up with Western ones.

<sup>47</sup> Furthermore, while the social and environmental aspects of policy are at least partly addressed by ‘civic politics’, the economy is not; much of the power within neo-liberalism rests with business rather than governments, much less civil society. The dangers of this were argued in the recent book and documentary film *The Corporation* (Bakan, 2004).

<sup>48</sup> Similarly it has been observed that within the European Union, while resource exploitation is constrained to some extent by environmental regulation, such regulation is not permitted to create a

Others argue more fundamentally, however, that the inherent characteristics of modern, capitalist, industrialised society that support these institutions and organisations are themselves the root causes of unsustainability (Pepper, 1999). In particular the incompatibility of perpetual economic growth with long-term ecological viability has been noted (Davidson, 2000; Hajer, 1995). According to Fischer and Hajer (1999, p5):

The ecological crisis is the (unintended) consequence of some of capitalism's essential features, such as the continued reliance on economic growth and its insatiable desire to create new markets, as well as its use of such growth to create space for political interventions (thus avoiding active redistribution of resources).

Owens and Cowell (2002, p128) follow a Marxist line in arguing that:

There is an innate tendency in capitalist modes of production to expand and chase profit-making opportunities from region to region, creating problems of social injustice, environmental degradation and resource depletion.

In this context, it has been suggested that perhaps the greater danger of a rationalised, and particularly a tripartite TBL definition of sustainability, is that it can be used to promote economic growth and competitiveness as a legitimate end in itself, rather than a tool for greater intra-generational equity as envisaged by Brundtland, and thus as a promoter of the unsustainable status quo (Denniss, 2005; Owens & Cowell, 2002). The juggernaut of economic growth, however, hardly needs the support or otherwise of the discourse of sustainability and its proponents. Paehlke (1990) draws attention to the work of Kann (1986) and Lauber (1978) who note that economic growth is driven by the power of corporate and political elites, which are becoming ever more powerful through global economic integration (Paehlke, 2003). Economic growth in Western Australia reached a massive 14 per cent in the June quarter of 2006, compared with the same period in 2005, fuelled by resource projects such as Gorgon (O'Brien, 2006). Times are good, complacency is rife, and passion for changing the world is hard to find. Within 'flatland's' absence of depth and meaning, there is a tendency to seek gratification in the material rewards that economic booms make available, which further fuels the demand for

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market 'distortion' and hence this policy mechanism is limited, as it is at a global scale (Owens & Cowell, 2002).

goods and drives the global economy to even more unsustainable heights (Norgaard, 2004).

#### 7.4.2 Reflexive modernity and the Risk Society

Despite the hegemony of the rationalised discourse of modernity and the bleak direction in which it is leading society, ‘chinks in the armour’ are appearing in the form of the “perception of dysfunctions, costs and dangers” within modernity itself (Slaughter, 1998, p520). Giddens (1990, p45) identifies four indicators of the failure of the Enlightenment vision that more knowledge leads to better control: differential power; the realisation that empirical knowledge alone does not provide an adequate basis for choice between different value positions<sup>49</sup>; the impacts of unintended consequences; and reflexivity, whereby “knowledge of that world contributes to its unstable or mutable character”. In turn, the principles of the Enlightenment itself, including positivism and instrumental rationality and the power of expertise that “drove the Industrial Revolution, which, in a word, created the modern world” (Slaughter, 1998, p520) have increasingly been called into question and ultimately reformed (Beck et al., 2003). In this lies hope.

Ulrich Beck argues that society has moved from what he calls ‘first modernity’ to ‘second modernity’ or ‘reflexive modernity’, which he conceptualises as the Risk Society (Beck, 1992; Beck et al., 2003; Beck, Giddens, & Lash, 1994). The Risk Society is evidenced by unforeseen circumstances such as ozone depletion (Litfin, 1994); the Chernobyl and Three Mile Island nuclear disasters; and the ‘mad cow disease’ scare in the UK (Weston, 2004)<sup>50</sup>. Extreme weather events recorded in recent years around the world, such as Hurricane Katrina in New Orleans, could also be seen in this light with respect to human induced climate change. These crisis events were the realisation of unpredictable and high consequence risks of an uncritical faith in science, which can be seen as the ‘unforeseen side-effects’ (Beck et al., 2003) or ‘externalities’ of modernity (Latour, 2003)<sup>51</sup>. It is in the context of

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<sup>49</sup> Thus, ‘wicked policy problems’ as discussed in Chapter 5 and characterised by the Gorgon case study are themselves symptoms of the inherent failings of the modern project.

<sup>50</sup> Rachel Carson’s *Silent Spring* (Carson, 1963) brought one such example into the public consciousness.

<sup>51</sup> The theory of the Risk Society has significant implications for the practice and theory of impact assessment, since its core argument is that unknowable risks can lead to unpredictable impacts. One of very few theorists have engaged with the nature of the society within which assessment is conducted is Joe Weston. Weston (2004, p323) concentrates his analysis on the erosion of faith in

this ‘second modernity’ that the concept of sustainability as I have described it has emerged and evolved (Gibson et al., 2005)<sup>52</sup>.

Beck also calls his Risk Society ‘reflexive modernisation’, because of modernity’s own undermining of its own foundational ideas, “Our central thesis is that the side-effects of modern Western society eventually put its touchstone ideas into question” (Beck et al., 2003). For Beck these touchstone ideas include nation-states, individualisation, gainful employment, exploitation of nature, scientisation and functional differentiation<sup>53</sup>. The transition to the Risk Society is accompanied by “a progressive undermining of the social authority wielded by the twin institutional edifices of science and technology” (Gleeson, 2000). Latour (2003, p36) elaborates:

‘Reflexive’ means, in my reading of it, that the unintended consequences of actions reverberate throughout the whole of society in such a way that they have become intractable. Thus, ‘reflexive’ does not signal an increase in mastery and consciousness, but only a heightened awareness that mastery is impossible and that control over actions is now seen as a complete modernist fiction. In second modernity, we become conscious that consciousness does not mean full control.

Reflexive modernity is characterised by instability, the potential for chaos, conflict between competing frames, and periods of rapid change, the effects of which can ultimately be positive and supportive of sustainability (Innes & Booher, 2003; Laws & Rein, 2003)<sup>54</sup>. Change occurs as societal risks, and awareness and manifestation of those risks, increase. As a result, previously accepted ideas become open to challenge, putting issues of economic organisation and political change back on the agenda, and permits consideration of these issues within the framework of modernity (Dryzek, 1997). Critique and challenge are the hallmarks of the social movements that have “held out other possibilities, the seeds of quite different futures”

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technocratic decision-making and argues that this poses a crisis for EIA, since “the public, including project authorization decision makers, have little real faith in the outcome of assessments”. The conceptualisation of EIA as a learning process is an alternative that fits more usefully with the notion of the risk society, and I return to this argument later in this chapter.

<sup>52</sup> Gibson et al. (2005) see this as the resurgence of an old idea, where the ‘old sustainability’ was grounded in a pre-Enlightenment consistency and security.

<sup>53</sup> See also Section 7.3.1.

<sup>54</sup> It has been suggested that the separations and losses of modernity are at the heart of this instability and chaos: in *The Lexus and the Olive Tree*, Thomas L. Friedman (2000) says, “It seems to me that there is something inherently unstable about a world that is being knit together tighter and tighter by technology, markets and telecommunications, while splitting apart wider and wider socially and economically” (cited in Roberts, 2002).

(Slaughter, 1998, p520), and which are reinvigorated by the realities of the Risk Society. The re-emergence of civil society can therefore be characterised as an effect of reflexive modernity, and the perception of risks and loss in faith in science employed by expert decision-makers that characterise it (Bang, 2004; Dryzek, 2000; Friedmann, 1998; Glasbergen, 1996; Jasanoff, 1996; Laws & Rein, 2003; Owens, 2000; Petts, 2003)<sup>55</sup>. The emergent ‘Network Society’ represents a new, decentralised social and political order in the form of social movements and civil society organisations, as an alternative, or at least a supplement to, the formal institutions of Western representative democracy (Bang, 2004; Hajer & Wagenaar, 2003c; M. Smith, Law, Work, & Panay, 1999; Waddell, 2005; Warren, 1992).

The Risk Society and reflexive modernity have further implications for societal learning, since the traumatic events themselves, which Sabatier calls ‘external shocks’, can be catalysts for learning (Fiorino, 2001; Sabatier, 1993)<sup>56</sup>. Even more profoundly, the sense of unease inherent to the Risk Society may provide the tension that may catalyse the frame shifts or reflexive learning discussed in Chapter 6, since “evidence that the modern world has put its future at risk is persuasive of the need to critically examine the direction toward which future-shaping actions appear to be tending” (Caldwell, 1999, p11). As Jasanoff (1996, p64) points out, “While we worry about the global impacts of human depredation – endangered species, encroaching deserts, polluted oceans, climate change, the ozone hole – we are also forced to ask questions about who we are, what places we belong to, and what institutions and communities govern our basic social allegiances”<sup>57</sup>. The willingness of a society and the individuals within it to reflect and learn is magnified in a world characterised by uncertainty and change (Dryzek, 2000; van der Knaap, 1995). I consider the relationship between the Risk Society, learning and sustainability later in this chapter.

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<sup>55</sup> Owens (2000, p1142) observes a general disillusionment with institutions, whereby the public is “aware of commercial imperatives, sceptical about politics, and distrustful of the competence and impartiality of regulatory frameworks”.

<sup>56</sup> Macro-level social change can have the same effect; according to Glasbergen (1996, p182) in relation to the opening up of Eastern Europe, “In the interplay of these new social forces, environmental policy has to change. New concepts are needed in order to bring the problems under control”.

<sup>57</sup> Similarly, Dryzek (2000, p6) has noted, in a world in which traditions, including belief in positivism and rationality, are becoming less pervasive, “reflexive choice across discourses becomes increasingly possible”.

At this point it is important to note that my belief in the need for fundamental structural change at a societal level has been so strong that it is only recently that I have begun to understand that this view of sustainability and what it means is only one view among many. It was largely through my involvement in the International Association for Impact Assessment (IAIA) conferences, which are attended by delegates from a cross section of developed, developing and economically transitional nations, that I really understood that sustainability has different meanings and different power as a discourse within different contexts. I can see now that economic growth with due consideration of environmental and social impacts, a model that I derided in Chapter 2 and have not considered since, may be an entirely legitimate conceptualisation of sustainability in some cases<sup>58</sup>, since economic growth in the Southern context delivers food, health and education, rather than plasma-screen televisions and mp3 players. The core of the distinction is of course Brundtland's notion of needs and the distinction, arguable and contextual though it is, between needs and wants.

Gibson et al. (2005, p100) also note the difference between sustainability requirements between developing and developed nations, arguing:

The situation is very different in places where the level of material consumption and associated biophysical system burdens is already disproportionately high, and where insecurity is centred on the protection of property rather than the absence of it. In such circumstances, serious contributions to sustainability require a shift in emphasis from yet more material gain to minimally material improvements. In other words, the sufficiency and opportunity requirement in wealthy contexts demands a decoupling of well-being from material growth.

My perspective reflects the context within which I live and work: that is, a Western country with a high standard of living and a fixation with economic growth and consumerism<sup>59</sup>. From this privileged position, I believe that it is both appropriate and morally essential that we Westerners (or Northerners) should reflect upon ourselves,

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<sup>58</sup> Furthermore, the several months I spent in 2004 visiting community development projects in Nicaragua taught me that sustainability is almost a meaningless concept in places defined by poverty, lack of opportunity and oppression, although it heightened my desire to contribute to changing the structures that manifest these social issues.

<sup>59</sup> This is the subject of two enlightening books by Clive Hamilton of the Australia Institute, whose work has been of great influence to me, entitled *Growth Fetish* (Hamilton, 2003) and *Affluenza* (Hamilton & Denniss, 2005).

our attitudes and the effects of our belief systems in supporting the institutions of unsustainability. It is from this position that I now turn to consider the relationship between the discourses of sustainability and the societal-level reflexive learning and change that I have argued is necessary in the name of sustainability.

### 7.4.3 Hope for the future: Trojan horses and magic

The Western Australian State Sustainability Strategy is entitled *Hope for the Future* (Government of Western Australia, 2003b), and in this brief section I consider the hope that lies within the discourses of sustainability, particularly within the Western Australian context.

Firstly, and more generally, it can be argued that despite the limitations of Brundtland's sustainable development in the eyes of those seeking more radical social change, and its subsequent further reduction to a form of business-oriented ecological modernisation, the transformative potential of the discourse was never completely rationalised to the point of being lost. Instead, as already mentioned, in some quarters sustainable development was perceived as a 'Trojan horse' through which more radical social and cultural change, perhaps more aligned with the first wave of the environmental movement with its challenges to the institutions of modernity, could be achieved (Owens & Cowell, 2002)<sup>60</sup>.

At first glance the Western Australian *State Sustainability Strategy* appears to be located in the rationalised discourse of ecological modernisation with a TBL interpretation and a Panglossian bent, which is not unexpected given the prevailing pro-development policy paradigm (see Chapter 1). Sustainability is defined as "meeting the needs of current and future generation through an integration of environmental protection, social advancement and economic prosperity" (Government of Western Australia, 2003b, p24)<sup>61</sup>. This conceptualisation is also reflected in the sustainability principles, the first three of which (entitled *Long-term*

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<sup>60</sup> Although others have counselled caution with respect to the Trojan horse model; for example Davison (2001) cites Winner (1986, p54) who argues that, "Victories won in this way are in other respects great losses. For they affirm in our word and in our methodologies that there are certain human ends that no longer dare be spoken in public. Linger in that stuffy Trojan horse too long, even soldiers of virtue eventually suffocate".

<sup>61</sup> The consultation draft of the document produced one year earlier posed a different definition that was widely criticised through the submission process, which had at its heart assumptions of 'win-win-wins' (Government of Western Australia, 2002a).

*economic health; Equity and human rights; and Biodiversity and ecological integrity* respectively) align with the economic, social and environmental ‘pillars’, with another specifically calling for ‘net benefits’ or ‘win-win-wins’ from development projects (Government of Western Australia, 2003b, p30).

However, there is more to the *Strategy* and the way sustainability has been interpreted in Western Australia than may initially meet the eye. The WA principles were largely drawn from the work of Robert Gibson in Canada (Gibson, 2001), and follow his commitment to crossing the boundaries between the three pillars and including a moral or ethical dimension that is generally missing from rationalised versions of sustainability. The principle of *Hope, vision, symbolic and iterative change* (Government of Western Australia, 2003b, p30), further emphasises a thread of the intangible and the interior, alongside the dominant exterior components.

I first became conscious that our conceptualisation of sustainability had perhaps evolved in a different form from what might be typical in other jurisdictions in an email exchange with a UK colleague about the terminology of ‘sustainability’ versus ‘sustainable development’. He preferred the latter, calling the former ‘loose and meaningless’, while I preferred the former. Our cross-purposes conversation perplexed me so much that I organised a discussion session at ISTP entitled *What does sustainability mean to you?*, which was held on 5<sup>th</sup> May 2005. In preparation I wrote a short document, in which I explained:

I felt that my colleague’s views on sustainable development were somewhat rigid, in a way that the concept of sustainability as it is being discussed and implemented even at the policy level in Western Australia through the *State Sustainability Strategy* doesn’t seem to be. In fact, it has been suggested that the ‘looseness’ and ‘fuzziness’ of the concept has actually been the greatest strength of the Strategy, since it has allowed people to find their own creative ways to make the concept meaningful. Perhaps as a result, the idea of sustainability has evolved into something a little different in WA from other parts of the world. So, if we are different, how are we different?

Following the ISTP discussion, which was attended by some 20-30 people exhibiting a broad range of perspectives on what sustainability meant to them, I wrote some notes on the topics we discussed, in which I reflected:

Perhaps I set the direction of the discussion in commencing by describing a conversation I had with Peter<sup>62</sup> about how sustainability in Western Australia might be different from sustainability or sustainable development in other places, at least in a policy sense. In that conversation he suggested that perhaps the meaning we attach to sustainability has a spiritual component which may be lacking elsewhere, and that this spirituality might actually be the elusive glue of integration between different aspects of sustainability, such as the environmental, social and economic pillars of the triple bottom line.

Peter picked up this theme during the discussion by proposing that ISTP should collaborate on a book entitled ‘The Magic of Sustainability’, the magic arising from the incorporation of ethics, values and spirituality into the work that we do in the name of sustainability, the practical actions through which we try to make the world a better place and to create enduring value. The processes and practices in which society engages, including economic processes, should be guided by a set of values.

I do not intend to conduct an extensive review of the discourse of sustainability in Western Australia, but simply wish to put forward my view that despite the apparent rationalism and pro-development flavour of the *Strategy* and indeed in Western Australian public policy generally, there is a depth here that moves beyond the ‘flatland’ of a truly rationalised ecological modernist approach to also embrace interior dimensions. Furthermore, while it has been argued in different contexts that the ‘softer’ elements of the discourse are all too easily marginalised and prevented from influencing the practices of decision-making (Davison, 2001; Owens & Cowell, 2002)<sup>63</sup>, as was indeed demonstrated by Gorgon, the values-based approach of the SWY case study offers hope that this may not necessarily be the case, in Western Australia at least, even though the starting point may have been the TBL win-win-win model of sustainability. Since the meaning of ‘sustainability’ evolves through action and as a function of “administrative and legal traditions, ecological problems

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<sup>62</sup> Referring to Professor Peter Newman.

<sup>63</sup> For example, Davison notes that while Brundtland speaks of ‘cultural and spiritual values’, this is merely soft wrapping for what is essentially a hard, technical discourse (Davison, 2001). Thus such values are acknowledged but then immediately sidelined. Similarly, in their study of UK planning decisions, Owens and Cowell (2002) found higher-level concepts such as equity, futurity, precaution, holism and global stewardship and the like were relegated to ‘motherhood’ statements in planning documents, and there was little to describe how the plan might contribute to such goals. There is a danger that, at the practical level of individual assessments and decisions, such principles are translated to objectives and criteria that tend to be technical and lacking the higher level, less tangible qualities of sustainability, and revert to TBL categories (Hacking & Guthrie, 2006).

and political cultures” (Owens & Cowell, 2002, p9)<sup>64</sup>, the Western Australian experience suggests that the possibility of an integral sustainability that survives and even flourishes between the cracks of the rationalised discourse.

#### ***7.4.4 Towards an integral sustainability***

I have argued that the current trajectory of modern, industrialised society is fundamentally unsustainable, and that the cultural assumptions and discourses upon which it is founded remain unchallenged in an exterior 'flatland' that marginalises the interior dimensions of reality. In the mainstream of policy and business, furthermore, the discourse of sustainability has itself become limited to the same exterior dimensions that define modernity. The result is that change in the name of sustainability is all too often incremental and limited to peripheral aspects of the problems facing global society, failing to engage with their psychological and cultural roots (Maiteny, 2000). I argue that in place of this rationalised discourse, change towards a more sustainable society requires an integral conceptualisation of sustainability.

Recalling the framework and language of previous chapters, an integral approach to sustainability takes an holistic perspective that acknowledges and embraces the exterior and interior, individual and collective dimensions of reality and the inter-relations between them (Slaughter, 1998; Wilber, 2000)<sup>65</sup>. An integral sustainability thus considers the role of science, of behaviours and actions, and of institutions and social structures in shaping the world, but pays equal attention to the interior dimensions that underpin them. As Maiteny (2000, p342) argues, “All (these) dimensions...are necessary for any human system to function effectively and sustainably. Exclude one and the whole becomes dysfunctional, partial and distorted”. The concept of an ‘integral sustainability’ thus represents the fullest understanding of ‘integration’ as applied to sustainability and sustainability assessment.

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<sup>64</sup> Owens and Cowell (2002) demonstrate regional variation in the interpretations of sustainability in regional plans, and correlate these with the prevailing political imperatives, and particularly the tension between growth and constraint.

<sup>65</sup> Maiteny (2000, p339) reflects all four dimensions when he speaks of “the mutual dependence between eco-social and psycho-cultural realities”.

From the perspective of the interior collective, integral sustainability invites us to “wander outside the ‘black box’ of technology into the wider worlds of culture and history” to supplement “the analytical tool-kit of business management with other frameworks of interpretation” (Jamison, 2000, p259). Through this level of deep understanding we find room for ethics and values and questions of what is right (Davison, 2001)<sup>66</sup>. This perspective permits recognition that the causes of unsustainability that are culturally grounded in the discourses of modernity, shape the structures of society, and give form to the behaviours and agency of individuals within it (see Chapter 5). With this recognition comes the potential for the deep reflexivity and critique I have argued is necessary in the name of sustainability.

An integral sustainability also emphasises the contribution to the formulation of reality of the interior individual dimensions, encompassing psychological and spiritual aspects, in a way that does not appear often in discussions of public policy (Maiteny, 2000). In turn, the way that individuals within a society seek fulfilment is collectively expressed in the prevailing culture, and therefore social change requires transformation at the individual level, transformation that involves the heart and not just the head (Beck, 1995; Christopher, 1999; Maiteny, 2000; Slaughter, 1998). Whereas the modern technological society reinforces the ‘lowest common denominator’ of human development, in the form of individualism, self-interest, egotism and a ‘poverty of the higher self’, sustainability calls for the development of individuals’ responsibilities, values, ethics and reflexive capabilities (Davidson, 2000; Norgaard, 2004; Robinson, 2004)<sup>67</sup>.

A transformation towards personal sustainability is marked by a shift from seeking joy in material consumption to other forms of fulfilment such as personal development, community work or spiritual practice (Norgaard, 2004). This shift may

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<sup>66</sup> Owens and Cowell (2002) illustrate the limitations of an approach to sustainability that relies heavily on the natural sciences and other forms of technical analysis that produce ‘facts’, using the example of conservation. Ecological science can contribute to the debate by providing data about the effects of habitat quality on a species, for example, but cannot do this unambiguously or define what level of precaution should be applied. Neither can it tell us whether the protection of this species is a good thing in the first place.

<sup>67</sup> Emphasising the importance of the interior individual, Maiteny speaks of the ‘inner limits’ of sustainability in contrast with the more commonly discussed ‘outer limits’ of the Club of Rome’s *Limits to Growth*. He (2000, p355) argues that, “new beliefs and meanings – including religious – that cause less ecological pressure will not emerge until [they are] seen as legitimate ways of seeking internal psychological sustainability”.

be catalysed by a deep sense of unease that emerges “when we begin to doubt the integrity and meaningfulness of what we are doing” (Maiteny, 2000, p350). This uneasiness is, in turn, a form of the tension discussed as catalysts for personal reflexivity in Chapter 6, but is more profound than the mainly cognitive discomfort discussed there. Rather it is a kind of ‘post-modern’ angst and sense of powerlessness arising from the sense of social dislocation and alienation experienced by many in the Western world, and by the uncertainties of the Risk Society. Its transformative potential extends beyond reflection and questioning to a search for deeper meaning and the reformulation of fundamental values (Beck, 1992, 1995; Christopher, 1999; Maiteny, 2000).

Such transformation from materialism to forms of psychological or spiritual nourishment would have the tangible effect of curbing the consumerism that is rife within Western societies and thus reducing the demand on the Earth’s resources. It would also “help restore respect and care for other human beings as well as for the natural environment on the planet Earth” (Narayanan, Marinova, & Kenworthy, 2006a, p5). Other pathways for change can also be identified: as Maiteny (2000, p355) observes, “The more individuals who take responsibility for their own personal...development and find new ways to tackle it, the more legitimate such change will become to other individuals, setting up a positive feedback process”. This in turn builds capacity so that ‘the evolved capabilities of the human mind and culture’ equip humanity to comprehend the consequences “of its accelerating, far-reaching impact upon its environment and thereby upon itself” (Caldwell, 1999, p7), and beyond comprehending, to bring about change.

The need for personal transformation towards sustainability is reflected in calls for individuals to develop ‘ecological consciousness’ (Christopher, 1999), ‘environmental rationality’ (Gundersen, 1995) or ‘ecological enlightenment’ that provides a “phenomenological correction to a political economic understanding of the environmental crisis” and by extension to issues of sustainability (Beck, 1995, p125). Ecological consciousness moves past a cognitive, information-driven perspective on the nature of the environment and sustainability, to reach an holistic understanding of the relationships between self, society and nature and to break down the artificial barriers that the modern project has placed between them

(Christopher, 1999). Recalling the ISTP discussion mentioned previously, this reconnection and reintegration is the hope of those who call for a spiritual dimension to sustainability and to find links between spiritual practice and sustainable communities (Chile & Simpson, 2004; Narayanan et al., 2006a; Narayanan, Marinova, & Kenworthy, 2006b).

Integral sustainability is thus a journey towards change, a journey that embraces all of these dimensions of reality, and whose ultimate destination is a reconnection of the separations of modernity in a way that is sustainable<sup>68</sup>. As Slaughter says (1995, p173, cited in Slaughter, 1998):

[W]hen a right relationship is re-established between people, culture and technology a whole new world of options emerges. This is the key which unlocks the future, takes us beyond the collapse of industrialism, moves us decisively beyond the abyss, proves that there can indeed be ‘light at the end of the tunnel’<sup>69</sup>.

## 7.5 Sustainability assessment for sustainability

At this point I return to the question with which I commenced my research: *How can sustainability assessment contribute to sustainability?* Although I believed in 2003 that I had already answered this question, the trajectory of this research is testament to my gradual process of disillusionment with my early ideas and emergence of new ways of understanding the depths of this issue. I begin here by reflecting on my learning process to articulate a new argument for the potential contribution of sustainability assessment to a more sustainable future, within the context of the Risk Society.

### 7.5.1 A top-down approach?

In 2003 I advocated a Government-led, top down approach to sustainability assessment based on a clear definition of what was and was not sustainable (Pope et al., 2004). Through the course of my research, as documented in this thesis, I gradually became aware of limitations of this approach, and have come to realise that

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<sup>68</sup> Somewhat ironically, boundaries between nation states are already being broken down at the same time that boundaries between individuals and society are being strengthened (Roberts, 2002). Similarly, Dryzek (2000, p6) speaks of the ‘well-guarded boundaries’ between humanity and nature, compared with the less well-guarded ones between states.

<sup>69</sup> While this reconnection may appear utopian, it should not be dismissed as an impossible dream, since, as Caldwell (1999, p12) points out, “[T]he unprecedented material achievements of the twentieth century would have been considered utopian in the nineteenth century”.

my proposed solution was based in a rationalised conception of decision-making that is politically naïve as well as practically difficult (Chapter 4). With the wisdom of hindsight, I realise that this proposal was a product of my education and professional life as an industrial environmental engineer, coupled with my growing concern for the future of the planet, a belief in the power of Government, and a concern with the prevalence of the Panglossian win-win-win conceptualisation of sustainability.

I was not alone in my calls for a ‘top down’ approach to managing environmental and sustainability issues<sup>70</sup>. Strong Government has often been seen as an unfortunate but necessary evil, particularly by those who adhere to a survivalist orientation (Dryzek, 2005). For example Paehlke (2004) reviews the work of Ophuls (1977) and Heilbroner (1974) (whom he categorises as neo-Hobbesian and neo-Malthusian respectively), who independently and regretfully reached the conclusion that environmental imperatives were incompatible with the principles of democracy, and that strong government represented the only possible solution to the ecological crisis.

Various recommendations are made as to what might be required of such Government in the name of sustainability. For example, Weale (1992) argues that Government should facilitate a process of ecological modernisation<sup>71</sup>, while Christoff (1996, p488) elaborates:

Such state activity would entail an integrated regulatory environment and strong structural and process cross-linkages between different parts of the state and development of a synoptic and reflexive use of environmental information in policy formation and implementation.

Speaking specifically of impact assessment as a tool for sustainability, Dovers (2002) advocates strategic environmental assessment (SEA) as a tool for reform in the hands of strong government. He suggests that SEA should be applied to any decision that has the potential to affect patterns of settlement and governance, production and consumption, and to the structures and institutions of society, in somewhat the same way as Australian policies and laws were reviewed in the

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<sup>70</sup> Interestingly, Gundersen’s (1995) research found that as individuals increased their ‘ecological consciousness’ they began to call for stronger government.

<sup>71</sup> Weale (1992) also suggests that the success of ecological modernisation as a policy discourse in Germany and the Netherlands has been a direct result of government intervention

context of the National Competition Policy<sup>72</sup>. Similarly, it has been suggested that impact assessment processes be applied as a matter of policy to existing unsustainable practices (Jenkins et al., 2003).

Any call for strong Government to address issues of unsustainability, however, sits uneasily within the neo-liberal political economy, in which the primary role of Government is to support and facilitate economic growth and innovation. The assumption is that common interests are ‘whatever the invisible hand cranks out’ (Ophuls & Boyan, 1992), despite that markets are designed to meet our potentially unlimited wants and therefore work in direct contradiction to the idea of limits (Gundersen, 1995). Paehlke (1990, p196) has called this ‘the politics of laissez faire’, and warns of the dangers of a system in which private interests through their relationships with the bureaucracy have come to determine public interests, and “individual decisions add up to an ecologically destructive macro-decision”. Even if strong Government were a modern political reality, change towards sustainability would also depend upon what Passmore (1974, p183) calls “the implausible assumption that the authoritarian state would be ruled by ecologist-kings”. That is, even if we had strong leadership, as opposed to laissez-faire governance, it is unlikely that these leaders would be of a green persuasion and perhaps even less likely that they would ‘know what to do’ (Szerszynski, 1996).

Similarly pessimistic, Dresner (2002, p139) examines sustainability as a sociological and political project, drawing parallels with communism and noting, “The paradox is that sustainability is a philosophy based firmly on the notion that attempts to transform nature are likely to be self-defeating, but is itself committed to transforming society and control its future direction” through command and control Government. Furthermore (Dresner, 2002, p168):

The central idea of Progress was that rationality could be used to master nature and to build a better society. Sustainability is a rather similar idea in that its implementation also requires the use of rationality and science. The main difference is that it is less optimistic about our ability to ‘master’ nature. But the belief that we will actually be able to achieve something like sustainability seems to be based on optimism that it is possible to predict

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<sup>72</sup> It has been recognised, however, that policy-level assessment is notoriously difficult and consequently rare (Bailey & Dixon, 1999)..

or direct the future and that it will prove possible to persuade people to act not just rationally, but with altruism towards future generations. It could be said that the search for sustainability is the continuation of modernity by other means<sup>73</sup>.

In addition to its practical limitations, however, the strong Government model of reform reinforces a rationalistic orientation and thus remains in ‘flatland’ (Slaughter, 1998), where the focus is on better information and better processes, but the paradigms, discourses and institutions of the status quo remain unchallenged (Owens & Cowell, 2002). It may, in fact, intensify the rationalisation process by “bringing the environment under more direct control of experts through the increased institutional control of the environment” (R. J. Smith, 1996, p26)<sup>74</sup>.

Perhaps most importantly, the top-down approach to sustainability governance sits uneasily within the context of the Risk Society, which defies such forms of control. Rather than viewing the emergence of a reflexive form of modernity as a threat to sustainability (as argued for example by Dresner, 2002)<sup>75</sup>, however, the current period of change and uncertainty should rather be understood as an opportunity for learning and change (Christoff, 1996; R. J. Smith, 1996). I have argued earlier that change towards sustainability calls for social critique supported by the reflexive capacity of individuals. I submit here that sustainability assessment provides an appropriate forum for critique, not through a voice of protest crying from outside the mainstream of society, but rather working within the institutions of modernity exploiting the ‘chinks in the armour’ of the Risk Society.

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<sup>73</sup> Relatedly, Gibson et al. (2005, p90) have noted, “Many of the profoundly regrettable actions of the modern era have been characterized by the hubris of authorities attempting to impose a single, simple vision of enlightenment, civilization and/or progress”.

<sup>74</sup> In the literature review of Chapter 2, I argued against the three pillar or TBL inherently integrative sustainability principles to overcome some of these concerns (see also Gibson et al., 2005). My intent was to retain some of the less tangible dimensions of the sustainability discourse in this way, although this proved difficult in practice as documented in Chapter 4 (see also Hacking & Guthrie, in press 2006). In retrospect, this was an attempt to include subjective or interior elements in a strictly rational process that was based on a notion of absolute definitions of sustainability and a conceptualisation of sustainability as a ‘state’ (Pope, 2004a).

<sup>75</sup> To some advocates of strong government, reflexivity is the enemy of the sustainability project, firstly since it is the way in which ‘we got into this mess’ (Dresner, 2002, p140), and secondly because increased risk and uncertainty prevents a blueprint for reform being drawn up. Dresner sees little hope in this route since, “In an irony of history, the rhetoric of sustainability was adopted onto the political agenda in the 1990s at precisely the same time that the classical political philosophies that could support its concern (democratic socialism and social democracy) were being abandoned by politicians on the centre left as they moved towards neoliberal free market ideology” (Dresner, 2002, p135).

### 7.5.2 Sustainability assessment for integral sustainability and change

Recalling the argument of Chapter 6 that sustainability assessment can catalyse interior learning and reflexivity, I now submit that it is through these mechanisms that sustainability assessment can realise its greatest potential for societal change towards sustainability, a potential that has long been recognised in forms of impact assessment dating back to *NEPA* (Bartlett, 1986; Boggs, 1993; Paehlke, 1990). The need for both individual and collective learning within this macro context has been recognised (Michael, 1993, p83):

The situation is so serious that there is now no ethical or operational alternative other than to accept the great risks and effort involved in becoming learners as persons and institutions.

In the following discussion I consider the possibilities for learning within sustainability assessment, and specifically how they might contribute to an integral sustainability that embraces its exterior and interior, collective and individual dimensions and that might in turn contribute to a positive process of societal change.

Firstly, collective reflexivity, through which new shared realities are constructed (F. Fischer, 2003a; Poncelet, 2001) can and must extend beyond the storylines framing an individual proposal, as in the SWY case, to extend deeply into the macro-level discourses of modernity; in other words deliberation “connects the first-order discursive practices in the institutions with the second-order critique of the institutions themselves” (F. Fischer, 2003a, p228). The potential for such multi-layered reflexivity was noted in Chapter 6, drawing from the case studies, in which ‘bigger questions’ were asked, although not answered, and also from the literature (Argyris & Schön, 1996; Sinclair & Diduck, 2001). Healey et al (2003, p67) argue that unless the changes “penetrate into the deeper cultural level, such shifts may only have limited impact on practices”<sup>76</sup>.

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<sup>76</sup> Similarly, Owens and Cowell (2002, p24) conclude that there has been a significant change in the discourse of planning but reserve judgment as to whether this is “associated with sufficient power to challenge dominant paradigms of growth”. They question the ability of planning processes alone to drive change, paralleling the calls within the impact assessment literature for a deeper understanding of political decision-making processes rather than a fixation with procedural improvements.

Specifically, sustainability assessment can be a facilitated social process by which the problems, anxieties and issues of the Risk Society can be given focus and articulation through the lens of the decision at hand, and a forum through which they might be kept contestable in a way that catalyses learning (Gottweis, 2003; Meppem & Gill, 1998). This will be by necessity an incremental process that proceeds decision by decision but which should not lose sight of the ultimate goal: as Boothroyd (1995, p122) has argued: “The trickle-down growth paradigm – which is at the root of the problem – needs to be explicitly revealed and confronted, policy by policy, decision by decision”<sup>77</sup>. The purpose of sustainability assessment is therefore not to answer questions, but to permit them to be asked.

In this way, sustainability assessment can be a process of what has been termed ‘reflexive ecological modernisation’, whereby discourse of ecological modernisation, as discussed earlier, takes on a more radical orientation aligned with the learning perspective through a linkage with the notion of reflexive modernity itself (Hajer, 1995). Change is driven from within the institutions of modernity through learning and reflexive transformation. This equates to Christoff’s ‘strong’ ecological modernisation that operates “in the broad and reflective manner of ecological critique which fundamentally questions the trajectories of industrial modernity” (Christoff, 1996, p496) and stands “in opposition to industrial modernity’s predominantly instrumental relationship to nature as exploitable resource” (Christoff, 1996, p495)<sup>78</sup>.

I argued in Chapter 6 that tension, or ‘cognitive dissonance’, provides the catalyst for reflexivity and forms of learning that lead individuals and groups to excavate and reconsider the often hidden assumptions and beliefs upon which their opinions and views are grounded. The concept of sustainability itself is a rich source of these tensions, and therefore decision-making processes that actively engage with it, such as sustainability assessment, are fertile grounds for the kind of transformative learning that is a necessary precursor to an integral sustainability. In both the Gorgon and SWY case studies, the dimensions of sustainability as an integrated concept

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<sup>77</sup> Similarly, Gibson et al. (2005) conclude, “It is about making the world better, one undertaking at a time”.

<sup>78</sup> Similarly Weale (1992, p31-32) suggests that the gradual internalisation of environmental concerns can eventually lead to this crossing of “the line from mechanical to moral reform”.

were exposed and the inherent tensions wrestled with in ways that were sometime productive and sometimes not. As Robinson (2004, p382) has said, however, “The power of the concept of sustainability, then, lies precisely in the degree to which it brings to the surface these contradictions and provides a kind of discursive playing field where they can be debated”. A Panglossian perception of sustainability ‘papers over’ these tensions (Owens & Cowell, 2002) and in avoiding them fails to acknowledge the gift of ‘agonism’ (Hillier, 2003) (see Chapter 5)

Beyond consideration of the specific tensions within the discourse of sustainability, it is important to retain the idea that the concept of sustainability itself is ambiguous (Rydin, 1999)<sup>79</sup>, ambivalent and ‘essentially contested’, defying “definition, resolution and closure” (Davison, 2001, p61). In this lies its political value and strength (Davison, 2001; Dryzek, 1997; Gibson et al., 2005; Robinson, 2004; Rydin, 1999), not just to keep everyone at the table under false pretences, but to provide the catalyst for reflexivity and a discursive space, or “axis around which discussion can occur” (Owens & Cowell, 2002, p14). In Davison’s (2001, p4) words:

In considering the idea of sustainable development, we need to hold the central ambiguity of notions like ‘development’ and ‘sustainability’ before us. We need to uphold this ambiguity publicly, or so it seems to me, because only in this way are we likely to be stimulated to think deeply and openly about the nature of our latemodern crisis. The slavish pursuit of absolute certainty has long fed the roots of modernity’s predicament. It is extremely concerning, therefore, that the discourse of sustainable development is becoming increasingly dogmatic, technocratic and hegemonic<sup>80</sup>.

The practical implications of retaining a degree of ambiguity within decision-making and sustainability assessment must be considered, particularly since Chapters 4 and 6 promote the idea that each sustainability assessment should be guided by a ‘sustainability decision-making protocol’, comprising the sustainability ‘factors’ to be considered and objectives and acceptability criteria for each as appropriate. For this I may well be accused of taking a reductionist stance that seeks to convert the

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<sup>79</sup> The denial of the power of ambiguity reflects the erroneous view that there is a right and wrong and the goal is to persuade others of the right answer, and that “[a]mbiguity is a linguistic veil which can be lifted to reveal the truth” (Rydin, 1999, p468).

<sup>80</sup> Similarly, Robinson (2004, p374) argues that “Diplomats are familiar with the need to leave key terms undefined in negotiation processes and in much the same way the term sustainable development may profit from what might be called constructive ambiguity”.

ambiguous to the well-defined, in much the same way as did my ‘assessment for sustainability’ model of Chapter 2.

As I have argued throughout this chapter, however, I now agree with Owens and Cowell (2002) that the idea of operationalising a predefined and widely-accepted understanding of sustainability is erroneous<sup>81</sup>, although I believe that a primary level interpretation of the concept is important to guide and frame a sustainability assessment process<sup>82</sup>. Furthermore, the protocol does not need to be reductionist in spirit, although it may appear to be so in form. While in some cases the protocol will call for scientific data predicting impacts that can then be assessed against the defined objectives and acceptability limits, as Owens and Cowell (2002, p54) argue in relation to technical approaches, “What matters is that policies be defensible, which may require deliberation and judgment as well as science”<sup>83</sup>. Deliberation provides a counter to reductionism, and the protocol can serve the purpose of holding a deliberative space in which deeper level interpretations may emerge, and value judgments through practical reason can be made. In this way, there is still room for the ambiguity of the concept and tensions inherent in the choices to be made, which might be concealed at the beginning of the process, to be revealed<sup>84</sup>. The SWY case study exemplified this.

Deliberation within processes of sustainability assessment, however, can precipitate not just the readjustment and clarification of goals and interests exemplified by the SWY case study, but also the more fundamental value realignment within individuals that I have argued earlier is essential to an integral sustainability (Poncelet, 2001; Warren, 1992). For example, Gundersen (1995, p5) argues

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<sup>81</sup> Owens and Cowell (2002) argue, “Planning is not so much a mechanism for implementing sustainable development as an important forum in which different interpretations come to be contested and defined. There is no prior *conception* of sustainability (as opposed to the broader, consensual concept) independent of this process” (Owens & Cowell, 2002, p8).

<sup>82</sup> The Gorgon case demonstrated the need for a protocol, while the SWY highlighted its effectiveness as a catalyst for learning despite that most objectives and criteria could not be defined in any rigid, quantitative sense, and desired outcomes often only became apparent through the process of decision-making and in the context of the whole.

<sup>83</sup> Similarly, Gibson et al. (2005, p91) argue, “We can keep our decision criteria visible and available for debate. Clear and openly debated criteria and rationales for evaluations and decisions at least serve the interests of greater accountability and easier learning from mistakes. Hopefully in most cases they will also foster better initial decisions”.

<sup>84</sup> At one level it may not even matter how well the protocol is defined in the first instance as long as it serves this purpose, and it may be quite appropriately challenged and redefined throughout the course of the decision-making process.

confidently that “political deliberation and environmental rationality are linked: political deliberation enhances environmental rationality”. Speaking specifically of a collective process of ‘environmental deliberation’, he suggests that this “challenges citizens to move beyond their present beliefs, develop their ideas, and examine their values. It calls upon them to make connections, to connect more firmly and fully with the people and world around them” and thus provides an antidote to modern separation (Gundersen, 1995, p10). Thus deliberative sustainability assessment, as well as more autonomous spiritual and psychological development, may facilitate the emergence of individual ecological consciousness.

For reflexive learning, either collective or individual, to be transposed into structural change, discursive and value changes must be linked to institutions and practices (Gundersen, 1995; Jamison, 2000)<sup>85</sup>, and it has been observed that within a broad policy and institutional context generally inhospitable to sustainability, institutional change fails to materialise<sup>86</sup> (Dryzek, 1997; Owens & Cowell, 2002). Time and a degree of luck are often cited as necessary ingredients in the coupling of contextual ‘software’ and ‘hardware’. For example, Kingdon (1995) suggests a fortuitous alignment of what he calls the three streams of ‘problem, policy and politics’ facilitated by ‘policy entrepreneurs’, an argument tentatively endorsed by Owens and Cowell (2002) in their study of UK transport policy. Others propose that this connection is most likely to result from some form of external shock or crisis that might be sufficient to change the tracks along which a policy subsystem travels (Sabatier, 1987).

Both these theories depend upon political realities in that they require an “unmistakable public recognition of the need for change” (Caldwell, 1999, p12) before change is likely to occur. This implies the need for a ‘critical mass’ of ‘ecologically conscious’ individuals gradually transforming their political contexts through their actions and by contributing to a new collective consciousness. These individuals may act by joining the groundswell of social reform movements that

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<sup>85</sup> Similarly, Giddens (1990, p155) has argued, “We must keep to the Marxist principle that avenues for desired social change will have little practical impact if they are not connected to institutionally immanent possibilities”.

<sup>86</sup> For example, in their analysis of transport planning in the UK, Owens and Cowell (2002) speak of the ‘parallel universe’ phenomenon whereby decision-making processes might be deliberative and inclusive in reaching a recommendation but having no influence on the institutions and organisations ultimately responsible for decision-making.

operate outside the institutional mainstream but provide a glimpse of possible futures and also contribute to their realisation (Giddens, 1990; Pepper, 1999). Although perhaps slower (Slaughter, 1998, p521):

critique, protest, and perception of dysfunction are all starting points for recovery.

Women did win the vote. Environmental awareness did spread and become a mainstream concern. A truly vast range of social innovations – from trade unions to alternative technology and permaculture – have sprung up around the world<sup>87</sup>.

Social movements also provide a potential link between local and the global levels of change, whereby “each individual protest (is) part of a larger conversation” (Laws & Rein, 2003, p203)<sup>88</sup>. Although the idea of reformist movements operating outside the mainstream societal institutions recalls the marginalisation of the first environmental movement, social reform movements have recently been reinvigorated by the gradual emergence of the ‘Network Society’, as discussed previously.

The transformative potential of a radically-orientated ecological modernisation is generally linked with arguments for enhanced democracy, to which I alluded in Chapter 6 (Ashford, 2002; Barnet, 1981). The substantive benefits of broad community engagement processes were discussed briefly in Chapter 4, and it can now be more clearly seen that they can be categorised as either ‘exterior’ or ‘interior’. Examples of the exterior benefits include the opportunities for members of the public to learn more about policy decisions and to contribute ‘lay’ knowledge to complement the contribution of the technical ‘experts’, often leading to a greater acceptance of the final decision and an increased trust in the responsible institutions (F. Fischer, 2003a). On the other hand, reflecting an interpretive understanding of policy processes as a form of phronesis (see Chapter 5), it has also been argued that the ethical dimensions of policy making can only be embraced through inclusive and deliberative processes, since it is only possible in this way to know what is right (Owens, 2000). In the words of Sagoff (1987, p290), “The exact nature of the public

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<sup>87</sup> Despite the relatively recent transition to reflexive modernity, critique and reform have in fact always been inherent within modernity. Examples include those whose jobs were replaced by machines during the industrial revolution, those such as Marx who fought for alienated workers within the capitalist system, the early environmentalists, Rachel Carson and others (Slaughter, 1998).

<sup>88</sup> Laws and Rein’s (2003) study related to communities affected by waste management sites. They found that Communities link up with other communities and exchange ideas and strategies, leading to a growing movement.

interest or the public good cannot be determined apart from political judgment and deliberation”.

However, where the goal is an integral sustainability, the greatest benefit of inclusive and deliberative processes lies in their potential to facilitate interior learning and reflexivity. The processes of developing new shared frames of meaning that penetrate and challenge the discourses of the unsustainable status quo<sup>89</sup>, and of facilitating the emergence of ecological consciousness, are likely to be enhanced by the deliberative participation of a wider cross-section of people with correspondingly diverse worldviews and beliefs. Echoing the sentiments of the SWY interviewees who spoke of their wish that ‘everyone could be involved’ in such processes (see Chapter 6), wider engagement in sustainability assessment processes can also contribute to achieving the critical mass within “an emerging counterhegemonic consciousness: one that the victims of increasing failures within the mainstream approach to sustainable development might need to draw on before long” (Pepper, 1999, p30)<sup>90</sup>.

My argument for deliberative sustainability assessment does not advocate a Habermasian ideal of ideal communication with the aim of achieving consensual decision-making, but rather, recalling the discussion in Chapter 6, concentrates upon the potentially transformative effects of deliberation and reflexive learning extending beyond the immediate decision. Furthermore, while calls for deliberative and inclusive policy processes evoke the tensions between the macro-level structuring Foucaultian, and micro-level communicative Habermasian conceptions of discourse (Dryzek, 2000; F. Fischer, 2003a), “[a] more sophisticated view understands an interaction between the larger forces of social change and the more gradual struggles that take place in and through the institutions” (F. Fischer, 2003a, p229). Deliberative sustainability assessment thus operates between the cultural and the structural dimensions, and between the specific and the contextual, to facilitate an iterative process of learning and change towards an integral sustainability.

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<sup>89</sup> Dryzek (2000) emphasises the importance of critique in his model of deliberative democracy.

<sup>90</sup> A similar argument has also been made in relation to impact assessment, which has been perceived as a ‘democratic window’ into the bureaucratic state and an enhancer of change (Paehlke, 1990).

## **7.6 Conclusion**

It can not be denied that sustainability is ‘an essentially contested concept’ (Davison, 2001). To paraphrase George Orwell, however, I have argued in this chapter that some conceptualisations of sustainability are more equal than others. From the context of a comfortable life in the rich North, sustainability calls upon us to examine the foundations of our society and to question whether they enable the protection of the environmental and ecological integrity, and whether they permit others, removed from us in place and time, opportunities to meet their own needs. While there have long been those who have criticised the current trajectory of modernity, their voices have often fallen on the deaf ears of institutions within which it is unquestioned. The perceived rationalisation of the discourse of sustainability has exacerbated this problem and led many to despair.

I submit that sustainability assessment provides a mechanism through which critique and transformation may enter the citadel of these institutions. Its power and potential as a process of learning and reflexivity arises from the inherent tensions within the discourse of sustainability, which provide the catalysts for deliberation and learning, and which are amplified by the uncertainties and unease inherent to the Risk Society. Sustainability assessment can thus be a mechanism not just to enhance the sustainability of individual decisions, but to support the emergence of an integral sustainability that recognises the importance of science and the power of institutional structures, but also calls for a reflexive questioning of the foundational assumptions upon which they are constructed, and for personal and cultural transformation.

It is only by understanding the world in a way that encompasses both the exterior and the interior, the individual and the collective dimensions, and all the multi-dimensional complexity of social reality (Fischer 2003b) that change becomes possible. In my concluding chapter, I draw together the threads of my argument to consider how sustainability assessment might be conducted and facilitated to support this process of learning and change.



## Chapter 8: Towards a theory of sustainability assessment

### 8.1 Introduction

The journey that began with literature-induced confusion, sustainability assessment working groups, and a growing conviction that the Gorgon assessment process conducted by the Western Australian Government neither served well as an example of sustainability assessment nor contributed to sustainability itself, has led me down many paths to this point, where it is time to interweave the various threads of my argument. From the beginning, my purpose has been to contribute to the process of theory building for sustainability assessment. Recalling Cashmore's (2004) assertion that the starting point for developing a theory of impact assessment should be a clear articulation of its substantive purpose, supported by an understanding of the causal mechanisms that might contribute to this purpose, my thesis in its simplest form is that *sustainability assessment should serve to enhance both the sustainability of the proposal at hand and the sustainability of the context within which it is conducted, and that it should do so by facilitating learning within a process framework that encourages deliberation and reflexivity. The primary purpose of sustainability assessment is, therefore, not to answer questions but to permit their being asked.*

My view that the purpose of sustainability assessment is to contribute towards sustainability has not changed from the beginning of my research process, while my understanding of the way it might achieve this purpose has shifted considerably. Through the process of personal learning and reflexivity that has led to this fundamental change of perspective, I have developed a conceptual model through which the dimensions of learning through sustainability assessment, and the potential for change to result from this learning, might be understood. This model acknowledges the interrelatedness of exterior and interior, and collective and individual dimensions of knowledge, public policy, and ultimately society as a whole, and I argue that change towards sustainability calls for learning and capacity development in all of these dimensions. Though my research has been grounded in the context of Western Australia in the period from 2002 to 2006, and the stories I tell relate to this time and place, the conceptual framework is universal and transferable. I believe it may offer hope to other Western jurisdictions struggling to

incorporate sustainability into policy decision-making within a culture of neo-liberal obsessions with economic growth and consumerism.

In this concluding chapter I begin by recalling the journey, drawing particularly on the analyses of Chapters 5, 6, and 7 and identifying the contribution of each to addressing my first research question: *How can sustainability assessment contribute to sustainability?* Then, again following Cashmore (2004, p415), who argues that procedures must be developed as a product of “an exhaustive understanding of the purposes of [sustainability assessment]<sup>1</sup> and the causal processes utilised to achieve these purposes” and that “[p]rocedural provisions are the means to an end, not the theory nor the end itself”, I revisit my second research question: *How should sustainability assessment be conducted to maximise this contribution?* Here I build upon the discussions of application and process methodologies begun in Chapter 4 and continued in Chapter 6.

I submit my thesis in a mood of optimism, believing as I do that although only small steps have been made, the Western Australian experiences demonstrate the potential for sustainability assessment to be a tool for change towards sustainability.

## **8.2 Recalling the research journey: Towards understanding the contribution of sustainability assessment**

Following the introductory remarks, methodological overview, and establishment of the context for this thesis in Chapter 1, Chapter 2 represented the first recorded stage in my journey towards understanding the potential contribution of sustainability assessment to a more sustainable society. Here I described the initial confusion shared by members of the Western Australia policy community as we came together to try to understand sustainability assessment and how it might be applied in Western Australia, and I presented my initial views on how sustainability assessment could contribute to sustainability based upon a review of the impact assessment literature (Pope et al., 2004). I have reflected on this early view continually throughout this thesis, documenting my process of reflexivity and learning.

The story of the integrated, strategic assessment of the proposed Gorgon gas development on Barrow Island, told from the perspectives of those involved, was the

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<sup>1</sup> The reference in the original is to EIA (Cashmore, 2004).

subject of Chapter 3, while Chapter 4 was devoted to extracting lessons from the Gorgon experience, mainly by analysing the case study against the impact assessment literature. I drew a number of conclusions for appropriate process methodologies and institutional arrangements for sustainability assessment that provided the basis for the comparison of the Gorgon assessment with that of the South West Yarragadee (SWY) water supply development in Chapter 6.

The final conclusion of Chapter 4 was that while much could be learnt in this way about aspects of process, and appropriate institutional arrangements for sustainability assessment, aspects of the Gorgon experience remained perplexing from the perspective of the 'information provision' model of EIA (Bartlett & Kurian, 1999) upon which it was based. The focus and main strength of the impact assessment literature, which has become isolated from the more generic field of policy theory, lies in what I have called the 'exterior' dimensions of practice, particularly the quality of the science that informs decision-making, appropriate process methodologies, and supporting institutional arrangements, while all but a few theoreticians have failed to engage meaningfully with the 'interior' dimensions. In particular 'values', 'power' and 'politics' have often been viewed as troublesome in a field that retains its links to assumptions of positivism and instrumental rationality, and maintains vestiges of the belief that the purpose of impact assessment is to provide technical, value-free and context-independent information to political masters who take it fully into account when making their decisions.

Chapter 5 began by acknowledging that the naïveté of the 'information provision' model of impact assessment has long been recognised, but noting that impact assessment in general remains under-theorised, particularly with respect to these 'subjective' or interior aspects. It has also been frequently suggested that to overcome this problem, impact assessment theorists should turn to the related and more conceptually advanced field of policy theory. This was the path I followed in Chapter 5, where I firstly revisited the work of those impact assessment practitioners who had engaged with the policy literature. I found an erroneous argument for 'procedural flexibility' in which the 'baby' of structure was thrown out with the 'bathwater' of the rational-comprehensive model of policy analysis, and well-intentioned but 'scattergun' attempts to engage with various explanatory policy

models. These were devoid of any overarching conceptual framework and consequently of limited value in contributing to either theory-building or practice. While agreeing with my predecessors that impact assessment should indeed learn from policy theory, I diverged from them in calling for ‘procedural rationality’ in the form of a guiding framework for sustainability assessment, which I discuss in Section 3 below, and in developing a conceptual framework through which the apparently competing policy models could be reconciled into an integrated whole.

As a means of structuring my review of policy theory and its relationship to impact assessment, I introduced a heuristic framework drawn from integral theory (Wilber, 1995) that distinguishes four dimensions of reality and four corresponding epistemological approaches, represented by the ‘quadrants’ formed by the tensions between collective and individual, and exterior and interior orientations. In the field of public policy this translates primarily into recognition of the links between science and behaviourism (exterior individual), institutions and processes (exterior collective), and meanings, values and ethics (interior collective), and the internal world of the individual actor (interior individual). I observed that the post-empiricist notion of policy discourse and storylines is a particularly useful construct through which the relationships between these different elements of the ‘policy universe’ may be explained and the contribution made by the different theories demonstrated. Simply speaking, the language and meaning of discourses become embedded in the institutions that in turn shape the behaviours of the policy actors. A deconstruction of the two primary and competing storylines of the Gorgon assessment, focused by an integral perspective, provided the basis for my exploration of the relationships between knowledge, values, institutions and power.

Together with enabling a deeper understanding of the Gorgon case study, this analysis demonstrated the value of the integral framework in providing an overarching conceptual lens through which matters of public policy can be viewed more holistically than is possible from any single epistemological perspective. Of particular importance are the collective dimensions of public policy, both exterior and interior, that represent the intertwined ‘hardware’ and ‘software’ respectively of the socio-political context. The analysis of Chapter 5 thus emphasised the influence of context upon impact assessment and decision-making, in contrast with the

discussion of Chapter 4, where contextual matters were limited to noting the potential of sustainability assessment to influence aspects of context such as institutional arrangements and higher-level policies, in a process of ‘trickle-up’.

I retained the integral framework in Chapter 6 where I explored the concept of learning in sustainability assessment in the specific context of my second case study, the sustainability assessment of the SWY water supply development. The SWY assessment demonstrated ‘exterior’ learning from Gorgon in the form of a vast improvement in process methodologies and institutional arrangements, bearing out the implicit hope in the Government’s ‘learning by doing’ approach to sustainability assessment. More importantly, I pointed out that some of these innovations, particularly the more open ‘question’ and the deliberately value-based approach to the social impact assessment, which was in turn guided by a clearly defined ‘sustainability decision-making protocol’, also facilitated forms of ‘interior’ learning or reflexivity that led to the reframing of the proposal itself and the emergence of a new storyline. Specifically, the tension between the economic and social objectives provided the catalyst for a shift in the thinking of the project team that resulted in the project being reframed as a water supply for the whole South West of Western Australia rather than simply for the metropolitan area of Perth. While policy discourses and storylines are collective lenses of understanding, the case study analysis also hinted at the transformative potential of a personal form of reflexivity, since as a result of their involvement in the process, certain participants began to think more deeply about issues of sustainability and to question previously-held assumptions.

In contrast with the earlier chapters in which I drew on the more general environmental assessment theory upon which sustainability assessment, at least in Western Australia, is based, in Chapter 7 I returned to the concept of sustainability itself, which is at the heart of sustainability assessment and which is its distinguishing feature. A review of the evolution of the sustainability discourse against the backdrop of modern industrial society enabled me to locate the various stages of the development of my thinking within the trajectory of the macro discourse. It has been argued that the discourse of sustainability has become rationalised, at least in the mainstream of business and neo-liberal policy making. Its

voice of reflexivity and critique has been marginalised by modernity itself, where depth and meaning have been collapsed into an objective ‘flatland’, and the interior has become cast off from the hegemony of exterior epistemologies (Slaughter, 1998). Reflecting on the current state of the world and the power of the ‘institutions of unsustainability’, which are in turn underpinned by the fundamental tenets of modern industrial society, and particularly perpetual economic growth, I argued for the need to transcend ‘flatland’ in the name of global sustainability.

Specifically, I argued for an ‘integral sustainability’ that would embrace the interior as well as the exterior dimensions of reality, and through which the separations of modernity could be sustainably reconnected. An integral sustainability calls for the reflexive excavation and transformation of personal and collective frames of understanding, as exemplified by the SWY case study. This transformation, however, must extend beyond the storylines framing a specific policy issue or assessment into the deeper discourses structuring modern industrial society, and into the interior motivations and beliefs of the individuals involved, to facilitate the development of what has been called ‘ecological consciousness’. The emergence of ecological consciousness involves a shift away from seeking well-being through material gain and towards a transformation that enables an holistic understanding of the relationships between self, society and nature (Christopher, 1999). My own process of learning through the course of my research journey, through which my understanding of the world has altered from that of an eco-modernist engineer bound within the exterior world of ‘flatland’ to also embrace the interior dimensions of reality and the interpretive social sciences, is evidence of such transformation.

An integral sustainability is a journey towards change for a better and more integrated future. Simply put, since context shapes actions and behaviours, and discourses are the ‘software’ of context given form in the institutional ‘hardware’, change is precipitated through learning and reflexivity through which discourses and institutions are challenged and reformed from within. Although the SWY case study example demonstrated this reformatory potential only in the low level context of the storyline framing a specific decision, the potential demonstrated through both case studies for sustainability assessment to raise the ‘bigger questions’ leads me to believe that over time, sustainability assessment can contribute to more fundamental

discursive, and thence structural, change. The Gorgon assessment in particular alluded to the potential of sustainability assessment to facilitate reflection extending deep into the discursive layers of context, since the pro-development storyline of Gorgon had deep roots in the economic structure and culture of Western Australia, and indeed in modernity itself, representing the Enlightenment message of exploitation and control. This gradual process of change is enhanced and facilitated by the actions of those ecologically conscious individuals who have overcome the separation and isolation of a modernist 'flatland' to reconnect with themselves, their communities, society and the planet Earth. As individuals begin to question and challenge themselves, they can (Wilber, 1995, p197):

create a 'cognitive potential' in the form of new worldviews...that in turn feed back into the ongoing mainstream of social institutions, until the previously 'marginalised' worldview becomes anchored in institutional forms, which then catapult a collective consciousness to a new and higher release.

I found hope for an integrally sustainable future in many places. Cracks are appearing autonomously in the foundations and institutions of modernity through the emergence of what has been labelled the Risk Society, bringing a rejuvenation of civil society and the strengthening of interconnected social movements that remain a force for change. The angst and insecurity inherent to the Risk Society also represent a catalysing force for personal transformation towards ecological consciousness. I believe, furthermore, that the discourse of sustainability itself has retained its interior dimensions and therefore its critical capacity, despite its apparent reduction to a weak form of 'ecological modernisation' or the 'triple bottom line'.

Deliberative sustainability assessment can build upon these sources of hope and magnify their transformative potential in several ways. Firstly, the ambiguous concept of sustainability itself is a rich source of the kinds of tensions that catalyse reflexivity and provide 'grist for the mill' of learning at many levels. Secondly, the development of ecological consciousness may be enhanced by involvement in deliberations of the kind generated by processes of sustainability assessment (Gundersen, 1995). Although the SWY case study emphasised deliberation within the project team and the members of the appointed Sustainability Panel, arguments for deliberation are most commonly linked with those for inclusivity and community

engagement, particularly in the discourses of deliberative democracy discussed in Chapter 7. Inclusive and deliberative sustainability assessment processes provide opportunities across the spectrum of society for learning and the development of ecological consciousness and ‘social intelligence’ towards the environment (Bartlett, 1986). The belief that inclusive and deliberative processes can ultimately deliver structural change remains one of the great, and often articulated hopes (Barnet, 1981; Blatner et al., 2001; Paehlke, 1990).

Having wandered far and wide from my early view that sustainability assessment should be a ‘top-down’ tool of strong government designed to determine whether or not a proposed action is sustainable, I submit instead that *sustainability assessment can best serve the cause of sustainability, at global as well as local levels, by facilitating learning in all its dimensions; not only practical exterior learning about impacts, process methodologies and institutional frameworks, but reflexively learning that excavates and transforms the interior assumptions and beliefs that underpin our actions. Far from being merely a process of evaluating or even improving an individual decision, the highest potential of sustainability assessment is as a deliberative mechanism to support the emergence of an integral sustainability, through which the separations of modernity might be overcome, and the trajectory of modernity re-aligned towards sustainability.*

### **8.3 Conducting sustainability assessment: Processes and institutions**

The previous discussion has summarised my journey in reaching the conclusion in response to my first research question that sustainability assessment can best serve sustainability by engaging with both the practical exterior and the interior depth of practice, and encouraging learning in all these dimensions. Interior learning was the focus of Section 8.2, evident in my argument for its facilitation in the name of integral sustainability, and my own learning journey. In this section I return to an exterior focus upon issues of process and context in presenting my argument in response to the second research question, of how sustainability assessment can best be conducted in order to achieve this purpose. Most importantly, however, it is presented in the context of an integral understanding of the dimensions of policy processes: the exterior and the interior, the collective and the individual. I commence by locating processes for sustainability assessment within this framework, before

presenting my argument as to how it should be conducted and facilitated as a policy tool for sustainability.

### ***8.3.1 Locating sustainability assessment processes***

The discursive ‘software’, the institutional ‘hardware’, and the interactions between them that collectively comprise socio-political context, are all-important in shaping policy processes and therefore must also be the focus of efforts towards change for sustainability. In Chapter 7 I discussed ways in which discursive change towards sustainability might become institutionalised through some coupling action or event, but here my focus is on institutional reflexivity whereby institutions may be reformed from within. Just as the discourse of sustainability must be located within modernity, the potential for learning and change through sustainability assessment can best be realised by its institutional location within the administrative state, liberal democracy and ultimately modernity itself, as a contributor to the process that has been called ‘reflexive ecological modernisation’ (Hajer, 1995).

This argument is founded on faith in the reflexive capacity of existing institutions (van Eeten, 2001). The Western Australian experiences of sustainability assessment have demonstrated this capacity and its transformative potential at the micro level of bureaucratic organisations through the willingness of members of these organisations to engage in the ‘learning community’ that has developed around sustainability assessment in the State. Others have extended this argument to higher level discourses, including the institutions of representative democracy (Weale, 2001) and the macro level institutions of modernity (Boothroyd, 1995). Existing institutions can be reformed by reconnecting them with values, meanings and ethics through deliberative practices, thus reforming the institutions by reforming the way in which they are operated (Gundersen, 1995).

This argument aligns with Bartlett’s (1990, p82) view that EIA should act as a ‘worm in the brain’ of the administrators responsible for its application. He says, “Such strategies involve dismantling or transmogrifying the administrative state from within – gradually and not entirely predictably – while remaking individual values and patterns of thinking and acting”. The founders of EIA recognised that reflexivity is context-dependent (Glasbergen, 1996) and action-based (Gundersen, 1995; Laws & Rein, 2003; Schön, 1983) and that the concrete nature and the

context-specificity of impact assessment processes provide ideal grounds for learning, under the right circumstances. The nature of the discourse of sustainability itself, however, with its inherent tensions and ambiguities, and its interior and critical dimensions, makes the sustainability assessment an inherently far more powerful vehicle for institutional reflexivity than the science-orientated practice of EIA.

The epicentre of this model for reform though is the individual sustainability assessment, facilitated by Government in the case of Western Australia, and focused upon a specific proposal or decision. It is in this setting and in grappling with the situational complexities that the process of questioning, excavating and reforming begins and which, as my case analysis has demonstrated, can extend far and deep and generate profound transformations. Sustainability assessment must therefore embrace and reconnect the collective, individual, exterior and interior dimensions of the decision at hand, sustainability itself, and ultimately the societal context of the decision at all its levels, since it is only when we develop a way of understanding the world that encompasses all these dimensions is change possible. This represents the fullest understanding of 'integration' as applied to sustainability and sustainability assessment.

At the heart of this reflexive potential are well-designed process methodologies that can provide the deliberative space in which learning and reflexivity might be promoted (Boothroyd, 1995). In this way, the institutions and processes influence and enable discursive change. By way of example, I argued in Chapter 6 that the open question framing the SWY assessment, which was a process improvement over the Gorgon assessment, provided the necessary space that ultimately led to the reframing of the proposal. This too was understood by the founders of EIA when they argued for 'procedural rationality' as the mechanism through which institutional learning and 'ecological rationality' would be facilitated. I argued in Chapter 5 for a structured methodological framework for sustainability assessment that shapes the process of decision-making but is well-distanced from assumptions of positivism and instrumental rationality. Although procedural rationality has often been conflated with these tenets of modernism, largely through the persistence of the rational-comprehensive policy model and the information provision model of impact assessment, each procedural step is more usefully conceptualised as a focus for

discussion, deliberation and learning (Petts, 2003). I return to this point below, following consideration of appropriate process frameworks for sustainability assessment.

### ***8.3.2 Process frameworks for sustainability assessment***

Drawing from the two case studies and the literature upon which my analysis was based, I submit the following conclusions in relation to good practice sustainability assessment processes. Firstly, a structured process framework will generally enhance the practice of sustainability assessment, by forcing attention to matters that may otherwise be assumed or buried. The broad process steps should be:

1. Identify the goal and the related question to be addressed;
2. Establish a ‘sustainability decision-making protocol’ defining sustainability goals and criteria for the decision, and identify other goals and constraints;
3. Identify alternatives and options to meet the goal;
4. Identify the impacts of each alternative;
5. Select and enhance the preferred alternative.

Each of these five process steps should be conceptualised as a deliberative space, and it is important that the processes of engagement and deliberation themselves are guided by procedures. As Boothroyd (1995, p93) notes “formal procedures which require public involvement help promote fundamental debate and heuristic thought and ought to be part of all impact assessment protocols”. Such procedures should reflect the greater purpose of deliberation, that extends beyond the delivery of its substantive benefits discussed in Chapters 4 and 6, to the development of an integral sustainability.

Both the Gorgon and SWY case studies highlighted the importance of ‘asking the right question’. The ‘closed’ Gorgon question was a source of great frustration since it did not permit the meaningful consideration of alternative sites. The more ‘open’ question framing the SWY opened the door that enabled the assessment process to significantly contribute to the development of the proposal, both in terms of its refinement using mitigation and offset measures, and the reflexive learning process that led to the reframing of the proposal and the development of a new storyline.

Both case studies, however, were project-level sustainability assessments and therefore by definition the questions framing them were insufficiently strategic to embrace all of the dimensions of the broader policy context relevant to the decision, that is, they excluded the ‘big questions’. This created tensions and uncertainties, particularly since both were affected by significant policy gaps. While sustainability assessment of project proposals will presumably continue in Western Australia in accordance with government commitments (Government of Western Australia, 2002b, 2003b), the SWY example in particular highlighted the need for these efforts to be supplemented by higher-level planning facilitated by government, in key strategic areas such as water, energy and mineral resource management. Recommendations for water planning have been made as a result of the assessment (Strategen, 2006a). In other words, more strategic questions must be asked, and sustainability assessment along the lines I advocate is an appropriate framework within which society may arrive at its answers. The identification of the question itself should be a deliberative process. Simply asking ‘What is the question?’ and ‘Is this the right question?’ catalyses debate, as was the case in the SWY process, since the question demarcates what is within and what is outside the scope of the assessment. In these debates lies important potential for learning.

I posed the concept of a ‘sustainability decision-making protocol’ in Chapter 4, where I defined it as an operationalisation of the concept of sustainability for the decision at hand, incorporating both aspirational objectives and acceptability criteria<sup>2</sup>. I endorsed it in Chapter 6 where I argued that, in the SWY, case it assisted by clearly articulating the tensions between economic and social objectives that in turn led to reflexivity and reframing. I then revisited it in Chapter 7 in light of my argument for embracing the inherent ambiguity of sustainability within decision-making. Although the idea of a defined protocol appears to be in conflict with ambiguity, the protocol can serve the purpose of holding a deliberative space in which deeper level interpretations may emerge, along with value judgments and practical reason. In this way, there is still room for the ambiguity of the sustainability concept and tensions inherent in the choices to be made, which might be concealed at the beginning of the process, to be revealed. Deliberation over the development of

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<sup>2</sup> This marked a shift from my earlier argument of Chapter 2 that sustainability could be unequivocally defined in the form of criteria demarcating what is and what is not, sustainable.

the protocol may in fact be one of the richest sources of learning, since the ambiguities and tensions of sustainability are at its heart.

Neither Gorgon nor the SWY assessments considered project alternatives in any meaningful way. Arguably, the circular, iterative SWY process framework was effective in this project application in that it delivered a better proposal than would have been the case without the sustainability assessment. Real and diverse alternatives, however, must be considered when more strategic planning is undertaken, and ideally the SWY proposal would have been assessed within a sustainability framework against other potential water sources for the South West of Western Australia. Similarly, a better, more sustainable outcome of the Gorgon assessment would have been possible had alternative sites for the gas processing facilities been meaningfully considered, if not higher level alternatives concerning energy development in WA (Pope et al., 2005).

The sustainability decision-making protocol also provides the basis for the final two steps in the framework: selecting between alternatives, and enhancing the preferred alternative for sustainability. This last stage involves the identification of potential mitigation and offset measures and the evaluation of the acceptability of any trade-offs made. It is useful to note here that offsets and trade-offs relate to the concept of integration, which has been a topic of conversation in relation to sustainability assessment in Western Australia since the earliest days, as elsewhere. I have already discussed the holistic meaning of integration, but integration is complex even when it is limited to exterior concerns. The term has commonly been applied to mean the interactions between the 'three pillars' of environmental, social and economic considerations, that is 'horizontal' integration, and particularly efforts to achieve the highly desirable but usually elusive 'win-win-win' outcomes. Integration can also refer to consideration of the interrelations between specific factors or impacts of a proposal, which may be mutually reinforcing (as in 'win-win-wins') or opposing (as in trade-offs). Offsets can be applied in Western Australia when there are residual (but not significant) environmental impacts in an attempt to achieve a net positive environmental outcome (Environmental Protection Authority, 2005). They can be conceptualised as trade-offs within a 'pillar' of sustainability rather than between pillars (Pope, 2006b). Beyond horizontal integration, furthermore, sustainability also

requires the integration of local and global concerns, both now and in the future (Gibson, 2006)

### **8.3.3 Governance for sustainability assessment**

In Chapter 2, I made the distinction between ‘external’ sustainability assessment conducted by Government as an approvals process, of which Gorgon was an example, and ‘internal’ sustainability assessment as a process through which proponents seek to improve their proposals. While increasing numbers of businesses are applying sustainability assessment to guide their internal decision-making, with no subsequent external assessment, the focus of my analysis has been the regulatory process and its reflexive potential within the institutions of government. Although the SWY assessment was conducted internally by the proponent and its consultants, it was undertaken in discussion with the regulatory bodies which, at the time of writing in October 2006, are assessing the final proposal for approvals purposes. Furthermore, the SWY Sustainability Panel, of which I wrote in Chapter 6, was appointed by Government and hence this sustainability assessment included both internal and external aspects.

It is still too early in the evolution of sustainability assessment in Western Australia to make absolute recommendations for appropriate institutional and governance arrangements. Interviewees were divided in their views following the SWY assessment as to whether sustainability assessment should be legislatively backed, with some arguing that this was necessary to ensure full implementation of government commitments and others expressing concern that legislation would reduce the potential for the creativity believed to have been vital to the relative success of the SWY assessment. While it may be possible to draft legislation that permits a degree of flexibility while adhering to agreed principles, and finds a balance between these tensions, it is too early to make this decision, and further case study analysis is required.

The experiences and the frustrations with sustainability assessment in Western Australia, however, have highlighted the incompatibility of the current bureaucratic structure with the integral concept of sustainability, and demonstrated the case for deliberate, as well as reflexive, institutional reform. There is considerable merit in further experimentation with the Sustainability Panel model, whereby the Panel

provides integrated advice to Government and also has the ability to engage with and challenge the proponent. In advance of regulatory reform the relationships between a non-statutory Panel and the statutory authorities must be clarified. At the very least this requires meaningful regulator input into the development of the sustainability decision-making protocol, and a clear understanding of how the Panel's advice to Government relates to that of the regulatory agencies. A more active engagement of the regulators in processes of deliberation would promote further institutional learning and change. Furthermore, the sustainability assessment process should be coordinated by Government and not by the proponent, and consideration should be given to empowering the Panel to conduct its own investigations to limit dependency on the proponent for information.

#### **8.4 Future research directions**

There are several directions for future research arising from this project, in Western Australia and elsewhere. The methodological framework for sustainability assessment I have proposed should be tested in the real-life context of a preferably strategic-level planning process, of which the proposed South West Water Futures Study would be an ideal example. Such research would involve monitoring the attitudes and views of the people involved, both individually and collectively, throughout the process for the purpose of documenting their sustainability learning journeys.

A national or international comparative study of the deliberative potential of sustainability assessment, and other planning and decision-making processes in other jurisdictions would provide insights into how deliberation and learning might be best facilitated. Such research would involve the identification of cultural, institutional and process factors that influence effective deliberation within a sustainability decision-making context.

#### **8.5 Conclusion**

I commenced this research project with the view that sustainability is a fixed state or destination with definable characteristics, and that the role of sustainability assessment should be to determine whether or not a proposed action is consistent with the achievement of this state. My journey has led me to reconceptualise my understanding of sustainability and sustainability assessment. Rather than some kind

of steady-state fixed point, the destination to which I believe sustainability assessment may assist in leading us is in fact another journey, a journey characterised by reflection and reflexivity, experimentation and shifting, and a gradual realignment towards a society in which the institutions of unsustainability are reformed and consideration of the 'state of the world' induces hope for the future rather than fear and dread.

Sitting at my desk in Western Australia in October 2006, though, it is easy to feel dread. Global warming is making its presence felt, particularly in the dwindling of water resources in Australia, the war in Iraq continues and global terrorism remains a threat, and there is little evidence of social dislocations and global inequities being overcome. Furthermore, the rate of economic growth in the State has just hit 14 per cent and our community seems to be in the grip of a rampant consumerism that is fuelled by the economic boom and that also creates demands for its continuation into an unsustainable perpetuity, on the back of the trajectory of global economic integration and corporate power.

Yet amongst all this stand the discourse of sustainability and the hope within it to which my case studies of sustainability assessment point. Progress on the journey towards sustainability might be slow, but sustainability assessment can play a role in facilitating it and moving it along, little by little. My argument asserts that sustainability assessment can contribute towards sustainability by facilitating learning that extends beyond the practical and exterior dimensions to reach deep into the interior world of meanings, to build personal and collective capacities for reflexivity and reconnection. By the application of a process framework in which every stage is a deliberative space where many are invited to join the discussion and to learn, these processes have the potential to extend from the context of the specific decision situation into the nested hierarchy of discourses and storylines that shape each level of our global context, touching, excavating and potentially reforming them and the institutions that embody them towards a more sustainable future. By reconnecting values and ethics with institutions, individuals with communities, society with nature, and bridging all the divides that modernity has constructed, I believe that a future beyond dystopia is possible.

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## **Appendix A: Indicative interview questions**

### **1 Gorgon questions**

1. What is your role within the Gorgon process?
2. What is your organisation's role?
3. How do you see the objectives of the Gorgon process?
4. To what extent do you think this process could be described as a sustainability assessment?
5. Tell me about how you perceive sustainability.
6. How have your ideas on sustainability evolved?
7. How well do you think this process embodies sustainability principles?
8. What is the role of Government with respect to sustainability?
9. What were your thoughts about the process when it first started?
10. What are your thoughts now?
11. How well has the process met your original expectations?
12. Has the ESE assessment process helped Government to make a decision?
13. How well has the two-level assessment approach worked?
14. What aspects of the process do you believe have been the most effective?
15. What aspects have been the least effective?
16. What are the characteristics of a good sustainability assessment process?
17. What do you think the Cabinet decision will be?
18. What do you think it should be?
19. In participating on this process, what has been the driving motivation of your organisation?
20. What do you believe has been the driving motivation of other organisations?
21. How important do you believe the development of the Gorgon gas reserves are to WA?
22. What do you think of the proponent's ESE document?
23. What do you think of the proponent's attitude generally?
24. What does conservation mean and how important is it?
25. What are net conservation benefits (NCBs) about?

26. What is the purpose of an open consultative process?
27. How open and consultative has this process been?
28. Have you felt empowered or constrained by the process?
29. Do you have any comments about the way the data has been collected and presented in this process?

## 2 SWY questions

1. How well has the SWY sustainability evaluation process met your original expectations?
2. What aspects of the process do you believe have been the most effective?
3. What aspects have been the least effective?
4. What have been the most interesting?
5. What challenges have arisen in the course of this sustainability assessment process?
6. What do you think are the characteristics of a good sustainability assessment process?
7. Have your views on sustainability assessment changed as a result of your involvement in the SWY sustainability evaluation?
8. Tell me about how you interpret the concept of sustainability.
9. In relation to this case study, what would constitute and 'unsustainable' outcome?
10. How have your ideas on sustainability evolved through your involvement in this process?
11. How well do you think this process embodies sustainability principles?
12. How do you think consultation and deliberation contribute to sustainability assessment processes?
13. How consultative and deliberative has this process been?
14. Have you felt empowered or constrained by the process?
15. Have you been heard?
16. Do you feel that the process has enabled people with different views and value sets to be heard?
17. To what extent do you think consultation and deliberation has influenced the process and the proposal?
18. Has your involvement in the SWY sustainability evaluation led you to change your views on any other matters, for example, the proposal itself?
19. If so, what led to your change in views?
20. Did you develop any skills that may be useful in the future?
21. Did you build any relationships or networks that may be useful in the future?

22. Did the group achieve a sense of collective identity?
23. Did the participants feel that they learned anything new in the partnership process?  
What were the major things learned, both about the environmental concerns at issue and the other stakeholders involved? Did this constitute single- or double-loop learning? Was this learning shared by the other participants?
24. What ideas or decisions were produced by the partnership that constitute a marked shift from how environmental concerns have been addressed in the past?
25. What skills were developed that may contribute toward more effective participation in future multi-stakeholder collaborative processes?
26. What novel institutional capacities along the lines of new professional networks and new social relations were generated that may improve the efficacy of future environmental problem solving efforts?
27. What level of collective identity was achieved among the partnership participants that might indicate the degree of ownership and responsibility that they have for the decision made and the actions taken? What other individual level forms of learning were induced, and how might these affect future environmental conflicts and problem solving?

## **Appendix B: Sustainability assessment conference paper 2003**

### *Sustainability Assessment: What is it and how do we do it?*

**By: Jenny Pope**

**Institute for Sustainability and Technology Policy, Murdoch University  
Paper presented to the Second Meeting of the Academic Forum of Regional  
Government for Sustainable Development,  
Fremantle, Western Australia  
17-19 September, 2003**

#### **Abstract**

Sustainability assessment is increasingly viewed as an important tool to aid in the shift towards sustainability, and commitments are made in the State Sustainability Strategy (Consultation Draft) to introduce broad-reaching sustainability assessment processes in Western Australia. However, this is a new and evolving concept and there remain very few examples of effective sustainability assessment processes implemented anywhere in the world.

Sustainability assessment is often described as a process by which the implications of an initiative on sustainability are evaluated, where the initiative can be a proposed or existing policy, plan, programme, project, piece of legislation, or a current practice or activity. However, this generic definition covers a broad range of different processes, many of which have been described in the literature as ‘sustainability assessment’, or a similar term. This paper goes beyond the generic definition to examine the fundamental question of what sustainability assessment could, and should, be.

It does this firstly by reviewing the different approaches described in the literature as being forms of sustainability assessment and evaluating them in terms of their potential contributions to sustainability. Many of these are actually examples of ‘integrated assessment’, derived from environmental impact assessment (EIA) and strategic environmental assessment (SEA), but which have been extended to incorporate social

and economic considerations as well as environmental ones, reflecting a ‘triple bottom line’ (TBL) approach to sustainability.

It is concluded that to deserve the title of ‘sustainability assessment’, the assessment process must seek to determine whether or not an initiative is, or is not, sustainable, rather than seeking to minimise unsustainability or even to achieve improvements which may still not result in a sustainable practice. To avoid confusion, this paper uses the term ‘assessment for sustainability’ for processes that have this aim.

‘Assessment for sustainability’ firstly requires that the concept of sustainability is well-defined, in terms of sustainability criteria against which the assessment is conducted.

The paper compares ‘triple bottom line’ approaches and principles-based approaches to developing such sustainability criteria, concluding that the latter are more appropriate, since they avoid many of the inherent limitations of the triple bottom line as a conceptualisation of sustainability. Some alternative sets of principles-based sustainability criteria are presented and their implications briefly discussed.

## **1 Introduction**

Sustainability assessment is increasingly advocated as an important tool to contribute to the shift towards a more sustainable society. The Western Australian State Sustainability Strategy (Consultation Draft) includes commitments to introduce broad-reaching sustainability assessment processes in Western Australia, and describes a future in which “sustainability assessment forms the basis of all government decisions and is embedded into all levels of government activity” (Government of Western Australia 2002, p41). However, this is a new and evolving concept and there remain very few examples of effective sustainability assessment processes implemented anywhere in the world.

Available definitions of sustainability assessment include:

- “Sustainability assessment is...a tool that can help decision-makers and policy-makers decide what actions they should take and should not take in an attempt to make society more sustainable” (Devuyst 2001a, p9); or

- “The aim of sustainability assessment is to ensure that plans and activities make an optimal contribution to sustainable development” (Verheem 2002a).

However, as this paper will seek to demonstrate, these definitions are sufficiently generic to describe a broad range of different processes, many of which have indeed been called ‘sustainability assessment’ or some similar term in the literature. This paper seeks to examine the concept of sustainability assessment more deeply, using examples of processes discussed in the literature to address the fundamental question of what sustainability assessment could, and should, be.

The concept of sustainability, or sustainable development, is clearly the basis of sustainability assessment. Sustainable development was first described by the Brundtland Commission in 1987 as “development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs” (WCED 1987). Sustainability demands the protection of resources and ecological integrity over the long term, combined with great improvements in human well-being, especially among the poor (Gibson 2001).

Since the Brundtland Commission, many alternative definitions of sustainability have been proposed and diverse interpretations of the concept made. Many of these are based upon the ‘three pillar’ or ‘triple bottom line’ (TBL) concept of sustainability, which requires the integrated consideration of environmental, social and economic issues. The implications of different definitions and interpretations of sustainability that underpin the different approaches to sustainability assessment will be discussed.

The theory of sustainability assessment currently available in the literature has largely evolved from work undertaken by practitioners of environmental assessment (EA), including project environmental impact assessment (EIA), and more recently strategic environmental assessment (SEA), which in turn has been influenced by policy analysis techniques (Sheate et al 2001; Sheate et al 2003). Therefore the approaches to so-called sustainability assessment described in the literature strongly reflect these processes.

The purpose of this paper is to clarify what the term ‘sustainability assessment’ should mean if it is to fulfil its potential as a tool for promoting sustainability. Such

clarification is an essential prerequisite to meaningful discussions on the development of sustainability assessment processes in Western Australia and elsewhere.

It begins by reviewing the practices of EIA and SEA and then examines the ‘integrated assessment’ processes that have been derived from EIA and SEA by the inclusion of social and economic, as well as environmental, considerations in the process. These integrated assessment processes are discussed in terms of their aims with respect to sustainability, and the question asked as to whether they go far enough. The TBL approach to sustainability, upon which these integrated assessment processes are based, is considered, and alternatives to the TBL approach are also discussed.

## **2 Environmental Assessment Processes**

When considering the concept of sustainability assessment and reviewing the literature available on the subject, it is useful to consider its conceptual origins. Sustainability assessment is generally viewed as a tool in the ‘family’ of impact assessment processes, closely related to EIA applied to projects and SEA applied to policies, plans and programmes (PPP’s) (Therivel and Partidario 1996).

The literature reflects a widely-held belief that environmental assessment processes such as EIA and SEA can and do make valuable contributions towards sustainability. In some cases it is suggested that this contribution arises directly from the integration of environmental considerations into decision-making (see for example Sheate et al 2003; Wood 2002), while others suggest that EIA and SEA provide a sound basis that can be extended to include broader sustainability concerns (Gibson 2001; Verheem 2002a; Partidario 2003).

The following sections briefly describe and discuss the two major forms of environmental assessment, EIA and SEA, to provide the necessary background for subsequent discussions the contribution of environmental assessment to sustainability.

### **2.1 Environmental Impact Assessment (EIA)**

Environmental impact assessment (EIA) is generally applied to project proposals and “aims to identify the significant environmental effects of proposed activities to decision makers and the public and to identify ways to avoid or reduce environmental damage”

(Devuyst 1999, p460). EIA can be considered to be a 'baseline-led' process which typically involves comparing the impacts of a proposed action with baseline conditions (Smith and Sheate 2001), and to determine whether or not the potential impacts are acceptable, unacceptable, or manageable with appropriate controls (Sippe 1999).

EIA processes have been embedded in legislation around the world for the past 30 years and have been generally very successful in identifying and mitigating the potential environmental impacts of project proposals (Sippe 1999).

However, the limitations of traditional EIA are also well understood and documented. Dalal-Clayton and Sadler (2002) discuss some of the factors constraining traditional EIA, particularly the late stage in the decision-making process at which EIA is applied, which means that questions such as whether, where and what type of development should occur have already been addressed.

Dovers goes further in suggesting that: "EIA is fundamentally flawed in being orientated almost totally towards projects. EIA misses regional impacts, cumulative impacts of multiple projects over time, and may allow environmental death by a thousand small cuts. EIA rarely caters for consideration of alternatives to a project, but leads to either approval or rejection, or amelioration of impacts deemed unacceptable" (Dovers 2002, p24).

The need to assess the environmental implications of decisions made at much higher levels of decision-making was recognised, and the concept of strategic environmental assessment (SEA) has evolved rapidly over the past decade to address this gap and to provide a means for assessing the environmental implications of policies, plans and programmes (PPP's) (Therivel and Partidario 1996).

## **2.2 Strategic Environmental Assessment (SEA)**

As already briefly discussed above, strategic environmental assessment (SEA) is broadly defined as the environmental assessment of policies, plans and programmes (PPP's) (Therivel and Partidario 1996), in contrast with EIA, which is generally applied to project proposals.

Noble describes the theoretical relationship between EIA and SEA as follows: “Ideally SEA and EIA are considered in sequence where SEA proactively examines a broad range of alternatives and selects the preferred course of action, and EIA is initiated “reactively” to determine in greater detail the potential impacts of the preferred alternative” (Noble 2000, p210).

This is an example of ‘tiering’, also known as ‘the trickledown effect’ or ‘vertical integration’, by which assessments conducted at the higher levels of decision making influence and guide those conducted at the lower levels. This should ensure that environmental issues are dealt with at the appropriate level, resulting in a streamlined process with minimal repetition (Therivel and Partidario 1996; Sadler and Verheem 1996; Marsden 2002; Nooteboom 2000).

Partidario distinguishes between different levels of decision making as follows:

- “Policy: Road-map with defined objectives, set priorities, rules and mechanisms to implement objectives;
- Planning: Priorities, options and measures for resource allocation according to resource suitability and availability, following the orientation, and implementing, relevant sectoral and global policies;
- Programme: Organized agenda with defined objectives to be achieved during programme implementation, with specification of activities and programme investments, in the framework of relevant policies and plans;
- Project: A detailed proposal, scheme or design of any development action or activity, which represents an investment, involves construction works and implements policy/planning objectives” (Partidario 2003, p8)

Despite the fact that many writers have also pointed out that tiering does not function quite so neatly in practice (Nooteboom 2000; Noble 2002; Jones 2003), it remains an important concept for planning and assessment processes.

Within the broad definition of SEA as environmental assessment of PPP’s there has been considerable debate as to how it should be approached (Sheate et al 2003) and as a

result “there are several definitions of SEA stemming from the many ideas over its role and purpose (Sheate et al 2001, p6).

For example, it is recognised that SEA can be used as a tool to evaluate PPP’s already developed or as an integral part of the development, assessment, amendment, implementation, monitoring and review of PPP’s, i.e. applied at all stages of the life of a PPP (Sheate et al 2003). However, the use of SEA as a proactive design tool rather than a reactive evaluation tool tends to be favoured in the literature (Dalal-Clayton and Sadler 2002; Brown and Therivel 2000) In the definitions provided above, Partidario’s use of the term ‘planning’ rather than ‘plans’ is deliberate, as she seeks to emphasise the importance of the planning process rather than the outcome of that process (the plan). Similarly, she advocates that SEA should be part of the strategic planning process rather than an evaluation applied to a completed plan (Partidario 2003).

For the purposes of this paper, and based upon the work of a number of writers, the different forms of SEA can be considered to fall into two broad categories: ‘EIA-driven’ and ‘objectives-led’ (Partidario 1999; Partidario and Eggenberger 2000; Sheate et al 2001; Sheate et al 2003).

### **2.2.1 EIA-driven SEA**

EIA-driven SEA is typically applied as a reactive process that aims to evaluate the environmental impacts of a policy, plan or programme for which decision-making is well advanced or complete against a baseline, to evaluate the acceptability of the impacts and to identify potential modifications to improve the environmental outcomes (Sheate et al 2001; Sheate et al 2003; Sippe 1999). Essentially, it is a project-level EIA process applied to a PPP, or “EIA writ large” (Sheate et al 2003).

Partidario (2003) suggests that an EIA-driven approach is reflected in some early definitions and SEA legislation, including The US *National Environmental Policy Act* (1969).

### **2.2.2 Objectives-led SEA**

The literature also describes a range of SEA processes that can be considered to be ‘objectives-led’. For the purposes of this paper, the term ‘objectives-led’ will be used to

refer to SEA in which the potential impacts of a policy, plan, programme or strategy are assessed against a series of aspirational environmental objectives, rather than against a baseline (Smith and Sheate 2001; Twigger-Ross 2003). Objectives-led SEA is derived from policy analysis rather than from EIA (Sheate et al 2001; Sheate et al 2003). Clearly, a well-defined set of environmental objectives is an important prerequisite for this form of SEA.

Reflecting the principles of tiering discussed earlier, these objectives must be consistent and compatible with those applied at higher and lower levels of decision-making. Ideally, environmental assessments conducted at higher levels of the planning hierarchy would establish appropriate objectives for decision-making processes at the lower levels, although it is recognised that processes are rarely so streamlined in practice (Nooteboom 2000).

Objectives, or goals, describe the purpose of a policy, plan or programme, and for the purposes of this discussion the two terms will be considered synonymous. They should reflect a broad strategic vision, such as ‘sustainability’ or ‘sound economic growth’ (Noble 2000) and should also reflect a balance between community values, development objectives and national and global trends (Partidario 2003).

Therivel (1996) points out that while some objectives may be explicitly stated, others will be implicit, resulting from a number of incremental decisions made in political processes. The full list of objectives for a PPP can be derived from the explicit objectives, discussions with the competent authority and decision-makers, higher and lower level PPP’s and other sources.

### **2.2.3 Environmental Assessment and Sustainability**

As previously discussed, the potential for environmental assessment processes such as EIA and SEA to contribute to sustainability has been widely recognised. Some believe that this contribution arises directly from the integration of environmental considerations into decision-making (see for example Sheate et al 2003; Wood 2002), while others suggest that EIA and SEA provide a sound basis that can be extended to include broader sustainability concerns (Gibson 2001; Verheem 2002a; Partidario 2003).

Gibson points out that “environmental assessment processes...are among the most promising venues for application of sustainability-based criteria. They are anticipatory and forward looking, integrative, often flexible, and generally intended to force attention to otherwise neglected considerations” (Gibson 2001, p1) although he also recognises that “environmental assessments are not the only vehicles for specifying sustainability principles, objectives and criteria” (Gibson 2001, p19).

The two views of the potential contribution of environmental assessment to sustainability correspond to two different concepts of sustainability. It is important to note at this point that sustainability is a difficult concept to define in a way that is meaningful and sufficiently practical to allow sustainability to be operationalised. It has been suggested that the difficulty arises because sustainability is a concept like ‘love’, ‘hope’ or ‘freedom’, and as such tend to remain ‘fuzzy’ until applied in a specific context (Government of Western Australia 2002). This situation is not aided by the fact that many alternative theoretical formulations and applications of sustainability have been developed, which are founded upon common concerns and principles, but which have different emphases (Gibson 2001).

This paper does not attempt to provide a detailed analysis of alternative conceptualisations of sustainability, but does seek to highlight where appropriate how this alternative views are embedded into the various documented approaches to ‘sustainability assessment’.

For example, the suggestion that environmental assessment itself contributes to sustainability reflects the view that “environmental impacts are at the core of sustainability concerns” (Sadler 1999, p12) and that “specifically, the concern is about the continuing or accelerating throughput of energy and raw materials, beginning with resource extraction and ending with pollution and residuals” (Sadler 1999, p15). This is consistent with a ‘deep green’ ecological sustainability model that can be represented as three concentric circles, the outer representing ecology, the middle representing society and the inner representing the economy (Gibson 2001). This view of sustainability emphasises that the source and sink functions provided by natural resources are finite,

and that sustainability therefore means finding a way to live within the limits of natural systems (Sadler 1999; Diesendorf 1997).

On the other hand, the suggestion is often made that environmental assessment should contribute to sustainability by extending its scope to include social and economic considerations along with environmental ones (Marsden and Dovers 2002). This reflects the ‘three pillar’ or ‘triple bottom line’ (TBL) model of sustainability, which is often conceptualised as three intersection circles representing the environment, society and the economy (Gibson 2001). This form of extension of environmental assessment results in a form of triple bottom line integrated assessment (Twigger-Ross 2003).

The term ‘triple bottom line’ was popularised by John Elkington of SustainAbility. In his book *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*, he describes the evolution of the concept within a business context:

“The sustainability agenda, long understood as an attempt to harmonize the traditional financial bottom line with emerging thinking about the environmental bottom line, is turning out to be much more complicated than some early business enthusiasts imagined. Increasingly, we think in terms of a ‘triple bottom line’, focusing on economic prosperity, environmental quality, and – the element which business has tended to overlook- social justice” (Elkington 1997, p2).

Whereas the Brudtland Commission presented a two pillar model reflecting environment and development concerns, the three pillar triple bottom line model separates the development issues into social and economic factors, emphasising that “material gains are not sufficient measures or preservers of human well-being” (Gibson 2001, p7).

For the purposes of this paper, the triple bottom line can be considered an interpretation of sustainability that places equal importance on environmental, social and economic considerations in decision-making.

By far the majority of processes attempting to expand environmental assessment to address broader sustainability issues reflect a triple bottom line approach to sustainability. Triple bottom line integrated assessment is examined further in the following section.

### **3 Triple Bottom Line Integrated Assessment**

The integration of environmental, social and economic considerations within an assessment process is an example of ‘horizontal integration’, in contrast with the other forms of integration identified by Lee (2002): ‘vertical integration’ (also known as ‘tiering’ or the ‘trickledown effect’ as discussed previously) and ‘integration into decision-making’ which embodies the concept of assessment processes as a fundamental component of the decision-making process. Horizontally integrated assessment processes for sustainability reflect the widely-recognised principle that sustainability assessment requires the consideration of environmental, social and economic issues (Sadler 1999; Devuyst 1999), and reflect a triple bottom line approach to sustainability.

Such extension to include all three pillars of the triple bottom line could conceivably occur within all three of the environmental assessment processes described thus far: EIA, EIA-driven SEA and objectives-led SEA. For the purposes of this discussion, two terms will be used: ‘EIA-driven integrated assessment’, derived from EIA and EIA-driven SEA, and ‘objectives-led integrated assessment’. Although the latter is derived from objectives-led SEA, an objectives-led integrated assessment approach could equally be applied to project-level proposals.

Both of these approaches can be considered to be examples of ‘sustainability appraisal’, as defined by Sheate et al (2001); ‘integrated sustainability appraisal’ as discussed by Eggenberger and Partidario (2000) or ‘integrated impact assessment’ (Sheate et al 2003). Similarly, Lee (2002) uses the term ‘sustainability assessment’ to describe a special form of horizontally integrated assessment, which takes into consideration economic, environmental and social impacts, a definition which applies equally to EIA-driven and objectives-led integrated assessment.

The term ‘integration’ implies that integrated assessment should be more than the sum of separate environmental, social and economic assessments. Eggenberger and Partidario (2000) remind us that “the principle that the sum of the parts does not equal the whole is widely acknowledged” and suggest that “integrating in fact means that a new entity is created where new relationships are established, bearing on individual

entities that have specific characteristics and specific dynamics but in combination act in a different way”.

Brookes (2002) supports this view, suggesting that integrated assessments should demonstrate added value; that is they should be more than the sum of their parts. In other words, integrated assessment should consider the relationships, synergies and conflicts between the impacts (Gibson 2001).

The aim of integrated assessment is articulated by Post et al (1997): “It aspires to describe – from the perspective of an identified problem or proposed project – the relations between the human communities concerned, their economic organization and their actual resource base. It qualifies, quantifies, and, as far as possible, values the effects of proposed and alternative interventions on the three (economic, social and natural) subsystems and their intersystem relations. It attempts to identify beneficial interventions and to fully expose unavoidable trade-offs”.

Therefore, both EIA-driven and objectives-led integrated assessment should not only consider the environmental, social and economic implications of proposals, but should also examine the interrelations between these three pillars of the triple bottom line. In the case of EIA-driven integrated assessment, this means that potential interlinkages between TBL impacts must be identified, while objectives-led integrated assessment also requires the identification of interlinkages between TBL objectives.

The two broad approaches to triple bottom line integrated assessment are discussed in more detail below. Examples of their application in practice are also provided.

### ***3.1 EIA-driven Integrated Assessment***

EIA-driven integrated assessment is analogous to EIA and EIA-driven SEA, except that social and economic impacts are considered as well as environmental ones, in an integration way. George describes the application of EIA-driven integrated assessment to international trade agreements, noting that “the prime aim of such an appraisal, often referred to as a sustainability impact assessment (SIA) is to identify mitigation measures through which adverse impacts might be minimised or avoided” (George 2001, p96).

As already discussed, to be truly integrated, the interrelations between the three ‘pillars’ of impacts must be considered (George 2001), since it has been recognised that “the combined impacts, positive and negative, of the sets of measures as a whole, are likely to be more than the simple sum of the impacts of their constituent measures because of synergistic effects” (Lee and Kirkpatrick 2001).

The difficulty of developing and conducting EIA-driven integrated assessment processes in practice has been recognised. This may be due to the fact that jurisdictions which do assess the social and economic, as well as environmental impacts of proposals tend to do conduct three separate assessment processes, and therefore inconsistencies in the methods and paradigms of sectoral assessment processes may inhibit implementation of more integrated approaches (Lee 2002).

Recognising this, Eggenberger and Partidario (2000) identify five different levels of integration: substantive, methodological, procedural, institutional and policy, and suggest that these can be progressively implemented. Similarly, Scholten and Post (year?) propose a staged approach to the integration of separate assessment processes, beginning with integration of timing of individual sectoral assessment processes, although recognising that this will not guarantee good communication or good process. The next stage would be a detailed scoping at the commencement of any assessment process to identify alternatives which consider cross-cutting issues and which form the basis of the sectoral assessments.

If the respective impact assessment processes are not integrated effectively, then this form of ‘integrated’ assessment is reduced to three separate impact assessments, each generating data relating to the potential environmental, social and economic impacts of the proposal or initiative. The three sets of data must then be ‘integrated’ in some way after it has been collected in order to reach a decision as to whether or not the proposal or initiative is acceptable within a sustainability context.

It has been pointed out that some trade-offs are inevitable in this situation (Gibson 2001). While Post et al’s (1997) definition of integrated assessment discussed previously suggests that integrated assessment aims to fully expose trade-offs, others go further in

suggesting that trade-offs should be minimised by an integrated assessment process (Government of Western Australia 2002).

Several writers have recommended the use of tools such as multi-criteria analysis (MCA) to aid the integration process (Twigger-Ross 2003), while others have proposed criteria to guide decisions regarding trade-offs (Gibson 2001). However, the integrated consideration of triple bottom line impacts remains a challenging task.

EIA-driven integrated assessment process should result in acceptable outcomes with respect to environmental, social and economic baselines. However, as George points out: “For this type of activity, the term sustainability appraisal, or sustainability impact assessment, is shorthand for saying that all three of the sustainable development spheres are evaluated. It does not necessarily mean that the appraisal evaluates a proposal against sustainable development objectives” (George 2001, p96). Therefore, contributions to sustainability may be limited to minimising negative outcomes rather than to maximising positive ones.

### ***3.2 Objectives-led Integrated Assessment***

Objectives-led integrated assessment reflects a desire to achieve a particular vision or outcome defined by integrated environmental, social and economic objectives. It assesses the extent to which the implementation of a proposal contributes to this vision, in contrast with EIA-driven integrated assessment which aims to ensure that triple bottom line impacts of a proposal are acceptable compared with baseline conditions.

An objectives-led approach reflects a concept of sustainability as a goal, or series of goals, to which society is aspiring. As Gibson says: “Adopting contributions to sustainability as a key objective and test in environmental assessment clearly implies that minimization of negative effects is not enough. Assessment requirements must encourage positive steps – towards greater community and ecological sustainability, towards a future that is more viable, pleasant and secure” (Gibson 2001, p1).

The implication that sustainability can be defined by a series of triple bottom line goals is consistent with the Western Australian Government’s definition of sustainability as “meeting the needs of current and future generations through simultaneous

environmental, social and economic improvement” (Government of Western Australia 2002, p24). Just as objectives-led SEA requires clearly defined environmental objectives, objectives-led integrated assessment requires clearly defined environmental, social and economic objectives against which the assessment can be conducted.

It is suggested that an objectives-led approach, in which objectives are clearly defined at the commencement of the planning or decision-making process, is more likely to result in ‘win-win-win’ outcomes between the three pillars of sustainability, and therefore less likely to generate conflicts and trade-offs. This would require agreement of a broad set of objectives reflecting the needs of all stakeholders at the commencement of the process. According to Gibson: “For practical (environmental) assessment purposes, especially at the project level, it is usually desirable and often crucial to specify the relevant sustainability principles, objectives and criteria as fully and credibly as possible before proponents begin thinking about their purposes and options” (Gibson 2001, p20).

Since the objectives define the required outcomes of the proposal under development specifying objectives at the commencement of the process places the onus of identifying and maximising ‘win-win-wins’ on those responsible for developing the proposal rather than those who may be conducting a reactive impact assessment once the proposal has been largely developed. The former are much better placed to do this, since they are involved at a much earlier stage of the decision-making process; it is in their interests to maximise positive outcomes with maximum efficiency, thereby creating ‘win-win-wins’; there may be additional incentives if sustainability criteria have been applied that restrict a ‘business as usual’ approach (or in other words ‘necessity is the mother of invention’); and because it is in the job descriptions of planners and designers to find new and creative ways to achieve objectives, especially when clear boundaries for the development are established up front.

An example of objectives-led integrated assessment is the UK Department of the Environment, Transport and the Regions (DETR) process requiring that regional plans be subject to ‘sustainability appraisal’ defined as “a systematic and iterative process undertaken during the preparation of a plan or strategy, which identifies and reports on the extent to which the implementation of the plan or strategy would achieve the

environmental, economic and social objectives by which sustainable development can be defined, in order that the performance of the strategy and policies is improved” (Smith and Sheate 2001, p265; George 2001, p95).

Given the prevalent view that sustainability is about positive change rather than simply minimising the negative, objectives-led integrated assessment clearly has more potential to contribute to sustainability than EIA-driven integrated assessment. As Gibson points out: “In most jurisdictions, the essential immediate effect of a shift to sustainability-based criteria is an expansion of central concern from avoidance of significant adverse effects to expectation of positive contribution to the achievement of sustainability objectives, however vaguely specified” (Gibson 2001, p19).

However, an objectives-led approach to sustainability assessment has its own challenges and limitations. Issues of tiering and its practical limitations apply to objectives-led integrated assessment as they do to objectives-led SEA. Furthermore, the objectives must be consistent and compatible with each other, which in itself represents a challenging task since it is not uncommon for strategic objectives to be conflicting (George 2001; Therivel 1996).

The potential of TBL objectives-led integrated assessment as a form of sustainability assessment forms part of the discussion in the following section, which begins by asking the fundamental question of what sustainability assessment should, or could, be.

## **4 Sustainability Assessment**

The previous section discussed forms of integrated assessment based upon the triple bottom line (TBL) concept of sustainability. The examples of ‘sustainability impact assessment’ as applied to trade agreements, and ‘sustainability appraisal’ as applied to UK regional plans were provided as examples of the EIA-drive and objectives-led integrated assessment respectively. The former aims to minimise negative triple bottom line impacts while the latter seeks to maximise positive triple bottom line impacts, and both therefore can be said to make some contribution to sustainability. But does this mean that these assessment processes are examples of sustainability assessment?

At this point, it is necessary to ask the fundamental question of what the purpose of sustainability assessment should, or could, be.

#### **4.1 Assessment for Sustainability**

The observation has been made that the integrated assessment processes defined in the literature, whether they fall into the EIA-driven or objectives-led category, essentially evaluate only whether a proposal represents a positive or negative contribution to sustainability (Fuller 2002; George 2001). Generally, they avoid attempting to define criteria or conditions for sustainability, and limit themselves to minimising negative triple bottom line outcomes (EIA-driven integrated assessment) or maximising positive ones (objective-led integrated assessment).

Even the UK DETR, which does require assessment against “objectives by which sustainable development can be defined” does not actually require that these objectives be achieved, requiring only that “the extent to which” the objectives of sustainable development would be met is identified (George 2001).

While this ‘direction to target’ approach is recognised as being of some benefit, concerns have been raised that it is not enough, and that sustainability assessment processes should go further if they are to fulfil their potential of contributing to a sustainable society (Fuller 2002; George 2001).

For example, Fuller (2002) and Sadler (1999) discuss the need to measure ‘distance from target’ as well as ‘direction to target’. George goes even further by stating that proposals should not be assessed for their contribution to sustainability, but to determine whether or not they are in themselves sustainable. He reaches this conclusion following his detailed examination of the UK DETR process (George 2001).

In George’s model, sustainability assessment can be defined as a process to determine whether or not a particular proposal, initiative or activity is, or is not, sustainable, and therefore effectively becomes a yes/no question. Based upon this discussion, it is suggested that the term ‘sustainability assessment’ should be reserved exclusively for those processes that have the aim of determining whether or not an initiative, whether a proposal or an existing practice, is sustainable. However, to avoid confusion between

terms, this paper will use the term ‘assessment for sustainability’ to distinguish it from other related forms of assessment which do not share this specific aim.

The notion of ‘assessing for sustainability’ implies that sustainability is a societal state, or perhaps more realistically a series of societal states, with particular characteristics or conditions, defined by sustainability criteria. In the words of Dr Karl-Henrik Robert of The Natural Step: “When the global society is sustainable, pollution will no longer increase, nature will no longer be impoverished through physical degradation, and within that frame, human needs will be met globally” (The Natural Step 2001, p10). “Assessment for sustainability’ is conducted to determine whether or not an initiative embodies these sustainability characteristics and meets these sustainability criteria. If it does, then it may be considered sustainable.

## **4.2 Context and Application**

In discussing his ‘assessment for sustainability’ model, George points out that it does not eliminate the need for the kinds of impact assessment processes discussed previously. Rather, he acknowledges the role of impact assessment and the importance of planning to meet a range of environmental, social and economic objectives. However, he disputes that these processes can be considered to be forms of sustainability assessment, because they do not assess whether a proposal or initiative meets fundamental criteria for sustainability.

With respect to impact assessment, George recommends that the identification of the potential impacts of a proposal should be addressed by the planning process in the case of spatial plans (George 2001) or by EIA in the case of specific project developments (George 1999) and that mitigation of significant impacts must be satisfactory (George 1999). Information generated by the impact assessment processes is necessary in order to address the proposed sustainability criteria from an informed perspective.

Furthermore, the application of weak sustainability requires integrated assessment as a component of the decision-making process, because weak sustainability involves the conversion of natural capital into other forms of capital which requires consideration of trade-offs between the three ‘pillars’ of the triple bottom line (George 1999).

George also recognises the important role of environmental, social and economic objectives within the decision-making process, but suggests that such objectives, which typically concern issues such as jobs, economic growth, housing, transport, services etc, relate to development that is not necessarily sustainable and therefore should guide the planning process rather than the sustainability assessment process (George 2001).

‘Assessment for sustainability’ could potentially be applied for a range of different purposes, although it is noted that actual experience with this approach remains very limited. For example, it could be conducted reactively at the conclusion of decision-making, perhaps by regulators, to determine whether a proposal is sustainable (external process), or proactively during the decision-making process to assess the sustainability of the various options proposed to meet a series of objectives (internal process) (Verheem 2002b). It could also be applied to existing practices and activities.

In some cases it may be a stand-alone process, and in others it may be one component of a more complex decision-making process.

It has been recognised by a number of writers that if ‘sustainability assessment’ in any form is to fulfil its potential as a tool for sustainability, then it must be applied broadly within a robust framework. These conclusions have arisen from discussions of sustainability assessment and also of other forms of assessment, particularly SEA. It is beyond the scope of this paper to review these in detail, but in summary it has been suggested to be effective and an instrument of change, ‘assessment for sustainability’ must be applied:

- Within a structured framework (Jenkins et al 2003);
- To proposed new initiatives at all levels of decision-making (Noble 2002);
- To existing practices across all sectors (Jenkins et al 2003);
- To the prevailing policy and legislative paradigm (Dovers 2002);
- To any decision with the potential to impact on patterns of production and consumption; governance and settlement (Dovers 2002); and
- By all sectors of society (Devuyst 2001a; Verheem 2002a).

### **4.3 Criteria for Sustainability**

This approach of ‘assessment for sustainability’ clearly requires some form of sustainability criteria against which the proposal can be assessed.

Gibson has the following to say on the matter of criteria in assessment processes:

“Decision criteria are the basic rules of the game. Effective application of sustainability-based criteria in (environmental) assessments will entail at least some clarity about what the effective criteria are and how they are to be interpreted. Policy-makers and process designers have sometimes embraced vagueness as a means of preserving discretionary flexibility and contextual adjustability. Constructive ambiguity can also be helpful in keeping representatives of competing interests at the table. But vagueness is maintained at a cost. While participants in (environmental) assessments – proponents, intervenors, administrators and decision-makers – will appreciate the need to adapt assessment obligations to suit different undertakings, locales and expectations, reinventing the rules for every specific case is likely to bring intolerable uncertainty and unduly attenuated deliberation” (Gibson 2001, p5).

Sustainability criteria should effectively separate sustainable outcomes from unsustainable ones for the purposes of the assessment process. Sustainability criteria are analogous to the ‘acceptability limits’ which are embodied in many environmental assessment processes (see for example Sippe 1999).

While it may appear a daunting task to define sustainability in terms of criteria, Gibson points out that “many versions of sustainability-based decision-criteria have been proposed for implementation” and that “a few have been, in various ways, been applied” (Gibson 2001, p1). Some alternative principles-based criteria for sustainability are discussed in the following sections.

#### **4.3.1 The Triple Bottom Line Objectives Approach**

This section returns to the triple bottom line objectives-led integrated assessment process identified earlier as having potential as a form of sustainability assessment, and examines whether or not it provides a suitable basis for the ‘assessment for sustainability’ (assessment against criteria defining the conditions of sustainability). Firstly, the relationship between triple bottom line objectives and sustainability is

discussed, followed by a more detailed examination of the triple bottom line as an interpretation of sustainability.

When considering the suitability of objectives-led integrated assessment processes for ‘assessment for sustainability’, it is important to recognise firstly that a series of environmental, social and economic goals do not necessarily define a condition of sustainability. Beginning with a series of triple bottom line objectives is a ‘bottom up’ approach, reflecting the view that sustainability is the simultaneous achievement of any environmental, social and economic goals, while the alternative ‘top down’ approach begins with the concept of sustainability as a state to which society aspires, and then seeking to define this state in terms of environmental, social and economic goals.

The difference between these two approaches was recently debated in Western Australia, following the development of a definition for sustainability in the State Sustainability Strategy Discussion Paper as “the simultaneous achievement of environmental, social and economic goals” (Government of Western Australia 2002). It was pointed out in various public submissions that this definition did not incorporate the criteria of meeting basic needs of both the current generation and future generations, embodied by the principles of intra- and intergenerational equity. These principles are generally considered to be fundamental to sustainability (George 2001; Sadler 1999) and intergenerational equity in particular is the focus of the original Brundtland Commission definition for sustainable development (WCED 1997). By omitting intra- and inter-generational equity, it was argued that the original Western Australian definition therefore did not actually define sustainability.

This debate, and the resulting change in the Western Australian definition of sustainability to include the phrase “to meet the needs of current and future generations” as well as the notion of the simultaneous achievement of goals (Government of Western Australia 2002), emphasises the concept of sustainability as a societal state, or more realistically a range of possible states, with certain definable characteristics, in contrast with the view of sustainability as the simultaneous achievement of any triple bottom line goals.

George (2001) argues a similar point in his analysis of the UK DETR ‘sustainability appraisal’ process, which is an example of a TBL objectives-led integrated assessment process. The UK process goes as far as to require that the environmental, social and economic objectives against which the assessment is conducted actually represent a condition of sustainability. However, as George (2001) points out: “the extent to which an appraisal will achieve its aim depends critically upon the extent to which the chosen objectives do indeed define sustainable development. It is insufficient for them to be a combined set of environmental, economic and social objectives. They must be objectives ‘by which sustainable development can be defined’” (George 2001, p96).

He goes on to suggest that the types of TBL objectives typically applied in the UK do not define sustainability, and are actually very similar to objectives that would be applied for development that is not purporting to be sustainable. While he acknowledges that such objectives are appropriate to guide planning processes, he argues that they are not appropriate for the assessment of sustainability (George 2001).

If TBL goals and related criteria are developed that do not actually define sustainability, then assessment against these criteria could be misleading, and suggest that something is sustainable when in fact it is not. Fuller (2002) makes this point when he points out that if prevailing economic or political philosophies which may not support sustainability are assumed unchangeable at least in the short term, and the assessment is conducted within this framework, a false conclusion could be reached that a development is moving towards sustainability if the implications of context are ignored.

Despite the risks identified above, if it were feasible to define sustainability by a set of triple bottom line objectives, as is required by the UK DETR, it would be possible to use these objectives to develop sustainability criteria against which an initiative could be assessed for sustainability. Therefore, theoretically, TBL objective-led integrated assessment could provide the basis for a process for assessing for sustainability (George 2001).

However, as has already been discussed, it is extremely difficult in practice to develop a consistent and compatible set of environmental, social and economic objectives that truly define sustainability, and practical experience in the UK demonstrates a tendency

to develop series of objectives that are very desirable but which do not define a state of sustainability (George 2001).

It is suggested that the reasons for the difficulties reflect the limitations of the triple bottom line as a concept of sustainability.

Firstly, as has already been discussed, the starting point for a TBL concept of sustainability is a series of separate environmental, social and economic considerations, which then must be integrated. The question of how to integrate environmental, social and economic concerns in practice, and how to incorporate the inter-relations between the three 'pillars' of environmental, social and economic concerns, has been the subject of considerable debate in the literature.

It has been suggested that the separation of the concept of sustainability into the three pillars of the triple bottom line tends to emphasise potentially competing interests rather than the linkages and interdependencies between them, making the task of integration extremely difficult and promoting trade-offs (Gibson 2001). The risk of environmental standards being traded off against socio-economic factors in such a process has been discussed extensively in the literature (Sheate et al 2003; Jenkins et al 2003; Gibson 2001; Lee 2002).

Fuller (2002) summarises these concerns by suggesting that "where trade offs between the economy and the environment are seen as legitimate in the pursuit of sustainability, sustainability assessment could be regarded as a means for economic requirements to override those of the environment or the social context". Although Sadler points out that the likelihood of win-lose scenarios can be reduced by the incorporation of minimum acceptability thresholds into the TBL model and requiring that any initiative at least meets these minimum thresholds, he also agrees that "beyond these boundaries, one set of criteria are either unduly promoted or unduly discounted against the others" (Sadler 1999, p20).

Furthermore, the triple bottom line can be considered reductionist approach to sustainability, and that dividing the holistic concept of sustainability into three pillars as a starting point invariably runs the risk of the sum of the parts being less than the whole. This is particularly true if the interrelations between the three pillars are not adequately

understood and described, and therefore sustainability is reduced to a consideration of separate environmental, social and economic factors, the sum of which is less than the whole, that is, sustainability. Gibson expresses this concern by pointing out that there are sustainability-related discourses that are “not always incorporated in pillar-based sustainability literature and practice” (Gibson 2001, p17).

As the originator of the concept of holism, Jan Smuts, said: “In all of the previous cases of wholes we have nowhere been able to argue from the parts to the whole. Compared to its parts the whole constituted by them is something quite different, something creatively new, as we have seen. Creative Evolution synthesises from the parts a new entity not only different from them but quite transcending them. That is the essence of a whole. It is always transcendent to its parts and its character cannot be inferred from the characters of its parts” (Smuts 1999, p367).

In addition, Gibson points out that the three pillars of the triple bottom line, although recognised to be interconnected and interdependent, still “reflect more or less conventional modern disciplinary categories” (Gibson 2001, p7) whereas sustainability should be “necessarily an attack on conventional thinking and practice” (Gibson 2001, p6).

Based upon the preceding discussion, the conclusion is drawn that it is difficult, and probably inappropriate, to define a holistic concept of sustainability and corresponding criteria or conditions for sustainability from a triple bottom line starting point.

Alternative approaches are discussed in the following section.

#### **4.3.2 The Principles-Based Approach**

Several alternatives to the triple bottom line as a means of defining sustainability for the purposes of assessment have been proposed. These involve defining sustainability criteria or conditions derived from sustainability principles instead of triple bottom line goals, to avoid the limitations and challenges of the triple bottom line.

Gibson (2001) promotes the use of a principles-based approach to sustainability assessment instead of the triple bottom line ‘three pillar’ approach as adopted by the integrated assessment models already discussed, arguing that the pillar approach

emphasises the potential conflicts between the pillars, and is more likely to result in trade-offs, whereas a principles-based approach emphasises interconnections and interdependencies between the pillar areas.

In presenting his model, Gibson says: “We have therefore chosen here to propose a slightly different approach – one that avoids constructing the edifice of sustainability criteria on the conventional pillars... The alternative, which is perhaps only superficially different from the pillar approach, is to begin not with categories based on the usual areas of concern (ecological, social etc.) but with a list of the key changes needed in human arrangements and activities if we are to move towards long term viability and well-being” (Gibson 2001, p8).

Sadler discusses the potential use of indicators to define sustainability criteria, and concludes that “the better way forward is to establish ‘benchmark principles’ which are robust enough to evaluate the ‘sustainability contours’ of development proposals and choices” (Sadler 1999, p17).

George (2001) also reaches the conclusion that a principles-based approach to developing sustainability criteria is the more appropriate, after recognising the limitations of the objectives-led approach in the UK. He recommends an approach to sustainability assessment based upon fundamental principles of sustainability as defined by the Rio Declaration and Agenda 21 (George 2001), as does Sadler (1999).

The use of the Rio Declaration principles is also supported by the International Association for Impact Assessment (IAIA) in their performance criteria for SEA where it is suggested that the ultimate objective of sustainability assessment should be to determine how proposals can best contribute “to the overall sustainable development strategy as laid down in Rio 1992 and defined in the specific policies or values of a country” (IAIA 2002). Sadler (1999) calls assessment based upon sustainability principles ‘environmental sustainability assurance’.

‘Assessment for sustainability’ using criteria based upon sustainability principles avoids some of the inherent challenges of TBL integrated assessment, such as the practical

difficulties of integrating environmental, social and economic concerns; the risk of trade-offs and the erosion of environmental standards (Gibson 2001), and the likelihood that a series of TBL goals will fail to fully describe the holistic concept of sustainability.

Three proposed sets of principles-based sustainability criteria are discussed below.

#### George's Sustainability Criteria (George 1999; 2001)

Essentially, George considers that the principles of intra- and intergenerational equity are the cornerstones of sustainability (George 1999, 2001). From this basis and by incorporating other Rio Declaration and Agenda 21 principles including the participation principle (Principle 10); the local communities principle (Principle 22); and the precautionary principle (Principle 15), he develops a series of criteria for sustainability, in the form of questions to which the answer must always be 'yes' (George 2001). These are:

1. Have all social groups within the planning area (groups affected by the project) been identified, and have the social, economic and environmental impacts on each group been assessed separately where they are likely to be different, including different impacts on men and women?
2. Will the planning documents and the sustainability appraisal (or EIA report) be published and made readily available to all members of the public?
3. Will all members of the public have the opportunity to comment on the planning documents and sustainability appraisal (proposals), and will their views be taken into account before plans or planning guidance are adopted (a decision is made)?
4. Have suitable provisions been made for the participation of disadvantaged minorities in the planning process?
5. Has all relevant planning guidance been complied with?
6. Have significant transboundary impacts been identified and properly assessed, are relevant international agreements complied with, and will affected parties be consulted before final decisions are made?
7. Have all potential global impacts been identified and properly assessed, and are relevant global agreements complied with?
8. Have any potentially critical ecosystem factors that may be affected been identified?

9. Has the risk of serious or irreversible damage arising from any such impact been satisfactorily assessed, with suitable systems for monitoring and impact avoidance where needed, and using risk assessment techniques where appropriate?
10. If the risk of serious or irreversible damage is significant, or if a risk that is already significant may be increased, will the impact be fully mitigated, in kind, so that there will be zero adverse residual impact?
  - 10a. Is any loss of natural habitat quantified, where it is important for species conservation?
  - 10b. Is it demonstrated that the rate of loss will not exceed the equilibrium regeneration rate?
  - 10c. Is an appropriate contribution to reducing greenhouse gases shown to be made, which is in accordance with the Kyoto Protocol?
11. Has the natural capital that may be converted into other forms of capital been identified?
12. Is it satisfactorily demonstrated that total capital will be conserved?

It is noted that some of these criteria relate to process rather than outcomes: for example questions 1-4 relate to community involvement in the decision-making process. This is because George relies upon participatory processes to deliver local and regional intra-generational equity; in other words that each social group will demand equity and obtain equity through the participation process. Similarly, Criterion 5, which addresses national intra-generational equity, assumes that “democratic processes have resulted in a national strategy, national objectives and national guidance for lower levels of policy-making and planning, which cater for the interests of other regions and the nation as a whole” (George 2001, p101).

In summary: criteria 1-4 address local and regional intra-generational equity; criteria 5 relates to national intra-generational equity; criterion 6 addresses trans-national intra-generational equity, i.e. short or medium range international impacts; criterion 7 global intra-generational equity, i.e. global impacts; and criteria 8-12 relate to intergenerational equity.

George considers that communities and individuals can generally be trusted to make appropriate decisions about social and economic benefits to be handed on to their ancestors, but that intergenerational equity is mainly about environmental issues and the conservation of capital, and therefore strict criteria to address these issues are required. His criteria incorporate the concepts of strong and weak sustainability, where strong sustainability requires that natural capital must be conserved, while weak sustainability allows for natural capital to be converted into another form of capital (George 2001).

George suggests that the application of strong or weak sustainability should depend upon the use of the precautionary principle (Rio Declaration Principle 15): “where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”. Therefore, Criteria 8 and 9 determine whether strong or weak sustainability should be applied. George suggests that this decision should be made explicitly, and also suggests that the principle should be used without consideration of cost-effectiveness (George 1999, 2001).

Criterion 10 is the strong sustainability criterion. George suggests that biodiversity loss and climate change are sufficiently significant to require the application of strong sustainability (George 1999, 2001) and that compliance with the Biodiversity Convention and the Climate Change Convention (in accordance with the Rio Declaration Principle 7) would be a practicable test of this criterion (George 2001).

However, Criteria 10a, 10b and 10c reflect a condition of ‘working towards sustainability’ due to the limitations inherent in the Conventions; for example, the implication that intra-generational equity is met by the Kyoto Protocol, whereas it may not be in some cases such as island states (George 2001). They can also be considered as “time-limited weak sustainability” since they reflect the position that while increasing greenhouse gas emissions and loss of biodiversity are not sustainable, they will not be halted in the immediate future, particularly in developing countries where this would be inequitable (George 1999).

With respect to Criterion 10c relating to greenhouse gas emissions, George suggests that if there is no nation plan that distributed Kyoto targets, then the applicable targets must be applied across the board (George 1999).

Criteria 11 and 12 are the weak sustainability criteria. Weak sustainability raises issues of how natural capital should be valued for the different groups (local, national, international or global) who benefit from it. By necessity, values must be determined by the present generation (George 1999).

George has applied his sustainability assessment criteria retrospectively to a six projects of the type typically subject to EIA in the UK, to determine whether or not they could be considered sustainable according to his criteria. In doing this, he demonstrated that this approach is practical and can be effectively applied to addresses the fundamental question: ‘is this initiative sustainable?’ (George 1999). However, it is acknowledged that further trials should be conducted to further assess the practicality of this approach in different contexts.

#### Sadler’s Sustainability Principles (Sadler 1999)

Sadler’s approach is similar to George’s, in that it also takes as its starting point the principles of intra- and intergenerational equity (Sadler 1999). After discussing the need to elect a ‘standard for sustainability’ in terms of weak, moderate, strong or absolute sustainability, Sadler proposes both supply-side and demand-side strong sustainability principles.

The supply-side principles are:

1. “Avoid irreversible changes;
2. No or minimal impact on critical resource and ecological functions;
3. No net loss or deterioration of natural capital;
4. Renewable resources should be depleted (harvested or used) at a rate equal to their regeneration;
5. Non-renewable resources should be depleted at a rate equal to their replacement by renewable substitutes;

6. Waste emissions should not exceed the assimilated capacity of the environment or cause harmful effects to human health;
7. Conserve biological diversity, comprising the variability of ecosystems, species and gene pools” (Sadler 1999, p24)

Sadler’s demand-side principles are based around the precautionary principle to be applied to individual decisions, as well as some principles for addressing structural causes of ecological unsustainability, whereas the supply-side principles are suitable as sustainability criteria against which sustainability assessment can be conducted.

Sadler’s model strongly reflects a more ecologically-driven view of sustainability, whereas George’s criteria more obviously reflect issues of social equality.

#### The Natural Step System Conditions

An alternative set of sustainability criteria is presented by The Natural Step, an organisation devoted to providing tools to support the implementation of sustainability. The Natural Step defines sustainability in terms of four system conditions or criteria for sustainability:

1. “Substances from the earth’s crust must not systematically decrease in nature;
2. Substances produced by society must not systematically increase in nature;
3. The productivity and diversity of nature must not be systematically deteriorated;
4. Basic human needs must be met everywhere” (Sadler 1999, p22).

These system conditions reflect what Sadler terms ‘absolute sustainability’, since they require “non-depleting and non-damaging use of natural resources” (Sadler 1999, p21), and therefore represent the most stringent of the three sets of sustainability criteria discussed above.

#### Using Other Sustainability Principles

Rather than beginning with the Rio Declaration principles, combined with weak, moderate, strong or absolute interpretations of sustainability (George 1999, 2001; Sadler 1999), other sustainability principles can also be potentially used as the basis for the development of sustainability criteria.

For example, Gibson proposes a set of sustainability criteria to be used for this purpose. These are conceptually and substantively similar to those developed for Western Australia and summarised below (Government of Western Australia 2002, p28):

1. Long-term economic health;
2. Equity and human rights;
3. Biodiversity and ecological integrity;
4. Settlement efficiency and quality of life;
5. Community, regions, 'sense of place' and heritage;
6. Net benefit from development;
7. Common good from planning
8. Integration of the triple bottom line;
9. Accountability, transparency and engagement;
10. Precaution;
11. Hope, vision, symbolic and iterative change.

Sets of principles such as these have a broad scope and reflect an 'all-encompassing' view of sustainability. This contrasts with George's approach, for example, which is based upon only two principles: intra- and intergenerational equity. Arguably, this may make more difficult the task of translating these principles into sustainability criteria that define what is, and what is not, sustainable. However, this process would itself aid in clarifying what concept of sustainability is to be the model for Western Australia.

#### ***4.4 Developing Processes Based Upon Sustainability Criteria***

The above discussion concluded that a principles-based approach to developing sustainability criteria is more appropriate than a triple bottom line approach, and briefly three alternative sets of principles-based were briefly outlined. They are clearly very different from each other, based as they are upon different conceptualisations of what sustainability actually is.

While such sets of criteria such as these provide the basis for 'assessment of sustainability', they must be clarified for the relevant context before they can actually be applied within an assessment process (Gibson 2001). In practice, this is likely to involve the identification of the potential impacts of the initiative in question relevant to each

sustainability criterion; assessment of significance of these impacts; establishment of ‘acceptability thresholds’ for the potential impacts deemed to be significant; prediction of the scale and magnitude of the likely impacts; and the assessment of the impacts against the ‘acceptability thresholds’. This in turn will allow the assessment of the initiative against the sustainability criteria.

While it is beyond the scope of this paper to discuss the development of assessment processes in any more detail, several key points can be made.

Firstly, the sustainability criteria must define sustainability. This is a challenging concept, since has already been discussed, interpretations of sustainability vary considerably, even when founded on the same basic principles (Gibson 2001). While it is beyond the scope of this paper to discuss the meaning of sustainability in any depth, the conclusion can be drawn from previous discussion (for example, the evolution of the Western Australian definition of sustainability, and the criteria proposed by George (1999 and 2001)) that the sustainability criteria must reflect the principles of intra- and intergenerational equity in some way, as these are fundamental to the concept of sustainability.

Secondly, the clear definition of ‘acceptability limits’ for the various potentially significant impacts are essential to the process. These should reflect the sustainability criteria which form the basis of the assessment process and should effectively separate sustainable outcomes from unsustainable ones for the purposes of the assessment process.

Thirdly, since the potential impacts will vary depending on context, the process of identifying potential impacts, determining which ones are significant for the purpose of the assessment and establishing acceptability limits must be done on a case-by-case basis. This process can be aided by experience, as has been the case with environmental assessment processes. Tiering will also be important, in that higher level assessments can be used to “clarify sector and area specific sustainability principles, objectives and criteria” (Gibson 2001, p21).

## 5 Summary and Conclusions

This paper has reviewed the evolving concept of ‘sustainability assessment’ by firstly considering its origins as a member of the family of environmental assessment processes that includes environmental impact assessment (EIA) and strategic environmental assessment (SEA), where a distinction was made between EIA-driven, baseline-led processes and objectives-led processes.

The potential for these processes to contribute to sustainability was then discussed. Typically, this has involved the expansion of the scope of environmental assessment processes to include social and economic considerations as well as environmental issues, reflecting the ‘triple bottom line’ or ‘three pillar’ approach to sustainability and resulting in forms of integrated assessment. Examples of EIA-driven and objectives-led integrated assessment were provided, and the risks and challenges of these approaches discussed. In particular, the practical difficulty of integrating environmental, social and economic considerations in a way which fully recognises interactions and interlinkages, and which maximises ‘win-win-wins’ and minimises trade-offs was acknowledged.

These forms of integrated assessment were then reviewed for their contributions to sustainability. It was argued that EIA-driven integrated assessment tends to focus on minimising negative impacts and reducing unsustainable practices, but fails to address the concept of sustainability as a societal goal. Objectives-led integrated assessment was found to be far more compatible with the concept of sustainability, since it assesses the contribution of a proposal to aspirational objectives, rather than against baseline conditions.

However, it was pointed out that most applications of integrated assessment processes in practice, even objective-led processes that attempt to define sustainability in terms of triple bottom line objectives, tend to limit themselves to measuring whether or not a proposal represents a positive or negative contribution to sustainability. In other words, they consider ‘direction to target’, where the target is a sustainable society. It has been pointed out that while this may be useful, it may not be sufficient to drive the kind of change required in the pursuit of this goal and that process are needed that actually

assess whether an initiative is, or is not, sustainable. For the purposes of this paper, such processes have been termed “assessment for sustainability” processes.

‘Assessment for sustainability’ requires a clear definition of sustainability and corresponding sustainability criteria against which the assessment can be conducted. While sustainability criteria could theoretically be developed through a triple bottom line interpretation of sustainability, this approach has practical challenges and conceptual limitations. Several writers have therefore recommended principles-based criteria for sustainability that avoid the problems of the triple bottom line approach.

Three sets of principles-based criteria have been briefly discussed, which have been developed to the point where they can be effectively used to assess whether or not a proposal or activity is sustainable, according to the particular interpretation of sustainability they represent, as demonstrated by George (1999). However, it is acknowledged that further trials of the approach in different applications are needed. Furthermore, it was acknowledged that the establishment of sustainability criteria is only one step in the overall development and implementation of ‘assessment for sustainability’ processes.

Furthermore, ‘assessment for sustainability’ does not replace all applications of EIA-driven impact assessment or objectives-led processes of decision-making. Rather, it is an additional tool that can be effectively applied within a decision-making framework to ensure that decisions are in fact sustainable. It can also be used retrospectively as a stand-alone process to evaluate existing practices for sustainability. It can and should be applied broadly, to both proposed and existing practices, and to all levels of decision-making.

The major conclusions drawn are therefore:

- Sustainability assessment should assess whether or not an initiative is sustainable, and not simply assess ‘direction to target’. For the purposes of this paper, such processes have been termed ‘assessment for sustainability’;
- ‘Assessment for sustainability’ requires a clear concept of sustainability as a societal goal, defined by criteria against which the assessment is conducted;

- While theoretically a triple bottom line view of sustainability could be used as a starting point to develop these criteria, in practice this is unlikely to be successful, and principles-based approaches are recommended.

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