

## SUSTAINABILITY ASSESSMENT IN CONTEXT: ISSUES OF PROCESS, POLICY AND GOVERNANCE\*

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This paper seeks to contribute to the development of principles for effective sustainability assessment. Drawing upon three sustainability assessments of project proposals conducted recently in Western Australia, three important aspects of good process are identified: the “question” that guides the assessment process; the influence of the assessment process on the development of the final proposal; and the basis for sustainability decision-making. These three aspects are closely inter-related, and also influenced by and related to the prevailing policy context and institutional arrangements guiding the assessment. Recommendations are made for more effective sustainability assessment processes in Western Australia; and the ultimate contribution that effective sustainability assessments of project proposals could make to a more sustainable society is considered. The broader Western Australian political, cultural and social context within which the assessments have been conducted is described, in order to facilitate a deeper understanding of the issues discussed and therefore to maximise the potential for others to learn from these experiences.

*Keywords:* Sustainability assessment; project approvals; context; Western Australia.

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## Introduction

Western Australia is in the early stages of developing and implementing sustainability assessment processes, and application so far has been mainly within the approvals process for major project proposals rather than strategic proposals. This is a reflection of aspects of the Western Australian context, particularly the importance of large scale industrial developments to the state and the corresponding strength of the existing statutory project environmental impact assessment (EIA) process.

Perceiving a lack of international consensus on either process methodologies or appropriate institutional arrangements for sustainability assessment, the Western Australian Government adopted a “learning by doing” approach to implementing sustainability assessment. Accordingly, practice in Western Australia has evolved in the absence of any formal methodological guidance and in advance of any institutional and legislative reform. Processes and institutional arrangements have had to be developed on a case-by-case basis for each of the three case studies that represent the Western Australian experience thus far. This has provided some challenges but also rich experience.

The three case studies explored in this paper are:

- Gorgon Gas Development on Barrow Island;
- South West Yarragadee Water Supply Development; and
- Fremantle Outer Harbour.

More than three years have now passed since the first of these assessments commenced, and therefore it is appropriate to take stock of progress thus far, and specifically to ask what exactly has been learnt that might contribute to the further development of sustainability assessment processes in Western Australia.

While the case studies are Western Australian, the lessons learnt will also speak to other jurisdictions in which sustainability assessment of project proposals is undertaken, or proposed. However, these lessons and their meaning cannot simply be transposed without understanding the context in which they were learnt (Marsden, 1998). For this reason, aspects of the Western Australian policy context are highlighted that are relevant to the way in which sustainability assessment is evolving in this place at this time.

As the analysis will demonstrate, the relationships between the practice of sustainability assessment and its context are complex, with each informing and challenging the other (Lawrence, 1997). The exploration of these relationships is a vital part of extracting lessons from experience, an ongoing process to which this paper aims to contribute.

The overall aim of this paper is to contribute to the development of principles for effective sustainability assessment. While various sets of what have

been generally termed “effectiveness criteria” have been developed for strategic environmental assessment (SEA), including one by the International Association for Impact Assessment (International Association for Impact Assessment, 2002; Fischer, 2006), equivalent sets of principles or criteria for sustainability assessment are only recently beginning to emerge (see Gibson, 2006).

While it may be that SEA effectiveness criteria naturally extend to sustainability assessment, there is an ongoing debate about the relationship of the two tools. Many advocates of environmental assessment view sustainability assessment with some suspicion, seeing it as a potential mechanism for legitimising the trading off environmental concerns for socio-economic gain (Jenkins *et al.*, 2003; Sheate *et al.*, 2003; Morrison-Saunders and Fischer, 2006). It is not our purpose to contribute specifically to this debate, but rather to propose ways in which sustainability assessment can be an effective tool for sustainability, including the protection of important environmental bottom lines.

Furthermore, it has been noted by others that generic effectiveness criteria may prove to be dependent upon not only the level of decision under assessment (Fischer, 2002) but also the jurisdiction in which it is conducted (Fischer, 2006). In attempting to be universally relevant, they tend to adopt the language of “motherhood” statements, requiring significant interpretation to make them useful and in some cases precluding meaningful analysis altogether (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, which is described in the following section.

## **Methodology**

This paper is based upon 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, p. 13). The relationship of sustainability assessment processes with their broader context is a particular focus of our research and a theme of this paper.

Data were collected by the authors in a variety of ways: from personal observation through their direct professional involvement in the case study assessments; from research interviews; and from two workshops convened for the specific purpose of extracting lessons learnt from these three case studies, involving members of the informal “learning community” that has developed around sustainability assessment in Western Australia.

The first of these workshops, held in September 2004, was part of a Government process while the second, in August 2005, while still involving many government

agency representatives, was convened by the authors independently of Government. These workshops provided the fora in which the case study experiences could be juxtaposed and from which the themes discussed in this paper emerged.

The research methodology was inductive since it involved “discovering patterns, themes and categories in one’s data”, in contrast with deductive analysis in which data are analysed against an existing framework (Patton, 2002, p. 453). The inductive approach to case study research, used to great effect by Flyvbjerg (1998), draws from grounded theory in that themes emerge through a process of searching for patterns within the data, and relevant existing theory is incorporated into the discussion at a later point (Glaser and Strauss, 1967).

As participant observers, the authors cannot claim to be objective recorders of the case study experiences. However, it has been argued that a degree of subjectivity is inherent in all research, and that this is not necessarily a disadvantage (Lawrence, 1997; Flyvbjerg, 2004a). In fact, Flyvbjerg (2004a, p. 429) argues from a phenomenological perspective that “the most advanced form of understanding is achieved when researchers place themselves within the context being studied”. The authors hope that their experiences and understandings shared in this paper will prove useful to others.

### **The Western Australian Context**

Aspects of context relevant to sustainability assessment include the formal institutional and legislative arrangements within a particular jurisdiction (Brown and Théritel, 2000); 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. In this sense context is “the frame of reference that makes understanding possible” (Lawrence, 1997). Some important general aspects of the Western Australian context are described in this section, while policy and institutional issues specific to each of the three case studies are then discussed in more detail later.

Western Australia is vast, sparsely populated and rich in mineral resources, the extraction of which powers its economy. The state is also extremely remote, with its capital city, Perth, the most isolated capital city in the world and located 4000 km from the seat of the Australian federal government in Canberra. Furthermore, with approximately 80% of its population living in Perth, Western Australia society is very much separated into “city” versus “country” or “regional” populations, in a classic “us and them” divide.

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 for example. Development has been driven less by planning than by huge resource development projects, often located in remote areas of the State.

It is therefore perhaps appropriate that sustainability assessment processes in Western Australia 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 United Kingdom. Two specific policy drivers have emerged for the development of sustainability assessment processes for project approvals in Western Australia: the Keating Review of the project approvals system (Government of Western Australia, 2002), which is slowly being implemented, and the State Sustainability Strategy (Government of Western Australia, 2003b).<sup>1</sup>

Sustainability assessment in Western Australia builds upon a strong culture of project environmental impact assessment (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*. The *Act* also allows the EPA to provide strategic environmental advice to Government.

However, as has been described elsewhere (Bache *et al.*, 1996), the EPA is limited in its ability to address the full scope of social and economic considerations that sustainability assessment requires. Social and economic impact assessments have not played a significant role in project approvals in Western Australia and capabilities in these areas remain under-developed within the Western Australian bureaucracy. Given this somewhat lop-sided situation, the *Environmental Protection Act* has formed the centrepiece of each of the three case study assessments.

Another important characteristic of the Western Australian context that should be mentioned here is the willingness of proponents, representatives of government agencies and members of the community to engage in this trial period for sustainability assessment in Western Australia, and share reflections in the interests of learning. While some might argue that private proponents could view sustainability assessment as a means of “diluting” the power of the statutory EIA process, others perceive that many of these large companies consider sustainability as essential to their informal “licence to operate” and are therefore leading the way in the development and application of sustainability assessment processes.

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<sup>1</sup>The State Sustainability Strategy incorporated the Keating recommendations with respect to the sustainability assessment of “complex and strategic projects”, and also made commitments that sustainability assessment would be applied to government agency decision-making, including the preparation of policies, plans, programs, projects, agreements, Cabinet submissions and legislation. Progress on the latter has been limited to date.

## **Introducing the Case Studies**

This section briefly introduces the three case studies and outline key features of the processes and institutional arrangements applied in each case. It also highlights “the question” that each sustainability assessment was designed to help answer. For reasons that will become clear in the subsequent discussion, the framing of the question plays a pivotal role in linking the process of sustainability assessment with its context (see also Morrison-Saunders and Thérivel, 2006).

Since the Gorgon process had been completed before the other two case studies commenced, it provided a point of departure for the design and development of the other two processes, which were approached significantly differently. This was in part deliberate as a result of observing the Gorgon case study (we do not want to do another Gorgon) but was also due to the difference in both the type of proponent and the type of decision involved.

Whereas the Gorgon proposal was put forward by a private proponent whose primary responsibility is to its shareholders, both the South West Yarragadee water supply development (SWY) and the Fremantle Outer Harbour development (FOH) are public infrastructure projects brought by proponents which are either owned by Government (the Water Corporation and Fremantle Ports) or a government agency (DPI). Therefore, the case studies illustrate key sectors in Western Australia: the private commercialisation of non-renewable resources and provision of public infrastructure. The implications for sustainability assessment of these different types of projects are explored in this section.

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

The Gorgon assessment (2002–2003) was conducted in response to a request by the Gorgon Joint Venture, 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, since the socio-economic benefits of such resource development projects are generally accepted as “given” in Western Australia, and therefore the only grounds for not proceeding would be the risk of significant environmental harm. However, the situation in this case was somewhat more 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 Joint Venture (Pope, 2003).

In response to the proponent's request, the Government of Western Australia determined that a high level economic, social and environmental (ESE) evaluation<sup>2</sup> of the broad development plan<sup>3</sup> was required to allow it to make an informed decision on whether to reject 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. The assessment process was managed by DoIR on behalf of a committee of government agency Chief Executive Officers, with the support of an inter-agency reference group comprised of officer-level representatives from these agencies.

As described in detail elsewhere (Pope, 2003; Pope *et al.*, 2005), the assessment process deliberately mirrored the EIA process in Western Australia: after a scoping process, the proponent prepared an "ESE Review document" describing the potential environmental, social, economic and State strategic impacts of the proposed development plan, which had been developed to meet the proponent's own strategic and financial objectives; the ESE Review document was released for public comment and the proponent was required to respond to issues raised in public submissions. The EPA and the Conservation Commission (the authority in which Barrow Island is vested) subsequently provided the advice via the Minister for the Environment to elected Cabinet that the proposal was environmentally unacceptable (Conservation Commission of Western Australia, 2003; Environmental Protection Authority, 2003). In a parallel process, an "Expert Panel" of consultants appointed by the Department of Industry and Resources (DoIR) provided advice on the social, economic and State strategic aspects of the proposal and recommended in favour of it going ahead (Allen Consulting Group, 2003).

Cabinet then reviewed the advice and determined on 8 September 2003 that the Gorgon Joint Venture should be granted access to Barrow Island for the purposes of gas processing, contrary to environmental and conservation advice. The subsequent statutory EIA on the detailed project proposal is nearing completion at the time of writing.

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<sup>2</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 (refer to Pope *et al.*, 2005).

<sup>3</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 LNG for the international market. For this reason, the assessment was considered to be strategic rather than project-level.



### South West Yarragadee water supply development

The sustainability assessment of the South West Yarragadee (SWY) water supply development, currently nearing its final stages, is 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 proponent in the case is the Water Corporation of Western Australia, the government-owned water utility, which is seeking approval to extract 45 GL/year 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), which services Perth as well as some of the agricultural and goldfields districts of Western Australia (Strategen, 2006).

The SWY is one of a number of potential water supply strategies maintained on the Water Corporation’s source development plan, 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 is to determine whether or not the SWY can or cannot 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. Since the proposal is controversial and 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>4</sup> it was particularly important that the assessment be conducted in collaboration with the community and within a sustainability context. Therefore, a Community Reference Group (CRG) was formed and a Sustainability Panel has been 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, 2006).

The Sustainability Panel was modelled on the Canadian approach under the *Canadian Environmental Assessment Act* 1992, although in the Western Australian case the Panel has no legal status. Although not responsible for public hearings, as in the Canadian model, it has served a similar function in providing a space for deliberations about the proposal within a sustainability context.

The sustainability assessment commenced when the proposal was still in a conceptual stage.<sup>5</sup> Following a scoping process in which sustainability factors and

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<sup>4</sup>This is a classic example of the “us and them” divide between city and country communities in Western Australia mentioned in Section “The Western Australia Context”.

<sup>5</sup>However, a considerable amount of work had already been done, for example in modeling 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.



objectives were identified and a Scoping Report prepared, a large number of studies (environmental, social and economic) was conducted in order to determine the extent to which these objectives would be met by the proposal and to identify mitigation and offset measures that might be required to deliver the required net benefits called for by the State Sustainability Strategy. This iterative process was conducted in collaboration with the CRG and the Sustainability Panel for the purposes of refining the proposal.

The Water Corporation and its consultants have now prepared a draft Sustainability Evaluation Report that incorporates the requirements for EIA under Part IV of the *Environmental Protection Act* 1986, as well as addressing the broader sustainability considerations identified in the Scoping Report (Strategen, 2006). The Sustainability Evaluation Report is currently being reviewed by the public, the government decision-makers and regulators and the Sustainability Panel, who will each comment on the acceptability of the proposal from their perspectives.

In this case the decision-makers are the Waters and Rivers Commission (WRC), the body responsible for water allocation in Western Australia, and the Minister for the Environment, acting on advice from the EPA. However 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.

### **Fremantle Outer Harbour**

The Fremantle Outer Harbour (FOH) is a proposed new port to be developed as an overflow facility for container trade and associated general cargo to supplement the existing Fremantle Inner Harbour, just south of Perth, which is Western Australia's major port and which is nearing capacity. The Inner Harbour is operated by Fremantle Ports, which, like the Water Corporation, is a government business enterprise.

The question framing the assessment of the FOH development is: "What is the best configuration for the deep water port to be located at Naval Base, south of Perth?" As reflected by this question, both the need for and the site of the new port have already been determined. Cabinet endorsed Naval Base (south of Perth and Fremantle) as the preferred site for the new facility in 1996, and in 1997 Fremantle Ports commenced the development of a strategic port plan for an expanded port facility in the Fremantle Outer Harbour at Naval Base.

The joint proponents for this development are Fremantle Ports (for the port component) and the Western Australian Government's Department for Planning and Infrastructure (DPI), for the land-based road/rail components. The project is overseen by a Project Steering Committee, chaired by the proponents and comprised of representatives from government, industry and the community.

Four options for the port development incorporating various quay and land based road/rail transport alternatives have been identified, and Government has resolved to carry out a strategic assessment of the four options using a sustainability assessment approach. However, the scope of the assessment is somewhat limited given the framing of the question and is restricted to an assessment of relative sustainability performance of the various port/transport corridor configurations. The assessment process is underway at the time of writing.

The assessment, conducted by consultants on behalf of the proponents, involves: the evaluation of the potential environmental, social and economic impacts associated with each of the four options; allocation of scores to specific criteria, selected to optimally discriminate between the options; the development of weightings for these criteria in a collaborative process involving stakeholders; and selection of the preferred option based on the scores and weightings of the criteria<sup>6</sup> (Government of Western Australia, 2005).

This information will then be compiled by the consultants into a Strategic Assessment Report and circulated to the proponents, the Project Steering Committee, the EPA and the Western Australian Planning Commission (WAPC), a statutory body similar in status to the EPA and responsible for land use planning and control. The proponents will then select and revise their preferred option in light of the information provided in the report and advice from the Project Steering Committee, the EPA and the WAPC in response to the Strategic Assessment Report.

The outcome of this work will be the development of a preferred port/transport configuration by the proponents who will then submit their proposal firstly to the Project Steering Committee, and then to the WAPC and EPA for their consideration a report outlining their preferred option, together with the Strategic Assessment Report.

The EPA will provide strategic advice on the environmental aspects of the assessment to both the WAPC and the Minister for Environment. The WAPC is responsible for producing an integrated strategic advice report for submission to the Minister for Planning and Infrastructure and Cabinet on the preferred port and transport infrastructure option. Cabinet will consider this advice and make a decision as to whether to grant in-principle approval to a preferred port and transport infrastructure configuration for the Outer Harbour expansion within the Naval Base location.

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<sup>6</sup>This process involved distinguishing between the weightings allocated by different stakeholder groups (for example local residents and business) and demonstrating how the weightings of the different groups affected the ranking process. A sensitivity analysis was also conducted, considering the uncertainties inherent in the impact assessment and 'what-ifs' related to potential mitigation and offset measures.

## **Reflecting and Learning**

This section examines more closely how the three sustainability assessment processes were designed and how they have played out in practice up until this point. Conclusions and recommendations for the practice of sustainability assessment in Western Australia and elsewhere are then drawn from this analysis in the “Conclusions and Recommendations” section.

In discussions amongst those involved in these case studies, and particularly during the two workshops discussed in Section “Methodology”, a number of themes have emerged, which provide the structure for the following discussion. The first three relate specifically to process methodology and the last two relate to context, reflecting a division that has been observed elsewhere (Fischer, 2006; Lee, 2006).

### **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: “Are the potential impacts of constructing a gas processing plant on Barrow Island acceptable?” excluded any real consideration of alternative locations for the development. 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).

This was somewhat ironic, since neither side of the debate actually wanted the Gorgon gas development to be located on Barrow Island: the “green” side for conservation reasons, and the pro-development side because a mainland location would have represented a foundation development for a new industrial park in the North West of Western Australia. However, since the assessment was entirely reactive and based upon the proponent’s preferred (for commercial reasons) option of Barrow Island, there was no opportunity to discuss alternative locations and consider what might be required to make them acceptable to the proponent.<sup>7</sup>

This question ensured that there was no means of bridging the value and philosophical divide between those who believed that resource development is inherently a good thing for society, and those who believed that some places, such as Barrow Island, should be held sacred and protected accordingly (Pope *et al.*, 2005). This divide characterised and defined the Gorgon assessment process, both within the community and within the government.

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<sup>7</sup>For example, the possibility of government financial support as compensation to the proponent was informally and hypothetically raised in these discussions.

It is a “threshold question” relating to the acceptability or otherwise of a proposal, which reflects the practice of EIA in Western Australia. This is similar to the first of the two questions framing the SWY assessment, which are:

- (i) Is the proposal to extract 45 GL/year from the Yarragadee formation aquifers acceptable? and
- (ii) What is the most sustainable way of developing this water source?

The second SWY question is considerably more open and strategic than the first and reflects a different relationship between the assessment and the process of developing the proposal. Whereas the Gorgon assessment was conducted entirely reactively (as dictated by existing regulation of private sector resources exploitation proposals), the SWY was more proactive<sup>8</sup> and therefore had a far greater influence on the final proposal. The relationship between the assessment and the development of a proposal is the subject of further discussion in the section entitled “Influence on the final proposal”.

However, although the question was more openly defined, many argued that it was still too specifically related to one water source and did not allow the “bigger” questions to be asked (such as: “What is the best way to provide public water supply?”) that would have allowed the SWY to be compared with other potential water sources.

The question framing the FOH assessment: “What is the best configuration for the deep water port to be located at Naval Base, south of Perth?” is similarly limited, as already highlighted. Unsurprisingly, concerns about the assessment process have focussed on whether an additional port is necessary or desirable and whether it should be built in this location. What is clearly missing in this case is the justification for the specific Naval Base location expressed in overall sustainability terms, and the trigger for its development. The influence of higher level decisions on the sustainability assessment of a proposal is discussed in the “Policy context” section.

All of the case studies illustrate that the kinds of issues that are relevant to a sustainable future (such as energy/greenhouse policy) and often most important to the broader community, may be sidelined by the way in which assessments are framed (Bradbury and Rayner, 2002).

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<sup>8</sup>The SWY documentation 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. These two different applications might also be termed “internal” and “external” sustainability assessment (refer to Section “Influence on the final proposal”).

## **Influence on the final proposal**

Based upon a comparison of the original and the final proposals, there was little evidence that the Gorgon assessment process had any significant influence on its development. This observation was based on the factors discussed in relation to “The question”, since the framing of the question did not allow significant rethinking of the fundamental concepts of the proposal, such as the location of the development.

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, 2003), there was a perception expressed during the research interviews that this had little influence. The release of documentation for public comment is typical of consultation within impact assessment, and is an example of what Bradbury and Rayner call “instrumental” approaches to participation,<sup>9</sup> where the aim is to legitimise decisions that are well on the way to being made, rather than to contribute to decision-making (Bradbury and Rayner, 2002).

Both the framing of the question and the forms of consultation applied can be attributed to the late stage in the history of the development<sup>10</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.

In contrast, and as already mentioned, the second of the two questions framing the SWY assessment reflects a more proactive approach, in which the sustainability assessment helps to shape the final proposal. In the strategic environmental assessment literature,<sup>11</sup> the proactive model is considered to be best practice since it is more likely to have a real influence on decision-making (Thérivel and Partidário, 1996; Partidário, 1999; Brown and Thérivel, 2000; International Association for Impact Assessment, 2002).

However, while the literature generally recommends that the integrated proposal development/assessment process commence with identifying issues and strategic objectives, developing alternative ways to address the issues and meeting the objectives, and then selecting the preferred option based upon an assessment process

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<sup>9</sup>Instrumental participation occurs when “information from the agency is a commodity (input) causing change (response) in a passive, public recipient” (Bradbury and Rayner, 2002).

<sup>10</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.

<sup>11</sup>Although the term “strategic environmental assessment” refers by definition to the assessment of policies, plans and programmes rather than projects, there is no reason why the principles discussed here could not equally apply to the development of project proposals (see Pope *et al.*, 2005).

(Noble and Storey, 2001; Thérivel, 2004; Thérivel *et al.*, 2004; Lee, 2006), 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.

However, there was flexibility in many aspects of the proposal and it was always intended that the process of finalising the proposal to make it “as sustainable as possible” should be iterative. For this reason, the SWY sustainability assessment process is represented as a circle (Strategen, 2006).

The project team and members of the Sustainability Panel expressed the view in the research interviews that the CRG and the Sustainability Panel were key to the success of the process. Within these deliberative spaces, where the gradually accumulating body of impact data was discussed in detail, not only were issues requiring further attention identified and potential impact mitigations and offsets for adverse impacts proposed, but fundamental assumptions about the proposal and its impacts were challenged, leading to significant reframing and reconceptualisation of the proposal.

These deliberative processes finally led to a significant shift in the definition of the project and the decision to extend the IWSS to the South West to maximise the economic value and security of water supply in both the regional and metropolitan areas. This alleviated some of the expressed concern about potential lack of adequate water supply in the South West region in the future and therefore fears about potential “futures foregone” and proved to be a very significant event in the development of the proposal. As the SWY assessment approaches its final stages, the iterative, circular approach is considered by most to have been successful.

The SWY experience highlights the importance of engagement and deliberation in sustainability assessment that can influence the final proposal. Such deliberative processes also provide a means for qualitative “softer” data (often 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. Furthermore, communities who have been actively involved in such processes are more likely to be accepting of the final outcome (Kørnøv and Thissen, 2000; Monnikhof and Edelenbos, 2001; Scrase and Sheate, 2002; Petts, 2003).

In the FOH case, the assessment process has a high degree of influence over the decision on the best port configuration, since stakeholder groups will actively engage in weighting the various criteria and recommending the most appropriate choice. However, in the greater scheme of things this influence is minimal, because so many decisions, including the justification for the port and its location, are outside

the scope of the assessment process. The FOH case is about selecting between what Noble calls “option alternatives” rather than the more strategic “alternative options” (Noble, 2002).

Both the SWY and FOH assessments can be considered “internal” assessments, conducted proactively by the proponents and their consultants for the purposes of refining the proposal (though with the limitations outlined above), in contrast with Gorgon which was an “external”, regulator driven process, which by definition is more reactive. However, the SWY and FOH proposals will also be subject to statutory assessment by various regulators, and it remains to be seen how well the internal and external assessments will align.

### **Criteria 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 was considered a major flaw in the process and one that compromised its overall transparency. It was perceived by many on the “green” side of the argument as the environment being traded off once more for economic gain, but this time under the guise of “sustainability” (Pope *et al.*, 2005).

The lack of clear criteria for decision-making was unsurprising, since the Gorgon assessment was conducted at a time when the State Sustainability Strategy was still in development, and hence the Government’s position on sustainability was not yet clearly articulated. While it was recognised that sustainability decision-making would require consideration of environmental, social and economic issues, and hence the ESE process was conceived, what was missing was any attempt to define Government’s expectations of the proponent in terms of these issues.<sup>12</sup>

The calls for a clear basis for sustainability decision-making that provide a workable definition of sustainability echo through the impact assessment literature (Hardi and Zdan, 1997; Devuyt, 1999; Lee, 2006; and see also Hacking and Guthrie, 2006). Furthermore, it is argued that principles, objectives and criteria should be specified early and should guide the proponent in developing its proposal (Partidário, 1999; Sippe, 1999; Gibson, 2001).

In contrast with Gorgon, the SWY and FOH assessments both commenced with the development of what may be termed a “sustainability decision-making protocol” to guide the assessment process and shape the proposal itself. The protocol development occurred in two stages: the identification of the sustainability factors that were

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<sup>12</sup>While policies related to environmental protection are articulated through legislation, policies relating to social and economic outcomes either do not exist in Western Australia, or if they do exist, are not articulated in the project approvals process.



considered relevant to the decision in each case and the establishment of objectives or criteria for each factor. The second of these stages was entirely lacking in the Gorgon case.

Experience with the SWY assessment has demonstrated the contribution of the protocol to the perceived success of the process. Although the sustainability objectives could not be quantitatively or unambiguously defined, as has been advocated elsewhere (Pope *et al.*, 2004), they proved invaluable in establishing the boundaries within which the proposal was to be developed (Pope *et al.*, 2005).<sup>13</sup> The apparent tensions between some of the objectives and those within the groups who championed them, 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 discussed in the section entitled “Influence on the final proposal” above.

This raises the question of how a sustainability decision-making protocol should be developed, and broad consultation and engagement both within government and with the broader community is clearly important. The potential for a proponent’s protocol to be misaligned with regulators’ has already been alluded to, and therefore, it is important that the relevant approvals agencies are involved in the process early on so that the proponents are aware of the agencies’ key issues.

This also raises the interesting question of the difference between private and public projects in terms of the societal contributions each might be expected to make. Traditionally, private proponents of resource development projects in Western Australia have not been required to overtly align their proposals with societal aspirations, except perhaps by being required to contribute social compensation or environmental offsets packages. In contrast, the proponents of the two public projects discussed here have gone to great lengths to demonstrate the contribution of their proposals to a more sustainable Western Australia. What will happen when the next major resource development proposal is subjected to sustainability remains to be seen, although there is a view that more will be demanded of private proponents in the future, dictated by both government and private sector commitments to sustainability.

### **Policy context**

It has been argued that sustainability assessment of a project proposal should be guided by clear criteria for decision-making, in the form of a “sustainability

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<sup>13</sup>The process of considering the acceptability of environmental impacts and potential offset measures was aided dramatically by the publication of the EPA’s draft Position Statement on environmental offsets, which also defined “critical environmental assets”, thereby effectively setting the environmental “acceptability limit” for the proposal (EPA, 2005).

decision-making protocol". In effect, this should be an interpretation of sustainability specific to the decision at hand. Clearly, it should be based upon agreed sustainability principles and guided by the policies, plans and programmes that represent the existing policy context.

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 is much discussed in the impact assessment literature (Thérivel and Partidário, 1996; Fischer, 2002; Marsden, 2002; Noble, 2002a; Fischer, 2006), although it is noted that it rarely works in practice according to the theory (Noble, 2000; Nooteboom, 2000; Lee, 2002; Arts *et al.*, 2005; Partidário and Arts, 2005).

One of the reasons that tiering has proved somewhat idealistic 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. This was borne out by the case studies, all three of which exposed "disconnects" between the decision at hand, previous decisions that influenced it, and the policy context within which it was to be made.

The questions defining all three assessment processes were the product of many previous decisions, over long periods in some cases. In the SWY and FOH cases, these were government decisions relating to the need for more water and the need for a new port, and identification of potential new water supplies and port locations. However, as already described, these more strategic decisions were not conducted within a sustainability context and were not necessarily transparent, and therefore it can be argued that reliance upon them compromises the integrity of the subsequent project assessments and limits their potential to deliver outcomes that meet the full range of Government's stated sustainability objectives.

The key policy learning arising from these two case studies is that project-based sustainability assessment is not so much about the desirability of the projects *per se*, but about the way they are developed, i.e. how, where and when. Therefore, the framing of sustainability assessments should be sufficiently "strategic" to allow these concerns to be addressed within the scope of the assessment. Examples of more strategic questions for Gorgon might have been: "What is the best way to develop the Gorgon gasfields?" or even: "What is the best way to meet Western Australia's future energy requirements?" (Pope *et al.*, 2005).

The case studies also exposed policy gaps in areas of direct influence on the proposals discussed. In Gorgon 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.<sup>14</sup> Similarly, the lack of greenhouse gas and energy policies became all too evident and was highlighted by representatives of both sides of the debate in a retrospective review of the Gorgon assessment conducted by DoIR.<sup>15</sup>

The SWY process identified the lack of a strategy or plan for water allocation in the South West and of a process by which the “reasonably regional needs” of the South West community, required by the State Water Strategy (Government of Western Australia, 2003a) could be determined. The FOH case identified the lack of policy relating to the provision of public infrastructure to support the trade sector of the local economy.

Both 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. In fact in the SWY case, the proponent and its consultants have actually made policy recommendations in the gap areas as a result of the assessment (Strategen, 2006).

As well as these immediate policy deficiencies, the case studies also raised some more fundamental questions and posed challenges to entrenched policy beliefs and traditions, often through the public consultation processes. For example, Gorgon raised questions about the private sector exploitation of non-renewable natural resources: as already described, 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.

Similarly, participants in the SWY assessment questioned our traditional attitudes to water use in Western Australia, which is one of the driest climates on Earth, and one that is likely to become even drier; and FOH opened up questions of international trade: “What are we bringing through our ports and why?”

Although the assessment processes, with their narrowly defined questions, did not provide a space within which such issues 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.

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<sup>14</sup>Probably as a result of Gorgon, the EPA has subsequently issued a Position Statement on environmental offsets (EPA, 2005).

<sup>15</sup>One of the authors was involved in this review, the report of which remains unpublished.

The depth of issues that must be addressed is well illustrated by the example of the private sector exploitation of non-renewable resources, as in Western Australia.<sup>16</sup> Currently, control of natural resources is passed to the private sector in the form of exploration licences, under which private proponents effectively “own” the resource and choose when to develop it. The State is therefore essentially reactive to private sector exploration and development proposals, as was the case with Gorgon. By definition, these non-renewable resources will disappear in the long term. As a community we will need to replace the present economic and associated social benefit we derive from these industries with something else.<sup>17</sup> What will it be? When do we need to start making the transition? Are we, as a community deriving the optimum benefit from these finite resources?

The development of policies addressing these questions would require a broad public debate about the future of the minerals and petroleum industries and the socio-economic impact of future trends, and would mark a significant shift in Western Australian natural resource management policy. However, this debate is essential if we are to successfully progress the sustainability agenda and if sustainability assessment of project proposals is to become a meaningful policy tool.

### **Institutional and governance arrangements**

Since the decision was made to commence the implementation of sustainability assessment by working within existing institutional structures, each of the case studies has been constructed on an *ad hoc* basis around the *Environmental Protection Act* 1986. While this was appropriate within the general “learning by doing” approach, experiences have highlighted aspects of the institutional and governance arrangements in Western Australia that are not supportive of sustainability assessment.

The conflicts and value clashes that arose from separating the environmental/conservation and social/economic/strategic components of the Gorgon assessment and advice to Government were obvious and have been mentioned in the section entitled “The question”. This reflected the divide within the bureaucracy between the agency responsible for promoting exploration and development of resources (DoIR), and agencies that, under the current arrangements, are responsible for regulating their activities (the EPA and Conservation Commission in this case).

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<sup>16</sup>Although non-renewable resources projects highlight this policy gap, it essentially applies equally to the private sector in all industry sectors, including for example agriculture, manufacturing and water.

<sup>17</sup>The State Sustainability Strategy principles state “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.”

Although this role separation is inevitable (and arguably desirable), the undesirability of this situation in which one side ultimately “won” and the other “lost”, highlights the need for a body to play a more integrative, holistic function in the interests of generating more sustainable outcomes. Furthermore, Gorgon highlighted a lack of institutional capacity within the government to undertake social and economic impact analysis. Faced with this deficiency, and seeking to demonstrate a degree of independence as project managers of the Gorgon assessment, DoIR had little choice but to hire consultants to conduct this analysis, resulting in the two-pronged assessment which exacerbated the values divide and eliminated any possibility of the much sought-after “integration” of environmental, social and economic concerns through sustainability assessment.

The SWY and FOH processes attempted to address this fragmentation by including in the institutional structure an entity responsible for providing integrated sustainability advice: a specially established Sustainability Panel in the former case and the existing statutory body the WAPC in the latter. While this was a marked improvement, it is clear that the *ad hoc* approach is far from ideal, and that a more formalised arrangement should be put in place if the sustainability objectives of net benefit, transparency and accountability are to be effectively met.

While the Gorgon process was managed by DoIR, also the agency responsible for promoting industrial development, both the SWY and FOH processes were effectively driven and coordinated by the proponents with the help of consultants. It has been recognised for some time that neither of these approaches is ideal (Government of Western Australia, 2002), and coordination responsibilities now rest with a newly established projects coordination office within the Department of the Premier and Cabinet. 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 and FOH.

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 suggested regional sustainability strategies as a mechanism for developing location-specific sustainability policies and therefore criteria for project decisions (Jenkins *et al.*, 2003).

To their analysis might be added an observation that attempting to engage private sector proponents on sustainability only within the context of project approvals will have very limited success, and therefore Government needs to pro-actively promote corporate responsibility/sustainability within the private sector as a matter

of policy and in accordance with the recommendations of the State Sustainability Strategy (Government of Western Australia, 2003b). Under the present regulatory framework, the aspiration for proactive sustainability assessment that informs the development of a proposal, meaningfully engages the broader community and seeks to deliver sustainability outcomes meeting both proponent and societal expectations can realistically only meet with the active and voluntary cooperation of private proponents, whereas for public sector projects achievement of this objective is wholly within the realm of Government.

### **Conclusions and Recommendations**

These three case studies and the analysis of the previous section permit conclusions to be drawn and some pragmatic recommendations to be made for the future of sustainability in Western Australia. Furthermore, the authors believe that by locating the stories of their experiences within the context in which they occurred, that those from other jurisdictions will understand the experiences and thus be able to determine the extent to which the lessons learnt are applicable elsewhere.

Three of the themes discussed relate to aspects of sustainability assessment processes and methodologies: “the question”; influence on the final proposal; and the basis for sustainability decision-making. However, as demonstrated by the discussion, these are not only very much inter-related, but are also heavily influenced by the surrounding policy context and institutional structures. Furthermore, the conclusions and recommendations are presented with the understanding that many of the sources of “unsustainability” are deeply embedded within not only the prevailing policy and institutional contexts, but also within the structures of society as a whole, and therefore the journey towards a more sustainable society is by nature a long-term project (Dovers, 2001).

Firstly, sustainability assessment should be promoted as an integral part of developing the final proposal. It should commence early enough to meaningfully influence the proponent’s planning and be framed by a “question” that is sufficiently strategic to ensure that viable alternatives are considered. It should be undertaken as a partnership between the proponent, the State and the community.

This would represent a significant shift from current practices of assessment in Western Australia, but could be achieved as a result of commitments by both Government and the private sector to sustainability and corporate social responsibility.

Secondly, the integrated planning and the assessment process should be guided by a “sustainability decision-making protocol” that is developed collaboratively; reflects the Government’s policy settings and society’s sustainability vision; and incorporates both aspirational objectives and thresholds of acceptability, particularly in relation to environmental issues. The protocol should provide the basis for

both the proponent's internal planning and any subsequent statutory assessment by Government.

Thirdly, sustainability assessment processes, both formal and informal, should meaningfully engage the broader community and create spaces for deliberation in which a range of views may be expressed and heard; qualitative data, values and perceptions are considered alongside technical data; and the identification of modifications or alternatives to a proposal that would deliver more sustainable outcomes is encouraged.

Fourthly, delivering these improvements in Western Australia would be facilitated by institutional reform, and specifically the establishment of one or more bodies responsible for coordinating the sustainability assessment of both private and public project proposals to ensure that consistent and effective processes are applied; and for providing integrated advice to Government on the acceptability of a project within a sustainability context (which may require legislative reform in the longer term).

Fifthly, the influence of the prevailing policy and the institutional context on the integrity and effectiveness of project sustainability assessments must be recognised. Ideally, the broader community should be engaged in developing a societal vision and corresponding high-level policies defining a sustainable Western Australia, addressing key areas such as resource development and the provision of public infrastructure, which would ultimately support the definition of project "sustainability decision-making protocols" for individual projects.

Recognising that this may be a long-term process, frameworks and "feed back" mechanisms are required in the short term to ensure that policy and institutional gaps and deficiencies exposed by project assessments are recognised and addressed. This is vitally important, since the process of upward feedback or "trickle-up" from project sustainability assessments may deliver benefits far beyond those related to individual projects, by initiating gradual changes in policy, institutional and social patterns that currently limit progress towards sustainability. This process of societal learning and change may be the greatest contribution that project assessment processes can make to a more sustainable future.

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