

13 Sustainability and environmental protection

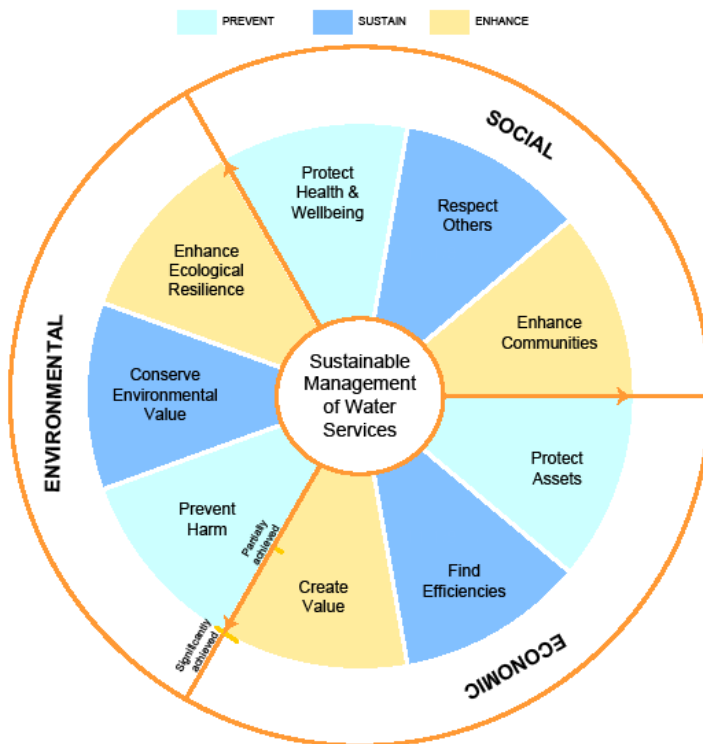
13.1 Introduction

Chapter 4 summarised the principles of sustainable development as articulated by the EPA and makes an evaluation of the significance of each impact as either 'applicable' or 'key' according to these principles. This chapter explores sustainability principles further by evaluating the Water Corporation's performance against its own Sustainability Business Principles and the "Water Scores" benchmarking program and developing a guide for future decisions yet to be made on the proposal.

13.2 Water Corporation's Sustainability Business Principles

The basis of the review was the 18 principles developed by the Water Corporation to guide decision making at all levels of project development (see Figure 13.1).

BUSINESS PRINCIPLES WHEEL



Sustainable management of water services to make WA a great place to live and invest

Figure 13.1 The Water Corporation's sustainability business principles.

The basis of the sustainability review is the Water Corporation's eighteen Sustainability Business Principles, which have been developed to govern how the Corporation conducts its business. The principles are structured into six key dimensions, with three principles in each of these six dimensions.

The first three dimensions represent the traditional triple bottom line dimensions of social, economic and environmental outcomes, and cover what might be considered 'Outcome Principles.' These Outcome Principles are aspirational, acknowledging that the current state is not yet sufficient, and recognising that there will always be new opportunities to further improve the sustainability performance of our activities and to enhance social, economic and environmental value.

The remaining three dimensions of ethical, stakeholder, and governance might be considered as 'Process Principles', describing the ethos and approach to be adopted in all behaviours and decision making, which will facilitate positive outcomes in the traditional triple bottom line impact areas. These Process Principles might also be thought of as an expansion of the 'governance' dimension referred to in the recently emerging concept of the 'quadruple bottom line.' Process Principles recognise that sustainable outcomes are only possible if the manner in which issues are approached is itself properly considered and thoughtful.

Hence the Water Corporation's Sustainability Business Principles have a balanced structure, with three dimensions of Outcome Principles on the one hand, facilitated and supported by three dimensions of Process Principles on the other.

Within each of these six dimensions – both Outcome and Process dimensions – are three specific principles (eighteen in total). Again, the three principles form a common structure across all dimensions.

The first principle focuses on preventing harm within each dimension, the second is aimed at preserving current value, whilst the third encourages the creation of positive value within each area.

Consequently, the eighteen Sustainability Business Principles provide the Water Corporation with a comprehensive framework to consider all aspects of its business and provide guidance with specific focus on preventing harm, maintaining value, and enhancing value in each of the areas (GHD 2008b).

13.3 The Water Corporation's Water Scores benchmarking program

The Water Corporation's Water Scores Benchmarking Program has been developed in as a means of assessing and benchmarking the performance of contractors and partners contributing to the delivery of Water Corporation's projects. At the heart of Water Scores is a series of sustainability benchmarks based upon the Water Corporation's Sustainability Business Principles and the Australian Business Excellence Framework. The benchmarks specifically reflect the construction stage of projects, and interpret the Sustainability Business Principles accordingly. Project delivery partners are required to assess their own performance in six-monthly 'waves', using the on-line Water Scores Application (GHD 2008b)

Potential Alliance partners were required to conduct a preliminary self-assessment as part of the Request for Proposals process. Water Corporation has indicated that Water Scores will continue to be the primary mechanism by which the sustainability of the project will be monitored and managed throughout the Design, Construct Operate and Maintain stages (GHD 2008b).

13.4 Sustainability review of the proposal

The review was conducted at a stage in the proposal where many decisions are yet to be made. It therefore necessarily only covered the planning and approvals stage of the proposal, and made recommendations for how the sustainability principles should be used to guide decisions made during future phases of the project.

It was found that the overall sustainability of the project had been significantly enhanced through the actions, decisions and commitments made during the planning and approvals stage (GHD 2008b). Of particular significance is the decision to purchase Part Lot 8, which significantly reduces the impacts of the plant on the environment and on the community by making use of the cleared quarry for some of the plant infrastructure and setting the plant further back from the beach.

Further, the review found that the application of the “Water Scores” benchmarking program throughout the life of the project is an appropriate mechanism to measure performance against sustainability principles (GHD 2008b).

Table 13.1 contains the environmental aspects of the sustainability review (for the full review, see GHD 2008b).

Table 13.1 Sustainability review (environmental aspects) (GHD 2008b).

Environment			
	Sustainability Aspects	Planning Stage Actions, Decisions and Commitments	Comments and Recommendations
Prevent harm to the environment	Terrestrial (PER): <ul style="list-style-type: none"> ▪ Flora ▪ Fauna (including subterranean) ▪ Wetlands and watercourses ▪ Dewatering and acid sulphate soils ▪ Stormwater ▪ Soil contamination ▪ Wastes 	<ul style="list-style-type: none"> ▪ Impacts on flora and fauna have been minimised through the selection of infrastructure sites as documented in the Pipeline selection report, Summit tank preliminary site assessment and Trunk main preliminary route assessment; ▪ The decision to purchase Part Lot 8 (which is mostly quarry) and identification of construction and rehabilitation areas on Part Lot 8 (presented to the community on 3 December 2007) represent significant commitments to minimise impacts on flora and fauna; ▪ According to the PER, EPA objectives with respect to all of these factors can be met during both construction and operations. Impacts will be managed in accordance with the Construction and Operations EMPs. 	Construction and Operational EMPs will become the responsibility of the Alliance partnership during the later stages.
	Marine (PER): <ul style="list-style-type: none"> ▪ Benthic habitat (marine flora) ▪ Marine fauna ▪ Coastal processes ▪ Marine dilution and dispersion (hydrodynamics) ▪ Marine water quality and sediment quality ▪ Waste management ▪ Eco-toxicity and Marine Protection Areas 	EPA objectives with respect to all of these factors can be met during both construction and operations. Impacts will be managed in accordance with the Construction and Operational EMPs.	<ul style="list-style-type: none"> ▪ Several important decisions that relate to potential marine impacts remain to be made during the Design, Construct, Operate and Maintain stage, including the number of intake pipes, the pipeline construction methods and the design of the outfall diffuser. Environmental impacts will be taken into consideration in making the final decisions; ▪ Potential impacts will be managed through the Construction and Operations EMPs.

	<p>Atmospheric (PER):</p> <ul style="list-style-type: none"> ▪ Greenhouse gases emissions ▪ Particulate matter (dust) 	<ul style="list-style-type: none"> ▪ The decision to locate the SSDP close to the ocean helps to minimise energy usage and therefore greenhouse gas emissions; ▪ Furthermore, the commitment has been made that, subject to availability, 100% of the energy requirements to operate the SSDP will come from renewable energy sources with 20% from technology currently commercially unproven; ▪ The commitment has therefore been made that there will be zero net greenhouse emissions associated with purchased energy; ▪ EPA objectives with respect to all of these factors can be met during both construction and operations. Impacts will be managed in accordance with the Construction and Operations EMPs. 	<p>Potential impacts will be managed through the Construction and Operational EMPs.</p>
Conserve the values of the environment	<p>Resource efficiency:</p> <ul style="list-style-type: none"> ▪ Energy ▪ Consumables ▪ Materials 	<p>No decisions made at time of review, as resource efficiency is heavily dependent on plant design. However, the structure of the Alliance contract, which will be in place for 25 years, covering design, construction, operation and maintenance, encourages resource efficient design and operations.</p>	<p>Consideration should be given to resource efficiency in the later stages of the proposal.</p>
	<p>Conservation of ecosystems (integrity, connectivity, habitat):</p> <ul style="list-style-type: none"> ▪ Wetlands ▪ Terrestrial ▪ Marine 	<ul style="list-style-type: none"> ▪ As discussed above, infrastructure sites have been selected to conserve ecosystems as much as possible; ▪ EPA objectives, many of which relate to conserving ecosystems, will be met. 	
	<p>Enhancement of ecosystems (integrity,</p>	<p>10ha of degraded vegetation on the Lot 8 site will be rehabilitated (in addition to the rehabilitation of the</p>	
Enhance the resilience of the	Enhancement of ecosystems (integrity,	10ha of degraded vegetation on the Lot 8 site will be rehabilitated (in addition to the rehabilitation of the	

natural and human environment	connectivity, habitat): <ul style="list-style-type: none">▪ Wetlands▪ Terrestrial▪ Marine	construction areas.	
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13.5 Conclusions

The review concluded that the Water Corporation should ensure that the gains made during the planning and approvals stage are not lost, but are built upon during the design, construction, operation and maintenance stage through the Alliance partnership (GHD 2008b). As a minimum this should involve (where appropriate, the Water Corporation's response to these recommendations is provided):

- Completing the preparation of the proposed Community Brief, documenting in the public domain the non-environmental commitments made (see Chapter 14 for Water Corporation environmental and non-environmental commitments);
- Preparing the Social Impact Management Plan (SIMP) as recommended in the SIA report (GHD, 2008a), in conjunction with the community and the Alliance partnership;
- Ensuring the Construction and Operational Environmental Management Frameworks (containing plans) reflect the commitments and issues captured in Table 13.1 (see Appendix C and D these plans);
- Ensuring that the comments and recommendations made in Table 13.1 are taken into consideration by the Alliance partnership to ensure that commitments are kept (implementation of the Construction and Operational Environmental Management Frameworks, containing plans, will be the main mechanism by which these actions will be undertaken in partnership with Alliance contractors);
- Conducting a post-project performance audit to assess the overall performance of the project against the sustainability map presented in this document ("Water Scores" benchmarking will be undertaken at six monthly intervals).