



RECHARGE: Sustainability Assessment in South Australia,
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Sustainability Assessment: Overview and Western Australian Perspectives

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Outline

1. Sustainability assessment concept and origins
2. Sustainability challenges and imperatives
3. Western Australian examples and experiences with sustainability assessment

1. Sustainability assessment concept and origins

Some definitions:

- 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, D., Hens L., et al., Eds. 2001. *How green is the city? Sustainability assessment and the management of urban environments*. New York, Columbia University Press.

- The aim of sustainability assessment is to ensure that plans and activities make an optimal contribution to sustainable development

Verheem, R 2002 *Environmental impact assessment in the Netherlands: Views from the Commission for EIA in 2002* The Netherlands.

A simple definition of sustainability assessment...

A process that directs decision-making towards sustainability

[extrapolated from: Hacking, T and P Guthrie 2008 A Framework for Clarifying the Meaning of the Triple Bottom-Line, Integrated, and Sustainability Assessment. *Environmental Impact Assessment Review*, 28: 73-89]

What kind of decisions can sustainability assessment be applied to?

- Project planning decisions (site selection, materials selection etc)
- Project approval decisions
- Development of policies, plans and programmes
- Evaluations of existing practices or sectors (e.g. transport/energy use)
- Evaluations of infrastructure, buildings
- State of sustainability reports on places or countries
- And many others...



Thinking about sustainability assessment

- Consider:
 - **What** is being assessed? (plan, project, building, place, practice, industry etc)
 - **Who** is assessing it? (regulator, proponent, third party)
 - **When** is it being assessed?
 - During the development of a proposal?
 - After the proposal has been developed?
 - After the proposal has been implemented?
 - **Why** is the assessment being conducted (purpose?)
- Different applications of sustainability assessment will have different methodologies



Sustainability assessment as a form of impact assessment (i)

- Many forms of sustainability assessment are based on **impact assessment** processes and methodologies
- **Impact Assessment (IA)** simply defined is the process of identifying the future consequences of a current or proposed action. The "impact" is the difference between what would happen with the action and what would happen without it.
 - International Association for Impact Assessment – <http://www.iaia.org/>



Sustainability assessment as a form of impact assessment (ii)

- Impact assessment is predictive:
 - Occurs *before* a proposal has been implemented
 - Often conducted by **Regulators** e.g. statutory Environmental Impact Assessment (EIA) that determine whether a proposal is environmentally acceptable and the conditions that should be applied
 - Ideally, also used by **proponents** to guide the development of a proposal *before* statutory EIA
 - (May also be undertaken by third parties e.g. non-government organisations)



Sustainability assessment as a form of impact assessment (iii)

- 1st generation: Environmental Impact Assessment – EIA
 - Usually applied to project proposals (traditionally biophysical focus)
- 2nd generation: Strategic Environmental Assessment – SEA
 - Applied to 'strategic proposals' (policies, plans and programmes)
- 3rd generation: Sustainability Assessment – SA
 - Extending both EIA and SEA to cover sustainability



SA has also evolved from land use planning, natural resource management, Agenda 21 etc

- since Rio Declaration on Environment and Development 1992 all governments seemingly uphold sustainable development as fundamental goal(?)

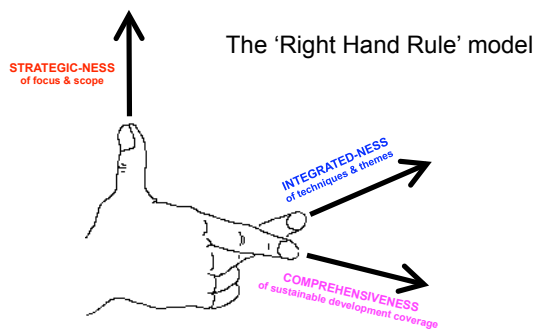


International context for sustainability assessment

- Canada – extension of EIA process
- South Africa – sustainable development objective for EIA
- England – *sustainability appraisal* of local authority development plans
- Hong Kong – CASET (Computer Aided Sustainability Evaluation Tool): voluntary aid for proponents
- World Bank, UN programmes - International trade agreements and development projects
- + many individual tools available...



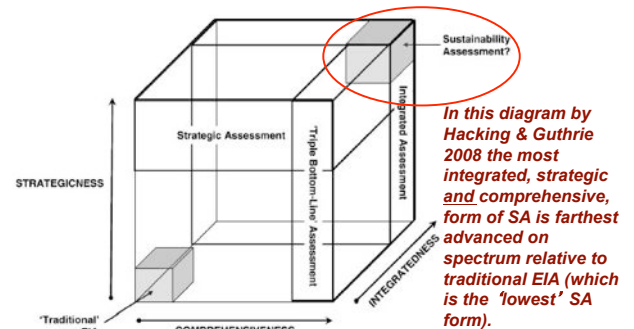
Dimensions of sustainability assessment



Hacking, T and P Guthrie 2008 A Framework for Clarifying the Meaning of the Triple Bottom-Line, Integrated, and Sustainability Assessment. *Environmental Impact Assessment Review*, 28: 73-89

Comparing traditional project EIA with SA... (i)

- A spectrum of possibilities exists for what might be called a 'sustainability assessment'
- major difference is contribution each can make to delivering "sustainability"



Comparing traditional project EIA with SA... (ii)

EIA	SA
• project focus	• any decision
• reactive – project decided by proponent, minimise impacts	• proactive – starts with a sustainability vision for future
• natural capital slowly erodes ('nibbling' of environment)	• seeks to grow capital (make the world <i>more</i> sustainable)
• biophysical focus	• integrate environ/social/economic
• short time-frames	• consider future generations
• project location focus, hard to address cumulative impacts	• regional (holistic) approach, often more than just proponent actions
• acceptable impact often defined and achieved (monitoring)	• sustainability concept challenging to define or 'prove'

2. Sustainability challenges and imperatives

- How can we operationalise 'sustainability' in a meaningful way?
 - uphold 'good' process and
 - achieve sustainable outcomes

Thinking about the concept of sustainability

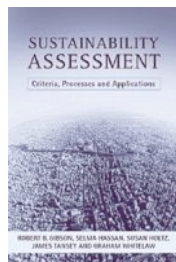
- The concept of 'sustainability' (obviously) underpins the whole practice of SA
- but it is a highly contested concept
 - there is no single universal definition that we can apply
- Therefore, the first task in any SA is to clearly explain what 'sustainability' means in the context of the decision you are making

Defining sustainability for SA

- in simple terms...
 - What is to be sustained, for who and over which time frame?***
 - 'what' = e.g. environment? development?
 - 'who' = equity issues (winners & losers):
intra-generational equity
 - 'time' = future generations: inter-generational equity

International sustainability assessment principles

- socio-ecological system integrity
- livelihood sufficiency and opportunity
- intragenerational equity
- intergenerational equity
- resource maintenance and efficiency
- socio-ecological civility and democratic governance
- precaution and adaptation
- immediate and long term integration



An effective SA process must deliver **all** of these **simultaneously**

Gibson R, S Hassan, S Holtz, J Tansey & G Whitelaw 2005 *Sustainability Assessment Criteria, Processes and Applications*, Earthscan Publications Ltd, London

5 'Sustainability' challenges in SA practice

- (1) agreeing on meaning of sustainability (so all stakeholders share understanding)
- (2) tailoring definition of sustainability for decision at hand (e.g. policy different to building retrofit)
- (3) factoring in long-term time horizons (children's children = 100 years or more?)
- (4) maintaining a holistic approach (choosing indicators – not narrow/reductionist)
- (5) delivering sustainable outcomes (manage trade-offs carefully and transparently)

Bond A and A Morrison-Saunders 2010 Transition Challenge for Sustainability Assessment, presented at: *IAIA10 Transitioning to the Green Economy, 30th Annual Conference of the International Association for Impact Assessment*, 6-11 April 2010, Geneva, Switzerland, (Concurrent Session: 'State of the Art of Sustainable Assessment')
<http://www.iaia.org/iaia10/proceedings/submitted-papers.aspx>

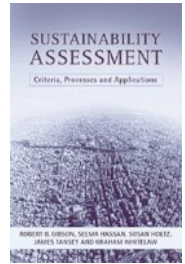
Gibson's 6 sustainability imperatives

- reverse prevailing trends to deeper unsustainability (every project must make **positive contribution**)
- ensure integrated attention to all of the key intertwined factors
- seek **mutually reinforcing gains**
- **minimize trade-offs**
- respect the context
- be open and broadly engaging

Gibson, R (forthcoming 2012) 'Why Sustainability Assessment?' in Bond A, A Morrison-Saunders and R Howitt, *Sustainability Assessment: Pluralism, Practice and Progress*, Routledge Taylor and Francis Group

Criticisms of traditional EIA as a sustainability tool...

- problem when economy & environment considered to be opposition
- core goal of EIA is to seek balance between these competing ends
 - usually this occurs behind closed doors
- balancing is not the path to sustainability
- for progress to sustainability we must find ways of **making gains on all fronts**
- sustainability assessment provides a **forum and framework for explicit attention to trade-offs**



*Sustainability is not about balancing, which presumes a focus on compromises and trade-offs. Instead the aim is **multiple reinforcing gains**. Trade-offs are acceptable only as a last resort when all the other options have been found to be worse.*

[Gibson R 2006 Sustainability Assessment: basic components of a practical approach, *Impact Assessment and Project Appraisal*, 24(3): 170-182]



South African perspective on EIA and sustainability...



... in making decisions in relation to a specific project there is often insufficient attention given to the context in which the decision is being made and to whether or not the implementation of the project would have a positive impact on the attainment of ecologically sustainable development and can be considered to be "justifiable" socio-economic development.

Department of Environmental Affairs 2011, *Environmental Impact Assessment and Management Strategy – Theme: Governance and Administration, Final Report, Sub-Theme 1: Procedures and Organisational Structures*. (prepared by EnAct International for Department of Environmental Affairs, Pretoria, South Africa), August 2011, p5

State of environment trends in South Australia

- Residential sector energy & transport emissions **INCREASED 28%** since 1990 (p8)
- condition of rivers/creeks remained **STABLE** at generally moderate to poor condition (p9)
- health of rivers, streams and wetlands of River Murray floodplain is **DECLINING** (p9)
- seagrass extent along the metropolitan coast is still **DECLINING** (p11)
- extent of acid soils and rates of soil acidification in South Australia is **INCREASING** (p12)
- number of vulnerable and endangered plants, animals and ecological communities is **INCREASING** (p14)
- abundance of feral [animals] **INCREASING** (p14)



<http://www.epa.sa.gov.au/soe/home>

The imperative for positive action for sustainability

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.

Sustainability assessment: basic components of a practical approach

Robert B Gibson

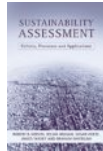
Gibson R 2006 Sustainability assessment: basic components of a practical approach, *Impact Assessment Project Appraisal*, 24(3): 170-182

Is it time for a new mitigation hierarchy?



Apply some decision-making trade-off 'rules' in formal assessment and decision-making processes?

- trade-offs are matters of choice
 - ie. there are no rules or techniques for making choices between alternatives
- rules can help determine *how* trade-off options should be considered
- six basic rules developed by Gibson et al 2005...



The Gibson decision-making trade-off rules



- Net gains:** trade-off must deliver net sustainability gains (long-term)
- Burden of argument:** proponent must be required to justify trade-off
- Avoidance of adverse effects:** no trade-off involving significant adverse effect is acceptable unless all alternatives are worse
- Protection of the future:** no displacement of significant adverse impact from present to future can be justified unless all alternatives are worse
- Explicit justification:** all trade-offs must be explicitly justified (including context specific account of priorities and sustainability decision criteria)
- Open process:** stakeholders must be involved in trade-off making (because value-laden process)

Source: Gibson, R., S. Hassan, S. Holtz, J. Tansey & G. Whitelaw (2005), *Sustainability Assessment Criteria, Processes and Applications*, Earthscan Publications Ltd, London

Gibson trade-off rules were addressed in an EIA in WA in 2006 (i.e. it can be done...)



[17 pages of text in Chapter 6 (voluntary by proponent)]

3. Western Australian examples and experiences with sustainability assessment



- the resource sector (i.e. large projects) tends to attract a lot of attention
- traditionally strong EIA system in place

[but sustainability assessment occurs in many other forms and for other activities in WA too]

Originally government led interest in sustainability assessment...

2002 - Review of the Project Development Approvals System

- Keating review
- develop coordinated, integrated & streamlined system of gov't decision-making for industry & resource development
- recommended SA for major projects



2003 - State Sustainability Strategy

- draft version 2002 – public comment
- established SA principles

WA sustainability assessment principles...

Foundation Principles:

- long-term economic health
- equity and human rights
- biodiversity & ecological integrity
- settlement efficiency & quality of life
- community, regions, 'sense of place' & heritage
- net benefit from development
- common good from planning

Process Principles:

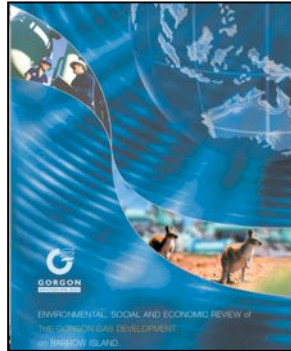
- integration of triple bottom line
- accountability, transparency & engagement
- precaution
- hope, vision, symbolic & iterative change



Govt of Western Australia (2003), *Hope for the Future: The Western Australian State Sustainability Strategy*. Dept of Premier and Cabinet, Perth, WA.

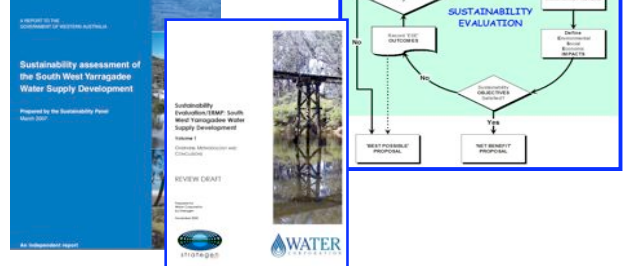
Gorgon gas development on Barrow Island – trial SA case

- 2002 - 2003 WA Government initiated an integrated, strategic level assessment of proposal
 - social, economic and environmental issues
 - strategic implications for Western Australia
 - EIA with socio-economic parts added
 - separate advice (environment, socio-economic) presented to Cabinet for decision-making



South West Yarragadee groundwater proposal 2005-2007

- Water Corporation sought to make proposal as sustainable as possible (no trade-offs)
 - Sustainability Panel established to report on proposal to government



After Gorgon and South West Yarragadee, government interest in sustainability assessment waned... (no formal process ever created)

The EPA focuses on environmental issues, as defined in the EP Act. It is aware that its advice is necessarily shaped by the expertise and experience it has. This expertise is strongly focused on the bio-physical environment and the Authority can make recommendations about these matters with a high degree of confidence. The EPA is also aware that there are very important social, cultural and economic issues around development in the Kimberley. The EPA either does not have a mandate to advise on these issues or is less equipped to do so as there are less formal ways of quantifying the effects of actions.

For example, there is no formal process in Western Australia for the assessment of socio-economic impacts or indeed for their integration with environmental issues into a sustainability assessment. This does not mean that these issues are not important, however. In a number of cases other agencies are best equipped to provide advice or take action in such matters. In the absence of either a legal mandate or appropriate expertise, the EPA has highlighted, in sections 3 and 4 of this report, some of these important issues that have been brought to its attention by participants in the NDT process, particularly Traditional Owners and Kimberley residents, to ensure that their importance is not lost.

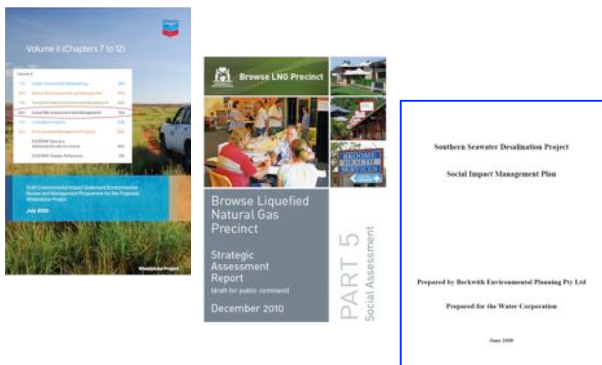
EPA 2008 Kimberley LNG Precinct Review of potential sites for a proposed multi-user liquefied natural gas processing precinct in the Kimberley Region, Advice of the EPA to the Minister for Planning (as the Minister for Environment's delegate) under Section 16(e) of the EPAct 1986, Report 1306, EPA, Perth, p14



However many proponents do voluntarily carry out SA (especially site/option selection using multi-criteria analysis)



Social impact assessment studies are also increasingly undertaken for major projects during the EIA process (voluntary by proponents and no regulation/approvals)



Sustainability Assessment Symposiums 2008 and 2010 – strong practitioner support for SA...



~100 practitioners – government, consulting, proponents, community...

Conclusions

- nationally and internationally there is an appetite for sustainability assessment
 - often happening in absence of legal requirements
- SA can take many forms
 - directing decision-making towards sustainability
- key challenges
 - integration and comprehensiveness (good process)
 - ensuring positive sustainability gains ensue (good outcomes)
 - avoiding and managing trade-offs (good process and outcomes)

