Journal of Environmental Assessment Policy and Management
Vol. 8, No. 3 (September 2006) pp. 281–298

ICP Imperial College Press
www.icpress.co.uk

SUSTAINABILITY INTEGRATION AND ASSESSMENT

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Received 22 December 2005
Revised 11 July 2006
Accepted 4 September 2006

The broadening out of environmental assessment to also consider social and economic dimensions poses some unique challenges, not the least of which is understanding exactly what such a process might entail. This paper outlines the spectrum of possibilities and explores the issue of when and how environmental, social and economic considerations can be integrated in sustainability assessment. The integration issue is also relevant to the practice of strategic environmental assessments (SEA). A new way of conceptualising these types of assessment is put forward based on: (i) what is being assessed — the "question" that is being asked; and (ii) what approach is being used — the type of assessment selected from the spectrum of possibilities. The latter ranges from impact minimisation for each of the three sustainability pillars through to sustainability considered as an integrated concept. The combination of the question and assessment approach determines the level, extent and timing of integration of environmental, social and economic considerations that can be achieved. Additional thought needs to be given to who is performing the integration role as well as the nature of a particular proposal or its setting. This approach to thinking about SEA and sustainability assessment is illustrated with examples from Australia and the United Kingdom.

Keywords: Sustainability assessment; SEA; integration.

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Introduction

Sustainability is often considered in terms of the three pillars of environmental, social and economic (ESE) considerations. Within each pillar, there will always be a number of factors (i.e. corresponding to impacts in traditional environmental assessment) that need to be taken into account with respect to a particular decision. There is general agreement that policies, plans, programmes and projects should be planned so as to take full account of ESE considerations. What is much less clear is whether the EIAs and strategic environmental assessments (SEAs) that support those decisions should also integrate these considerations. The literature certainly presents as many arguments against such integration[1] as in its favour (Table 1).

EIA of projects began as an attempt to raise the status of biophysical considerations in decision-making: to counterbalance the perceived over-emphasis on economic issues brought about by cost-benefit assessment approaches which had resulted in adverse environmental consequences. Over time, however, EIAs have increasingly also considered social and economic issues, and several recent systems of SEA have immediately started by focusing on sustainability (not just environmental) issues. For instance, the European SEA Directive (Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment) was implemented for English and Welsh land use plans by subsuming it within a new system of "sustainability appraisal" (Therivel and Walsh, 2006).

Several commentators are concerned that the integration of social and economic pillars into "traditional" environment centred assessment processes could lead to the erosion of environmental quality for socio-economic benefit in the name of "sustainability" decision-making (e.g. Fuller, 2002; Scrase and Sheate, 2002; Sheate, *et al.*, 2003; Pope *et al.*, 2004; Morrison-Saunders and Fischer, 2006; Kidd and Fischer, In Press). As Dovers (2002) suggests, "environmental and social issues matter, until it matters economically". It is not our intention to investigate the relationship between the three sustainability pillars, although we acknowledge that the issue of trade-offs in sustainability decision-making is a key factor that must be explicitly acknowledged and proactively addressed in any sustainability assessment process (Gibson *et al.*, 2005; Gibson, 2006). Rather our aim is to consider the opportunities for, and problems with, integration of the sustainability considerations and what this might mean for practice.

[1] This paper only concerns the integration of ESE considerations in impact assessment. The term "integration" has also been used in other ways, for instance vertical integration of assessments (linking together separate impact assessments, which are undertaken at different stages in the policy, planning and project cycle) and integration of assessments into decision-making (integrating assessment findings into decision-making at different stages in the planning cycle) (Lee, 2002).

Table 1. Arguments for and against integration in EIA/SEA.

Arguments in favour of integration	Arguments against integration
Improves coherence and efficiency; reduces duplication of reports	Given that time and resources are limited for any assessment, there will necessarily be a loss of depth in consideration of the environment if social and economic objectives and criteria are considered simultaneously
Separating social, economic and environmental issues into assessment ghettoes can make it harder to integrate environmental issues in decision-making, as they come to be seen as a special interest subject which constrains other aspirations. Environmental, social and economic "pillars" become "warring houses"	EIA and SEA were prompted by concerns that environmental consequences of decisions were being given insufficient weight compared to social and economic ones. If the point of EIA/SEA is to redress this balance, then expanding it to include social and economic pillars would be self-defeating
Helps to identify win-win-win solutions that integrate all three	Increases the risk that environmental concerns continue to be marginalised under a rhetoric of "sustainability"; keeping environmental arguments separate allows a clear environmental case to be made and environmental constraints to be clearly stated
The environment matters because it affects human well-being. The apparently ecocentric idea of "environmental protection" always comes back to anthropocentric judgements about what matters for human quality of life. There is no list of environmental imperatives that can be "read off" purely from science without the intervention of any normative judgements about what matters to humankind	Removes questions of an essentially political nature from the realm of democratically accountable decision-making and presents them as reconcilable by technical and rational methodologies or procedures
Allows better identification and documentation of indirect and synergistic effects which result from linkages between ESE impacts which otherwise might be overlooked in separate, more specialised assessments	Carrying out the assessment in aggregate allows trade-offs between individual issues to be hidden. A deterioration in quality of life for some social groups may not become apparent, and potentially unsustainable environmental effects may go undetected

Source: George (2001); Gibson (2001, 2006); Lee (2002); Scrase and Sheate (2002); Therivel (2004).

To do so, this article tries to unpick some of the more subtle factors affecting how decisions are made and how EIA/SEA information is produced and used; those that may be masked in Table 1:

- What is meant by "integration" in EIA/SEA?
- What decisions are influenced by EIA/SEA? and
- Who "integrates" and when?

What is Integration in EIA/SEA?

There is no single definition of "integrated" assessment (e.g. unlike the case for EIA that can be fairly generically defined for practice worldwide). Rather it will mean different things to different people depending on the values and perspectives they bring to the process. For example, some people might consider a sustainability assessment to be simply the consideration of social and economic impacts in addition to traditional EIA/SEA. At the other end of the spectrum, Gibson (2001, 2006) and Gibson *et al.* (2005) propose new ways of thinking about sustainability, and still other approaches can be conceived which extend well beyond the normal mandate of impact assessment. The spectrum of what might be considered as integrated assessment is shown in Table 2, starting with the most integrated and more sustainable at the top, and moving down to the least integrated/sustainable. Of course, in practice, assessments do not fall neatly into these categories, and one assessment may include components of several of these approaches.

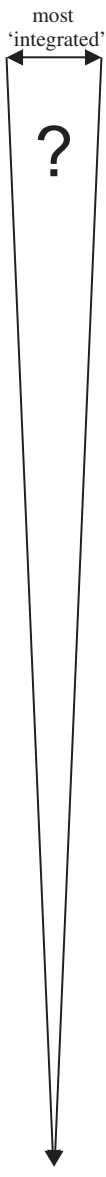
At the "bottom end" of the spectrum lies a traditional project-based EIA approach with the addition of economic and social impact prediction and mitigation. A slightly more sophisticated approach might incorporate aspects of sustainability such as the precautionary principle and the needs of future generations. Pope *et al.* (2004) refer to these kinds of approaches to sustainability assessment as "EIA-driven integrated assessment" and noted their limitations in terms of being able to deliver truly sustainable outcomes, principally because of their focus on minimising negative effects.

The threshold test recognises bottom lines that should not be crossed in the name of sustainability. This is particularly important with respect to potential environmental losses as discussed previously. The threshold test approach may still be predominately about minimising the negative as opposed to seeking positive outcomes. Importantly, though, threshold tests can (and should!) be incorporated into each of the "higher" level sustainability assessment approaches in Table 2.

The next three approaches to sustainability assessment in Table 2 focus on achieving positive outcomes at various levels. The concept of "net gains" seeks to ensure the outcome of a sustainability assessment should be net gains in ESE overall when all pillars (i.e. where each pillar is taken as the aggregation of individual factors within it) are accounted for. A limitation of this approach is that trade-offs between pillars might still occur so long as there is a perceived overall benefit. The win/win/win approach is a more sophisticated version which seeks gains in each of the sustainability pillars and thus does not allow one or more of these to be traded off against others. Above this, the notion of maximising objectives attempts to proactively meet societal goals with respect to each of the ESE factors within each of the pillars.

All of these approaches to sustainability assessment still encourage "silo thinking" in that the ESE considerations are addressed separately. Gibson (2001, 2006)

Table 2. Spectrum of approaches for "integrating" ESE considerations.

	Assessment approach	Characteristics	Comments
	Full integration	Sustainability considered as integrated concept, not three separate pillars	Assessment is guided by clear integrated principles for sustainability and decision-making trade-off rules. Emphasis on justifying that sustainability has been achieved (or at least appropriate process followed to best practicable extent)
	Maximise objectives	Outcome should benefit each factor within each ESE pillar	Positive outcomes with respect to each individual factor are sought. Trade-offs between ESE factors can only be made in accordance with trade-off rules that protect bottom lines
	Win/win/ win	In addition to minimising impacts, also seeks to achieve positive outcomes in each ESE pillar overall	More actively seeks the positive in all pillars (e.g. ensure environment is not traded off). May promote mitigation beyond scope of normal IA practice (e.g. offsets)
	Net gains	Outcome should be net gains in ESE overall	Does not demand gains in all pillars simultaneously (e.g. could have socio-economic gain at environmental cost)
	Threshold test	Impacts should be tested against a fixed bottom line of criteria for each factor	Implies pre-determined bottom lines that must not be breached. May still involve separate treatment of ESE pillars
	Minimise impacts + extra considerations	Also considers other sustainability issues (e.g. inter- and intra-generational equity, precautionary principle)	Considers other impacts beyond the scope of traditional EIA/SEA practice
	Minimise impacts	Expansion of traditional EIA/SEA to include economic and social impacts. Aim is to identify and mitigate adverse impacts	Tries to avoid adverse impacts. Offsets may be used to counter adverse impacts. Trade-offs between ESE pillars may occur

and Gibson *et al.* (2005) have argued that a more integrated conception of sustainability is warranted; i.e. one that does not treat the three pillars as "warring houses". To this end he has identified eight core requirements for sustainability which integrate not only the pillars but also incorporate other sustainability considerations. He has developed decision criteria for each, as well as general trade-off rules for guiding decisions when sustainability considerations inevitably come into conflict (Gibson *et al.*, 2005; Gibson, 2006): they are summarised in Box 1.

Other approaches can also be used to evaluate, benchmark or certify the sustainability of policies, plans, programmes or projects. Examples include life-cycle analysis, ecological footprint, the Natural Step, and different concepts of sustainability (Box 2). Other proponent activities related to internal operating policies and procedures (e.g. sustainable procurement, certification with International Standard Organisation standards, equity in employment, etc.) may also promote sustainability. Whilst these often complement sustainability assessment activities and may in part be included in formal assessment processes, they mostly lie beyond the scope of traditional impact assessment practice and are not further considered here.

Box 1. Integrated sustainability decision criteria and general trade-off rules (Gibson *et al.*, 2005; Gibson, 2006).

The requirements for progress towards sustainability can be conceptualised in terms of the following *sustainability decision criteria* which represent an integrated approach that avoids compartmentalising sustainability into separate ESE pillars:

1. Socio-ecological integrity — recognition of life support functions on which human and ecological well-being depends;
2. Livelihood sufficiency and opportunity — ensuring a decent life for all people without compromising the same possibilities for future generations;
3. Intra-generational equity — ensuring equity of sufficiency and opportunity for all people;
4. Intergenerational equity — favouring options most likely to preserve or enhance opportunities for future generations to live sustainably;
5. Resource maintenance and efficiency — reducing extractive damage, avoid waste and reduce overall material and energy use per unit of benefit;
6. Socio-ecological and democratic governance — delivering sustainability requirements through open and better informed deliberations, reciprocal awareness, collective responsibility and other decision-making practices;
7. Precaution and adaptation — respect for uncertainty, avoidance of poorly understood adverse risks, planning to learn, designing for surprise and managing for adaptation; and
8. Immediate and long term integration — applying all principles of sustainability at once, seeking mutually supportive benefits and multiple gains.

Box 1. (*Continued*)

To guide the decision-making process in sustainability assessment in order to avoid inappropriate trade-offs and to demonstrate that a sustainable outcome will be achieved, the following *trade-off rules* are advocated:

- Maximum net gains — deliver net progress towards meeting sustainability requirements (i.e. seek mutually reinforcing, cumulative and lasting contributions that favour the most positive feasible overall result while avoiding significant adverse effects);
- Burden of argument on trade-off proponent — the burden of justification (especially where adverse effects in sustainability considerations will result) falls on the proponent of the trade-off;
- Avoidance of significant adverse effects — no trade-off that involves a significant adverse effect on any sustainability factor can be justified unless the alternative is acceptance of an even more significant adverse effect;
- Protection of the future — no displacement of a significant adverse effect from the present to the future can be justified unless the alternative is displacement of an even more significant negative effect from the present to the future;
- Explicit justification — all trade-offs must be openly identified in an explicit justification in light of the sustainability decision criteria and general trade-off rules; and
- Open process — proposed compromises and trade-offs must be addressed and justified through open processes with effective involvement of all stakeholders.

Box 2. An alternative approach to sustainability: Socio-environmental considerations as more important than economic considerations.

Sustainability is regularly described as a "three-legged stool" where all the legs need to be sturdy and long enough for the stool to hold steady. Another analogy is that of three overlapping circles, with the central overlap representing sustainability. Levett (1997), instead, challenges this approach, and instead describes sustainability as being composed of three concentric circles:

> There is no economy — or society — without environment… Furthermore "the economy" is not an end in itself or a force of nature. It's a social construct — it only works as it does because human societies have created the institutions, and inculcated the assumptions, expectations and behaviours which make it so. The only reason for keeping it thus… is if we think it will be good at meeting our needs. So the picture is really three concentric circles: economy within society within environment. This says sustainability is about ensuring that human society lives within the environment's limits — and that the economy meets society's needs.

Box 2. (*Continued*)

Arguably many conflicts that have traditionally been framed as being between socio-economic versus environmental factors in fact turn out to be between economic and socio-environmental factors. The social "leg" typically includes issues of health, crime and safety, education, access to jobs and services, the social benefits of employment, cultural and historical issues, participation and empowerment, and equity. This leg is typically more supported by promoting an environmental than an economic agenda: clean air supports good health; lack of flooding helps to preserve the historical heritage; poor people are typically more affected by poor environmental conditions than rich ones.

The concept that social issues are more likely to go hand in hand with environmental than economic ones could help to resolve the seeming incompatibility between SA and SEA. Using this approach,

- Socio-environmental factors have more "weight": symbolically, they represent two legs of the stool, and the two outer circles of the "concentric circle" diagram of sustainability;
- Intrinsically more weight is given to those parts of the population that have traditionally lost out: the greater, poorer proportion of the population that are not represented by the interests of the fewer, richer decision-makers that typically stand more to gain from economic growth; and
- Environmental protection (SEA) does not conflict with sustainability appraisal (SA), since they both aim to provide the best quality of life for people; the role of the economic system is then clearly to support the socio-environmental objectives.

Who Integrates and When?

There is disagreement about when integration should start in the assessment process. Lee and Kirkpatrick (1997) describe strong integration as ESE assessments that are: "fully integrated with each other for the duration of the appraisal process"; and they conclude that: "the case for more effective, integrated appraisal and decision-making has, in our judgement, been conclusively established". The Canadian Environmental Assessment Agency (2003) recommends that SEA should address environmental considerations "at the earliest appropriate stage of planning, as are economic and social considerations".

In contrast, Jenkins *et al.* (2003) maintain that trade-offs of project-level impacts should occur late in the assessment process during consent decision-making. They advocate separate environmental, social and economic assessments which are brought together by a "sustainability coordinator" at the end of the process and immediately prior to political level consent decision-making. This approach avoids the risk that trade-offs occur early in the assessment process, for example when the project proponent chooses alternatives and prepares impact assessment

documentation. They argue that if the proponent engages in trade-offs between ESE considerations, this process is less likely to be transparent and may preclude consideration of alternatives which may be more sustainable than the preference of the proponent.

This difference in approaches relates directly to the decisions being made and who makes them. In project level decision-making, all of the early decisions are made by the developer, who is almost certain to trade environmental and social capital for economic gain. The consenting authority would then determine whether the socio-environmental costs are too great. So the real "integration" stage almost by definition comes late in the process. Particularly in areas that are economically deprived, decision-makers are likely to give great weight to the provision of jobs and perceived trickle-down benefits of economic growth.

Most plan or policy "proponents", instead, are public bodies with a much wider remit, and economic returns may not directly advantage the proponent (for instance, a land use plan aims to promote the best interests of society by managing competing land uses and providing opportunity for new development, but normally does not return any obvious direct financial benefits to the planning agency responsible). Gibson (2001) notes:

> Comprehensive and integrated consideration of systemic effects and broad alternatives is typically easier and more timely in assessments of policies, programmes and plans than in project level assessments. As a result, significant sustainability gains (and avoidance of significant sustainability losses) can be considerably greater at the strategic level.

So integration generally starts early in the decision-maker's mind, although the reports to support the decision-making process — cost-benefit analyses, SEA, etc. — could remain unintegrated throughout this process.

However, the "decision-maker" in this case is not just the government official(s) writing the plan, but often also their electorate. Although this devolution of decision-making ("empowerment", "public participation") itself is an aspect of sustainable development, it has some powerful pitfalls in terms of integration. Optimising public input in SEA does not necessarily lead to the most socially optimal solution, since the most vocal and persuasive members of the public — and those most likely to be on committees and steering groups consulted as part of the plan-making process — do not necessarily represent the views of the public. Kidd and Fischer (in press) also note that: "an over-reliance on participatory … methodologies may promote

dominant economic perspectives at the expense of sustainability and environmental concerns and result in inadequate appraisal processes".

What is Being Assessed?

SEA and sustainability assessment can inform a range of decisions. These can be expressed as questions to be addressed, which fall on a spectrum from the most strategic (what should the future of this area be?) to the most specific (is proposal X acceptable at site Y?). Table 3 gives some examples; see also the paper by Pope and Grace (2006).

The nature of a particular proposal or its actual setting will largely determine the type of decision question that can be asked. This is strongly related to the range of alternatives that can be considered. For example, a mining proposal is relatively intractable. The location of the ore body is fixed and while there may be some options available with respect to the mining approach adopted (e.g. underground vs. open cut mining), it is likely that the decision question will be the most project

Table 3. Examples of decision questions that can be "assessed" for ESE impacts.

	Decision	Examples of application
most strategic	What should the future of area Z be?	Development policy/plan for a region or local authority
?	What is the best way of providing for demand for X?	Policy on energy provision, water provision
	What is the best way to address issue/problem X?	Provision of affordable housing or open space; dealing with inequities in access to services by deprived groups
	What is the most appropriate activity for site X, and under what circumstances should the activity be allowed to go ahead?	Residential/industrial/etc. zoning; development control activities associated with zoning
	How can existing activity X be made more sustainable?	Urban sprawl, logging operations, farming, etc.
	Which is the best alternative for undertaking proposal X from given options?	Constructing new harbour (range of configurations given), choice between two available technologies for industrial plant
most project and site-specific	What is the best site to locate proposal X? Is proposal X acceptable at site Y?	New industrial project, mine site, location of gas processing facilities from offshore production

and site specific and the least strategic of those presented in Table 3 (i.e. is the proposal to mine this ore body acceptable?). From a sustainability perspective, this will prove problematic when important resources (e.g. an important cultural site or rare flora/fauna) occur in the area that would be mined, as it will require a decision based on trade-offs.

Linear activities such as roads, pipelines, railways or transmission lines might offer some alternatives in terms of possible routes but are ultimately constrained in terms of their start and finish points (e.g. a transmission line always starts at a power station and ends at the target user). In contrast, a manufacturing or processing activity will offer a range of alternatives including both different technologies and different locations, allowing far greater freedom of choice and flexibility in the assessment approach. The greater the opportunity for alternatives to be explored, the higher (Table 3) the decision question can be. At the top would be a strategic decision question such as an open ended land use planning exercise which considers the future potential or options for a given area.

As was the case with the assessment approaches in Table 2, the decision questions are not mutually exclusive. One assessment process may also inform several decisions: the development of plan/project objectives, the choice of alternatives to consider, the choice of a preferred alternative and the choice of mitigation measures. Each decision can be phrased as a question to be answered.

Understanding Sustainability Assessment Possibilities and the Implications for Integration

To understand the characteristics of any given sustainability assessment, it is necessary to consider both the decision question being asked and the type of approach taken (Fig. 1). Thus, for a given proposal, the relevant decision question derived from Table 3 can be matched with the approach taken based on the spectrum presented in Table 2. This in turn determines the *maximum* level of integration/sustainability that the policy, plan, programme or project can attain. This is shown in Table 4.

Understanding the likely outcomes of any given sustainability assessment will also require consideration of who is making the decision as discussed previously. What decision questions are asked, and when and how they are appraised, is not an automatic process: it is determined by individuals. One individual in the right position, making the right decisions at the right time, can exert enormous influence on the outcome of a decision-making process, with or without SEA or sustainability assessment.

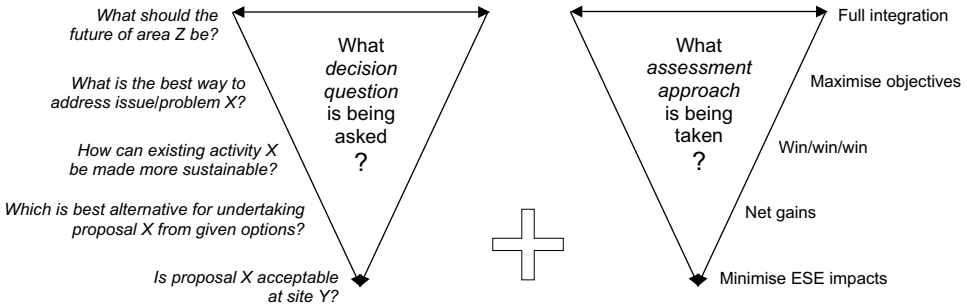


Fig. 1. Model for understanding the characteristics of sustainability assessment.

Table 4. Linking the decision question with assessment approach and options for integration.

Decision (from Table 3)	Most integrated level of assessment approach likely (from Table 2)	Comments (implications for integration)
What should the future of area Z be?	Win-win-win, maximise objectives, full integration	Broadest question, with *most opportunities for early and full integration*
What is the best way of providing for demand for X?	Net gains, win-win-win, maximise objectives	Does not query whether demand should be provided for, but otherwise gives good *opportunity for early and full integration*
What is the best way to address issue/problem X?	Net gains, win-win-win, maximise objectives, full integration	Encourages consideration of alternatives, with the *opportunity for early integration*. Will promote selection of most sustainable option
What is the most appropriate activity for site X, and under what circumstances should the activity be allowed to go ahead?	Threshold, net gains, win-win-win, maximise objectives, full integration	Focuses on sustainable land use management, but considers plan/project alongside other alternatives and mitigation measures. Option for "no development" exists. *Good opportunities for early and full integration*
How can existing activity X be made more sustainable?	Any approach, but particularly full integration	Beyond the scope of normal impact assessment practice (i.e. not new proposal based).

Table 4. (*Continued*)

Decision (from Table 3)	Most integrated level of assessment approach likely (from Table 2)	Comments (implications for integration)
		Encourages integrated approach. Leads to a more sustainable outcome than present situation, but no guarantee that it is "sustainable"
Which is the best alternative for undertaking Proposal X from given options?	Minimise impacts ≫ maximise objectives	Assumes that any of the given options will be acceptable (i.e. does not ask the bigger questions of: do we need this proposal? or what is the best way to address issue?). Promotes selection of most sustainable option from the given list, though it does not affect the list itself. May or may not permit trade-offs depending on approach taken. *Option for early or late integration*
What is the best site to locate Proposal X?	Minimise impacts ≫ maximise objectives	Encourages consideration of alternatives. Does not consider whether proposal is actually sustainable. *Option for early or late integration*
Is proposal X acceptable at site Y?	Minimise impacts (+ extra considerations)	Focus on mitigating the negative effects. Does not attempt to determine sustainability, but rather acceptability. May enable project to be rejected if it has clear bottom lines or acceptability criteria; otherwise trade-offs between pillars are likely. Some modification of proposal may be possible to minimise negative impacts. *Late integration* (*i.e. at approval decision point by government*)

Case Studies

An attempt to illustrate the link between the question asked, assessment approach taken and resulting level of integration will be made using two case studies: one from Western Australia and the other from England.

Example 1: Gorgon Gas Field, Western Australia

The sustainability assessment process that was undertaken for the Gorgon Gas Field has previously been described in Pope *et al.* (2004, 2005). It was a project-based assessment that was modelled on the existing EIA process in Western Australia.

Question: Can Gorgon gas processing facilities be located on Barrow Island (a significant nature reserve)?

Approach: Win/win/win — The assessment coincided with the development of a State Sustainability Strategy prepared by the Government of Western Australia (2002, 2003). The draft and subsequent final version of this document viewed sustainability assessment in a triple bottom line approach with an emphasis on achieving simultaneous gains in each of the ESE pillars; thus the win/win/win approach was adopted as the guiding approach for assessment of the Gorgon proposal.

What happened: The proponent submitted an ESE document for public review. Independent reviews were conducted by the Environmental Protection Authority (EPA) and the Conservation Commission (i.e. both environmental agencies) and the Department of Industry and Resources (i.e. socio-economic combined). The idea was to use environmental offsets to ensure that a win/win/win outcome could be achieved. However, the EPA (2003) concluded that no offset could compensate for loss of conservation values of Barrow Island by siting the gas facilities there. The proponent took a "Barrow or nothing" approach (i.e. potential alternative sites were rejected by the proponent in the assessment). During the assessment, the proponent supplied confidential information concerning the economics of the case for Barrow Island to decision-makers, but this was excluded from the public domain.

The government decided to permit the facility on Barrow Island; hence there was an economic gain for environmental loss (trade-off between pillars). The basis of the decision was not fully open or transparent because of the confidential economic information which influenced the final decision.

The sustainability assessment approach specified up-front as the one being taken (i.e. win/win/win) could not actually be delivered. Either the approach should have been changed (i.e. to what eventuated in practice: minimise impacts) or the question should have been changed (i.e. to: What is the best site to locate the Gorgon gas

processing facility?). Thus, either it was NOT a sustainability assessment (Pope *et al.*, 2004) or it was a failed sustainability assessment, depending on the viewpoint taken.

Integration: It was conducted as separate ESE assessments right through to the final Cabinet approval decision (which was appropriate given the trade-off decision that had to be made). Thus, it was a non-integrated assessment until the last possible moment.

Example 2: Local Transport Plan, X County Council, England

Given the ongoing political sensitivities around this plan, the competent authority is not named in this article. However, all of the details are correct.

A sustainability appraisal/SEA was carried out for the X Local Transport Plan in 2005. Local Transport Plans are bidding documents: they are used to request funds from central government, much of which goes towards major road schemes.

Question: As part of the consultation process for the draft Local Transport Plan, the following alternatives were presented:

1. A "no action" alternative of no transport management;
2. A "business as usual" approach of spending on major (road) schemes, maintenance, and public transport, walking and cycling;
3. Increased promotion of alternative forms of transport to the private car; or
4. Demand restraint through, for example congestion charging and workplace parking levies.

Approach: The English guidance on SEA (ODPM, 2005) promotes a "maximise objectives" approach which potentially allows room for trade-offs between ESE factors. The appraisal used integrated objectives/questions to test the plan options, for instance: does the option increase energy efficiency? does it help to build a strong, stable and sustainable economy which provides prosperity and opportunities (including learning and skills) for all, and in which environmental and social costs fall on those who impose them, and incentives are provided for efficient resource use?

What happened: The politicians, reflecting the views of the public, favoured the "business as usual" approach, which included proposals for four major road schemes. The SEA was carried out by the council's sustainability, environmental and transport officers and sustainability consultants. The SEA came out clearly in favour of Option 4. It went even further, and assessed the options of proposing four road schemes, two road schemes and no new roads. It concluded that removing all the road schemes from the plan would lead to the most sustainable outcome.

The individuals involved in the SEA were instrumental in: (i) clearly stating which options were most/least sustainable despite political pressure to follow the "business as usual" route, and (ii) extending the remit of the SEA to consider a wider range of alternatives than initially planned. However, due to political reasons, the key decision-makers were not involved in the assessment or the consideration of wider options.

The SEA was made public in September 2005 alongside the draft plan. Although several environmental groups criticised the proposed road schemes, using the SEA as a basis, the final version of the plan included all of the core elements of the "business as usual" approach, including the four road schemes.

Integration: The SEA identified that the "business as usual" approach would have short-term benefits in improved mobility and reduced congestion, but long term environmental costs. None of the four alternatives would be truly sustainable, particularly in the long-term. The SEA suggested a more sustainable approach, but even this would have short-term, and possibly long-term, social and economic costs. Arguably, there is no elegant integrated solution to this problem that would not involve a considerable reconfiguring of people's lifestyles and transport choices.

Conclusion

To understand the nature of a particular sustainability assessment and the possibilities for integration in the process, it is necessary to consider the decision question being asked and the approach being advocated for the assessment. The level, extent and timing of integration that ensues will have bearing on the trade-offs that might be permitted in subsequent decision-making. Thinking strategically and posing a strategic level question, rather than proposal-specific thinking maximises the opportunity for fully integrated and more sustainable decision-making and outcomes.

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