Exploring pluralism – different stakeholder views of the expected and realised value of Strategic Environmental Assessment (SEA)

Lydia Cape[a], Francois Retief[b], Paul Lochner[a], Thomas Fischer[c] and Alan Bond[b, d]

[a] Council for Scientific and Industrial Research (South Africa)
[b] Research Unit for Environmental Science and Management, North West University (South Africa)
[c] School of Environmental Sciences, University of Liverpool (United Kingdom)
[d] School of Environmental Sciences, University of East Anglia (United Kingdom)

Corresponding author: Lydia Cape, Email: lcape@csir.co.za, Tel.: (+27) 021 888 2429, Postal address: PO BOX 320, Stellenbosch 7600, South Africa

Abstract:

This paper explores the concept of pluralism by evaluating different stakeholder views on the expected and realised value of strategic environmental assessment (SEA). The research followed a single embedded case study approach (of a national-level SEA for renewable energy planning in South Africa) and engaged with four different stakeholder groups namely government, industry, conservation groups and interested and affected parties (IAPs). A total of 21 different value expectations (VEs) across all four stakeholder groups were identified. However, stakeholder groups contrast significantly in terms of VEs, with government concerned more with process and mandate; industry with cost, efficiency and certainty; conservation groups with data and technical aspects; and the IAPs with local scale issues. In terms of realisation of VEs the results suggest that SEA does provide opportunities for learning; focussing project level EIA and providing spatial guidance on the location of projects. However, SEA was less successful in realising integration of decision making and alignment of policy within government. Recognition and better understanding of the pluralistic nature of expected and realised VEs could potentially improve the legitimacy of SEA processes and methodologies if they are designed and implemented to accommodate pluralism.

Key words: strategic environmental assessment, pluralism, stakeholders, purpose, value, effectiveness, follow-up, renewable energy planning

1. Introduction

Environmental assessment (EA) is generally characterised by widely different theoretical approaches and perceptions as well as methods and processes. This is because EA is applied in very different contexts and draws on a wide range of scientific disciplines, dealing with a broad spectrum of issues, and questions (Retief 2010; Fischer and Onyango, 2012; Pope et al 2013; Lam et al, 2009; Montano et al, 2014). Moreover, it involves a broad range of stakeholders during different phases of the EA process, all with differing views and expectations on aspects such as key issues, impact significance ratings, and required level of public participation (Fuller, 1999; Robinson and Bond 2003; Nadeem and Fischer 2011; Ehrlich and Ross, 2015; Huang et al, 2017). This diversity in theoretical grounding, procedural design, scientific methods and stakeholder engagement has given rise to a pluralistic nature of EA. Leuschner (2012), who explores plurality from a philosophical perspective, argues that there are different kinds of pluralism that support the characterization of EA, namely plurality of theoretical approaches for solving a problem, plurality of methodological procedures, and plurality of people who assess a phenomenon from different value perspectives.

Petts (1999, p.149) identified "commonly expressed objectives" associated with different stakeholders for the EIA process. Table 1 reproduces these suppositions which were based on the authors' expertise rather than stakeholder interviews.

Table 1 Assumed objectives of different participants in EIA. Adapted from Petts (1999)

Decision-authority	Developer	Local environmental group	Local resident
Resolve conflict so as to reduce appeals Speed implementation process Add to professional knowledge Introduce additional information and knowledge to the decision process Provide an additional check on project proponents Enhance confidence of politicians to take a decision Inform and educate people about the development/planning process	Speed decision process Ensure a focus on significant issues Reduce or eliminate protest Bring people onto their side Ensure control over the information process Enhance company/organisational image Ensure a permission to develop	Stop or delay an unwelcome proposal Input detailed knowledge to decision process Ensure alternative knowledge and expertise is input to decision Protect local environmental objectives Provide a check on local decision authority Protect broader environmental objectives of the group and affiliated groups	Stop or delay an unwelcome proposal Input local knowledge to the decision process Ensure personal interests are protected Change proposals to minimize personal and community disbenefits Provide a check on local decision authority Ensure people are listened to

Table 1 clearly illustrates the perceived differences in views and values held by different stakeholders, but is subjective rather than the result of rigorous research into stakeholder views. Indeed, the difficulty and complexity of dealing with the concept of pluralism in EA has been highlighted by

different researchers (Peterson, 2010; Bond et al 2013). However, the authors of this paper are specifically interested in the plurality of different stakeholder expectations around the value of strategic environmental assessment (SEA).

Strategic Environmental Assessment (SEA) is a well-established form of EA, now applied in more than 60 countries world-wide (Fundingsland-Tetlow and Hanusch 2012). Over the years a wealth of scholarly research has been produced on various different topics related to the general performance of SEA such as quality (Retief 2007a; Geneletti 2015), effectiveness (Thérivel and Minas 2002; Fischer, 2002; Retief, 2007b; van Buuren and Nooteboom, 2009; Elling 2009), success (Sadler, 2004; Runhaar and Driessen 2007), and follow-up (Morrison-Saunders and Arts 2004; Cherp et al 2011; Gachechiladze and Fischer 2012). Since the early days of SEA the notions that it should provide 'added value' and be 'fit for purpose' have been emphasised (Sadler and Verheem, 1996; Fischer, 1999; Partidario 2000; Dalal-Clayton and Sadler 2005). The understanding has been that for SEA to add value, it should be designed so as to achieve the purpose for which it was intended, however this purpose is understood and/or defined (Partidario, 2000; Sadler et al, 2011). Notwithstanding the wealth of SEA literature, there has been limited reflection on the issue of 'value', even within the EA literature in general, the research by Wessels et al (2015) on the added value of EIA follow-up verifiers being a notable exception. Moreover, the pluralistic nature of the concept of value has not been explicitly researched within the EA context. Therefore, the main aim of this paper is to explore pluralism in SEA by identifying different stakeholder expectations of its value, and the extent to which it delivers these values.

One of the reasons for the general lack of EA research on the topic of 'value' is possibly the difficult methodological challenges it presents. Starting with the definition of 'value', defined in the Oxford English Dictionary as "the importance or usefulness of something", we recognize that it denotes an exceedingly subjective concept (i.e. important to whom? Useful to whom?), which leaves much room for interpretation. Moreover, it represents a concept which is difficult to capture in evaluation (or performance, effectiveness, success) criteria and speaks directly to one of the important kinds of pluralism (plurality of people) described by Leuschner (2012). A particular feature of the SEA evaluation research is that it typically follows a deductive research approach, by measuring performance against preconceived and purposefully designed performance criteria (Lawrence, 1997; Thissen, 2000; Fischer and Gazzola, 2006; Retief 2007c; Phylip-Jones and Fischer, 2015). However, the subjective and pluralistic nature of the concept of 'value' lends itself better towards more open ended inductive research approaches, as has long since been advocated by authors such as Owens et al (2004) and Retief (2007c). In order to achieve the main research aim, this paper compares expectations about value of different stakeholder with the perceived realisation of value, within a context where SEA has been well established and is being applied to prominent high level strategic decision making involving a broad range of stakeholders.

South Africa is identified as an ideal context because of well-established SEA practice, since the mid-1990s (Retief et al 2007; Retief et al 2008), and its requirement to involve a broad range of stakeholders in the SEA process (CSIR 1996, Rossouw et al 2000, DEAT 2007). SEA practice in South Africa dates back to the mid-1990s (Retief et al, 2007; Retief 2010) and research conducted by Retief et al (2007) show that between 1997 and 2003 a total of 50 SEAs were conducted. Experiences from South Africa represent a broad and diverse range of interpretations and has served as meaningful learning on the implementation of SEA within developing countries in general (Retief 2007a) and for specific sectors such as water management, planning and conservation (Retief 2006, 2007e, 2007f). The understanding of SEA in South Africa varies between SEA as a re-active assessment instrument

(strongly linked to its EIA roots) and a more pro-active instrument aligned and integrated with planning processes. In the South African context the distinction between SEA and planning is sometimes blurred. However, this diversity of SEA practice does lend itself to research exploring pluralism. In particular, the recent application of SEA to South Africa's national level renewable energy planning provides an SEA case study with the necessary complexities and broad stakeholder involvement. Moreover, the SEA represents a particularly high profile case, engaging with decision making at national energy and development planning policy level, which includes objectives stipulated in the National Development Plan (NDP) for South Africa. It enjoyed broad engagement, from ministerial level in terms of policy implementation to local level in terms of implications of implementation for local stakeholders. Decisions around the SEA could potentially influence the energy mix of South Africa with profound direct and indirect implications for national, regional and local economies and interests.

The next section provides context for current understanding on the expectations on the value of SEA; this provides the benchmark for the research. The following section provides a description and justification of the research methodology followed by a critical discussion of the data. We conclude the paper with learning for international SEA practice and possible areas of future research.

2. Expectations on the value of SEA

SEA is now well established internationally as a particular type of EA which is applied at policy, plan and programme levels of public, and at times also private, decision making (Fischer and Onyango, 2012; González et al, 2015; Fischer and Noble, 2015). Albeit the US National Environmental Policy Act (1969) did not distinguish between the application of EA at different levels of decision-making, elsewhere in the world project-level EIA is often legislated separately to SEA of programmes, plans and policies. The initial emergence of SEA was therefore closely associated with a perceived urgent need to address particular limitations of project level EIA as well as to facilitate the incorporation of the concept of sustainability into decision making (Lee and Walsh, 1992; Wood and Djeddour 1989, Verheem and Tonk, 2000). From its earliest conception, SEA was understood to engage with a wider range of decision making contexts than project level EIA, ranging from different sectors' policies over plans to programmes. As a consequence, a much larger portfolio of methodologies needs to be developed (Fischer, 2007). Since its first appearance as a distinct concept in the second half of the 1980s (Fischer and Seaton, 2002), the purpose of SEA has been framed increasingly within the paradigms of decision making and political sciences, rather than within the often used technical rational paradigm of EIA (Noble, 2000; Nilsson and Dalkmann, 2001).

One way to identify different expectations of SEA as portrayed in the professional literature is to engage with those topics dealing with the purpose of SEA. These are connected with questions on what the instrument aims to achieve, as is frequently prescribed through guidelines, policy and legislation. Associated research is usually retrospective and focuses particularly on aspects of follow-up (including monitoring and auditing), asking what has been achieved and how effective SEA has been in meeting its aims and targets (Sadler, 1996). A review of this SEA literature broadly highlights the following expectations of the goals of SEA (following Marsden, 1998; Cashmore et al, 2004; Fischer and Gazzola, 2006; Hilding-Rydevik and Bjarnadóttir, 2007, Retief, 2007b; Runhaar and Driessen, 2007; Jha-Thakur et al, 2009; Bina, 2008):

- To address specific limitations of project level EIA, including superficial consideration of alternatives and a limited ability to address cumulative effects.

- To acknowledge the fractured nature of decision making, with different decisions being made at different tiers (i.e. from policies over plans and programmes to projects), administrative levels (i.e. from supra-national to local) and sectors (e.g. transport, energy, waste, land use) that all influence each other.
- To introduce sustainability, in particular environmental sustainability thinking into decision making.
- To provide a platform for wider, including public, debate, consultation and participation at strategic levels of decision making.
- To introduce a transparent, quality controlled decision support process, which should be led and managed by qualified experts with professionalism, thus supporting accountability.
- To influence the contents of policies, plans and programmes through a pro-active (rather than reactive) procedural approach for making them more environmentally sustainable.
- To facilitate learning by individuals, institutions and wider society that not only leads to changes of particular policies, plans and programmes, but also leads to changes in established routines and established thinking.
- To provide sufficient, reliable and usable information in a cost and time efficient manner.

Arts et al (2012) focussed on SEA practices in the UK and in the Netherlands and found different expectations and values apparent in stakeholders from industry, the public sector, different professions and the general public. Fischer and Xu (2009) also found that expectations and values differ between different systems through an exploration of perceptions of effective SEA application in the UK and China, based on a questionnaire survey distributed to UK and Chinese experts. Whilst some of the differences they observed were connected with the level of experience of applying SEA at the time of the survey (this was more extensive in the UK and rather limited in China), as well as with the specific sector of application (focusing on spatial and transport planning), some cultural differences (political and planning system specific) were also found to have played a role. For example, there was a preference amongst Chinese participants for flexible, rather than structured assessment processes. This was interpreted in terms of a desire (in particular of public sector representatives) to "remain in charge" of the assessment process.

A second set of papers on values focuses on environmental justice (McLauchlan and Joao, 2011 and Connelly and Richardson, 2005). These are normative in that the authors explain the need for the SEA community to better consider environmental justice in SEA. In this context, a particular emphasis is usually put on vulnerable groups and a desire to get their views and needs reflected in the SEA and underlying policy, plan or programme process better, in particular when compared with other, non-disadvantaged, groups of society (see also Lajoie and Bouchard, 2006).

Whilst some evidence for expected values of SEA has therefore been presented in the literature, overall there has been only scant reflection on the plurality of views of stakeholders in relation to these expectations. This was confirmed by Fischer and Onyango (2012) through content analysis of 263 SEA research papers. They established that whilst approximately 15% of all papers focused on certain aspects of SEA effectiveness, only approximately 3% focused on aspects of governance, with very few actually exploring expectations and values. This paper will therefore focus on expectations of the value of SEA for a particular case study in the South African context, and the perceived realisation of those values.

3. Methods

Research approach

The professional literature suggests that case study approaches have been particularly successful in dealing with the plurality of stakeholder perspectives around EA in general (e.g. Nadeem and Fischer, 2007; Jiricka et al, 2017), and SEA in particular (Huang et al, 2017). Yin (2003, p40) distinguishes between four broad types of case study design, namely 'single holistic', 'single embedded', 'multiple holistic' and 'multiple embedded'. Since we aim to investigate value expectations (VEs) as a specific component within a typical SEA (as defined by the case selection criteria presented in the next section), we opted in this research for a 'single embedded' case study design. Moreover, in line with the understanding on how to generalize from case study research, as explained by Eisenhardt (2002) and Yin (2003), this research follows 'replication logic' and not 'sampling logic'. Thus the research does not make broad universal generalizations but rather focuses on context specific conclusions that could be expected to replicate under similar conditions and similar contexts. The case study selection criteria described in the next section therefore frames the case study context for 'replication logic' purposes.

Case selection

The rationale for the selection of the particular SEA case study is important because it provides the basis for generalization of results. For this research we designed the following case study selection criteria:

- *Criterion 1*: The SEA case study must be conducted in a well-established SEA system with sufficient capacity and depth in understanding of SEA by different stakeholders to allow for informed expectations on value.
- *Criterion 2*: The timing of the SEA case study needs to allow for the implementation and realisation of expectations on value. At the same time not too much time should have lapsed to ensure that the SEA is still sufficiently fresh in the minds of different stakeholders to allow for renewed reflection. A period of around 2 years after completion was therefore selected as being appropriate for the timing of follow-up interviews.
- *Criterion 3*: The SEA case study should relate to a contested decision making context, which allows for a diversity of views on expectations of value by different stakeholders.
- *Criterion 4*: The SEA case study should engage with a highly relevant and high profile topic with significant implications for different stakeholder groups and a subsequent high level of interest, which potentially translate into strong views and expectations around value.

In light of the latter selection criteria the SEA initiative for the roll out of wind and solar PV energy development (further called SEA for renewable energy) in South Africa was identified as an ideal case.

Brief case study description

The main objective of the SEA was to provide strategic spatial guidance to allow for an integrated and streamlined implementation of national policies. The approach followed was to identify priority areas (i.e. Renewable Energy Development Zones - REDZs) within which spatial planning can be aligned, authorisation processes streamlined, and proactive initiatives implemented to allow for the effective and efficient development of appropriate large scale wind and solar PV projects. The REDZs were identified through integrated spatial analyses and wide stakeholder consultation. Integration was achieved through utilising the best available spatial data to identify large clusters of land with the

highest economic potential (i.e. highest resource potential and infrastructure availability), highest social need (i.e. local municipalities with highest need for development), and lowest environmental sensitivity (i.e. fewest environmental constraints).

The spatial analysis started with the identification of high development potential area for wind energy based on the Power density in watts per square metre (Wm^{-2}) at 100 m hub height as modelled by the Wind Atlas for South Africa (WASA), and for solar energy based on the Global Horizontal Irradiation (GHI) in kilowatt hours per square metre per annum ($kWhm^{-2}a^{-1}$) as modelled by GeoModel Solar. Development potentials were determined from the wind and solar resource data by adjusting the resource data with key pull factors determined in consultation with relevant government departments and government agencies (including social development needs, transmission grid factors, industrial priority zones) and subsequently overlaid with environmental and land-use constraints to identify study areas. The study areas were refined with inputs from various stakeholders, including the renewable energy industry on selected development prioritisation scenarios, and led to the identification of eight REDZs. The eight proposed REDZs have a combined size of approximately 80 000 km^2 and are estimated to have a combined installed generation development capacity of approximately 15.5 GW wind and 166 GW solar PV. From the onset of the process, an extensive consultation was undertaken with the relevant government departments, key stakeholders and the general public. The rationale was that given the level of pre-assessment undertaken within the proposed REDZs and the strategic nature of these areas, all wind and solar PV projects in REDZs with their associated infrastructure that require environmental authorisation will be required to follow a streamlined project level assessment process informed by the protocols developed as part of the SEA.

Interview design and analysis

The 2002 International Association for Impact Assessment (IAIA) Performance Criteria define a good quality SEA process as one which "*informs planners, decision-makers and affected public on the sustainability of strategic decisions, facilitates the search for the best alternative and ensures a democratic decision-making process. This enhances the credibility of decisions and leads to more cost- and time-effective EA at the project level*" (IAIA, 2002). These particular best practice criteria also guided the SEA for renewable energy in South Africa, governed by a Project Steering Committee (PSC) consisting of key authorities relevant to renewable energy development in South Africa. The process was also informed by an Expert Reference Group (ERG) consisting of key stakeholder groups with an interest in renewable energy development. Provincial departments responsible for spatial planning and environmental affairs were not only consulted through the formal PSC and ERG structures, but also on an individual basis through provincial workshops in each of the provinces under investigation. In total seven such provincial government workshops were undertaken. District and local municipalities in the focus areas were also consulted through workshops in these areas. In total eight such workshops with local governments were undertaken by the SEA team and in collaboration with provincial government. In addition to a continuous web-based consultation process used to disseminate project information and solicit inputs from the general public, public meetings were also undertaken in key locations, 16 printed newspaper advertisements were placed, seven media articles were published and eight sector specific presentations were made. Additionally, 20 focus group meetings were undertaken to consult with key stakeholders at critical stages in the SEA process. This comprehensive consultation process formed the foundation for this SEA and this is also why the particular case study was well-suited for this research. By analysing minutes of meetings, public comments received and the SEA reports themselves, the following four main stakeholder groups were identified as having been actively involved in the SEA:

- Government agencies that include those government entities responsible for EIA authorisations, strategic planning and energy provision in the study area, namely:
    - National Department of Energy (DoE) Independent Power Producers Office;
    - Western Cape Provincial Government: Department of Environment, Agriculture and Development Planning (DEADP);
    - Eastern Cape Provincial Government: Department of Economic Development, Environmental Affairs and Tourism (DEDEAT);
    - State Owned Electricity Company (ESKOM).
- Industry representatives from companies that are interested in specific solar and wind energy development projects within the study area.
- Conservation related organisations that included private NGOs and partly government funded organisations, namely:
    - Birdlife South Africa;
    - Cape Nature;
    - South African Biodiversity Institute (SANBI);
    - Vulpro Vulture Conservation Programme.
- Interested and affected Parties (IAPs) with a range of interests in the outcome of the SEA.

These broad groups (namely government, industry, conservation groups and Interested and Affected Parties (IAPs)) also reflect those typically involved in SEA internationally (and EIA as they broadly map on to those in Table 1) which supports limited generalizability of results. A total of 16 in-depth interviews were held with four representatives for each of the four stakeholder groups; the four Government interviewees are labelled as Government 1-4; the four Industry interviewees as Industry 5-8; the four Conservation interviewees as Conservation 9-12; and the four IAPs as IAP 13-16. Engaging with individuals around expectations about a broadly defined concept such as value, requires an inductive open ended approach. It is for this reason that the research applied semi-structured, open ended interviews, which allowed for broad lines of enquiry and ample opportunity for interviewees to express and explain views. All interviews were conducted anonymously to protect the identity of the interviewees and allowed them to express personal views. The following two broad questions provided the basic lines of enquiry put forward by the interviewer, namely:

- Interview Question 1: What were your expectations of the potential value of the SEA?
- Interview Question 2: To what extent were your expectations of the value of the SEA realised?

Following Miles and Huberman (1996), the analysis followed a systematic four step process. Firstly the interview data were transcribed (step 1) after which each value expectation (VE) mentioned was listed and summarized on a meta-matrix – see Table 2 (step 2). The meta-matrix was then analysed to identify the frequency of stakeholder specific and shared VEs (step 3). The expected VE analysis (relating to Question 1) relied on the following definitions of different categories of specific and shared results. The purpose of the definitions is merely to allow structure to the qualitative data analysis, as a basis for discussion, and should not be seen as an attempt to quantify the data:

- *Stakeholder specific consensus*: Majority (three or four) of specific stakeholder group interviewees agree (with no shared views from other stakeholder groups).
- *Isolated stakeholder specific results*: Minority (one or two) of specific stakeholder group interviewees hold this view (with no shared views from other stakeholder group).

- *Shared consensus*: Majority (three or four) of two or more stakeholder group interviewees agree.
- *Weakly shared results*: Agreement between more than one stakeholder groups, with agreement by only one or two interviewees from all but one of the agreeing stakeholder groups.

The realised VE analysis (relating to Question 2) was measured against the interviewee's response as to whether the particular VE was realised, partially realised or not realised (Step 4). The realisation of the VEs are reported based on observed patterns across stakeholders.

4. Data Analysis and Discussion

Expectations on the value of SEA

The first step in the analysis of the interview data was to list the VEs for all the different interviewees in relation to the particular stakeholder group – see Table 2. A total of 21 different VEs were identified with government raising eight VEs, industry ten VEs, conservation related organisations six VEs and IAPs seven VEs, with some overlap between them. In this section we first discuss the stakeholder specific VEs followed by a discussion on the shared VEs across stakeholder groups. Quotes from the stakeholders' interviews are provided in the discussion to support the data analysis (e.g. 'Government 4' designates a comment made during the fourth government stakeholder's interview).

Stakeholder specific VEs

This section only focuses on what is identified as stakeholder specific expectations and the extent to which there is consensus within stakeholder groups on these expectations. In this regard a definite plurality in expectations between the different stakeholder groups is reflected in Table 2. Of the 11 VEs identified as stakeholder specific, six demonstrated some degree of consensus while five were more isolated examples. Of the six examples of consensus, three were related to government views and one each to the other stakeholders. Of the five isolated stakeholder specific VEs, four were from industry and one from government.

Table 2: Meta matrix - summary of VEs for SEA by different stakeholder groups

Summary of value expectations (VEs) of SEA		Number of Interviews															
		Government				Industry				Conservation				IAPs			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Nr	**Question: What were your expectations of the potential value of SEA?**																
1	Facilitate co-operative governance between different spheres of government																
2	Facilitate integration of decision making within government																
3	Produce minimum requirements and protocols for decision making by government																
4	Provide opportunity for capacity building and knowledge transfer																
5	Focus project level environmental assessments																
6	Streamline environmental authorisation processes																
7	Align policies between government agencies and departments (shared vision)																
8	Provide strategic spatial guidance on location of projects																
9	Provide certainty and reduce risk in terms of decision making outcomes																
10	Provide strategic context to reduced process costs for individual applications																
11	Provide strategic context to reduced cost for specialist studies for individual EIAs																
12	Leads to fewer authorisation conditions for individual projects																
13	Facilitate the development of a South African green economy																
14	Unlock strategic opportunities for future energy development																
15	A strong focus on regional constraints for development																
16	Provide technical criteria around biodiversity for decision making																
17	Provide areas of least impact on key biophysical features including no-go areas																
18	Fill knowledge gap for areas where there is limited data																
19	Extensive specialist field work within the study area																
20	Address cumulative impacts with respect to existing projects in the study area																
21	Determine the feasibility of individual project proposals																

Stakeholder specific consensus VEs: 4, 5, 7, 10, 15, 21 ; Isolated stakeholder specific VEs: 1, 11, 12, 13, 14 ; Shared consensus VEs: 8, 9, 17 ; Weakly shared VEs: 2, 3, 6, 16, 18, 19, 20

Government's consensus on VEs talk directly to issues like capacity building, strengthening of tiered decision making, and policy alignment (VEs 4, 5 and 7). The shared vision that leads to policy alignment is illustrated by the following comment: "*The SEA has value in that it enables a common vision at strategic level and allows stakeholders to come together and discuss ideas for planning the development of the landscape*" (Government 2). This could be expected because governments want to be seen to be making good and transparent decisions in a participatory manner, especially in relation to a sector that is critical to the functioning of society and the economy, such as energy.

Government is also particularly concerned with capacity building and knowledge transfer and/or learning from experience through SEA (VE 4). An isolated stakeholder specific VE raised by one interviewee is for government to achieve co-operative governance (VE 1) between national (where the environmental mandate lies within the South African context) and local spheres of government (where the land use and strategic planning mandates lies within the South African context), thereby linking assessment and planning processes and objectives: "*All regional and local planning documents must include the REDZs in order to allow for the alignment of policy and spatial development plans and coordinated efforts and investments* to *building appropriate zoning scheme for municipalities*" (Government 4). Within the South African context, giving effect to co-operative governance is an explicit Constitutional mandate for all spheres of government, so it is no surprise that it was raised as a particular VE.

The industry stakeholder specific VEs focus on cost of process and specialist studies as well as a desire for fewer authorisation conditions and more strategic guidance on the future of the green economy and opportunities around energy development (VEs 10, 11, 12, 13, and 14): "*The key question to answer through the SEA was - can we reduce time and cost by 30%?"* (Industry 5). The emphasis by industry on cost saving through fewer procedural requirements and specialist studies during EIA: "… *the REDZs need to be correctly implemented with a clear and strong streamlining of requirements and permits*" (Industry 6), is not surprising and is a generally expected benefit of SEA internationally, within South Africa specifically, as well as for the particular SEA case study as described in the TOR. The cost burden of project level EIA has been an ongoing discussion and contention within the South African context and SEA has been identified as a potential panacea for this (see for example Retief and Chabalala 2009; Retief 2010). The rationale is that SEA should address certain issues on a strategic level that then do not have to be revisited or investigated in more detail during EIA.

The VE of fewer conditions supports the more general debate around the need for cutting regulation and so-called green tape (VE 12). The VE for the SEA to provide strategic direction towards a green economy and unlock opportunities for future energy development suggests an expectation by industry that the SEA also explicitly engages with opportunities for development and not only negative or limiting factors (VE 13): *"… pro-active investments into the grid is required to unlock the industrial green economy in SA"* (Industry 8). This implies a potential shift in mind-set by government and practitioners to focus more on potential gains than potential losses when considering trade-offs (Retief et al 2013).

Only one stakeholder specific VE emerged for the conservation organisations and IAPs respectively. Conservation organisations expected the SEA to provide strong direction in terms of regional constraints for development with regards to limitations of the natural resource base, rather than political imperatives: "… *the identification of the REDZs was too much politically driven*" (Conservation 10), while the IAPs expected the SEA to highlight the feasibility of individual project proposals *"… it*

was too generalized of a study and did not look into the specific processes of the required protocols" (IAP 16). Clearly a difference in expectations in terms of the regional and/or local scale at which information needs to be provided exists between these two stakeholder groups. On most other expectations these two groups seem to agree to some extent as discussed in the next section.

Shared VEs across stakeholders

This section provides the outcome of the analysis to determine the extent to which certain stakeholder groups agreed on VEs. Significantly, the outcome of the analysis shows that there is no VE where more than two stakeholder groups had a shared view. Moreover, for all but one VE, shared expectations are between government and industry on the one hand, and conservation organisations and IAPs on the other. The one exception is VE 9 where industry and IAPs shared expectations around the need to provide certainty and reduce the risk for development in terms of decision making outcomes (VE9): *"The SEA should decrease the risk for developing RE projects inside the REDZs"* (Industry 6) and *"There also is a concern of procedural stability* [certainty] *where the Department of Environmental Affairs seems to make changes and introduce new requirements on the fly"* (IAP 13). This is perhaps unsurprising since both industry and local communities have a direct interest in the implications of developments going ahead or not.

The VEs shared between government and industry are mainly concerned with the need to facilitate alignment / integration of decision making within government and also streamlining decision making and environmental authorisation processes (VEs 2 and 6): "*The SEA needs to provide supporting information for strategic decision making at local level"* (Government 1). Therefore there was an expectation from government and industry that the SEA will improve the way government functions internally around communication and efficiency. Building on this there was also the expectation by both parties that explicit minimum requirements and protocols for decision making by government will be delivered by the SEA (VE 3). An example of this is the shared consensus VE around the provision of strategic guidance on the location of renewable energy projects, thereby pro-actively guiding location alternatives from a socio-economic and feasibility perspective (VE 8): "*The SEA must provide more guidance on where developers should develop the projects with a spatial demarcation at national scale and a proactive and long term infrastructure investment programme supported by high level politicians*" (Industry 7).

There is strong overlap between conservation organisations and IAPs around five different VEs. Not surprisingly, conservation organisations highlighted the need for the SEA to provide technical criteria around biodiversity for decision making (VE16). Moreover, the expectation that the SEA should delineate areas of least environmental impact on key biophysical features (i.e. terrestrial fauna and flora, aquatic ecosystems, cultural heritage resources, paleontological and archaeological resources, etc.) and identify possible buffer areas (including no-go areas) for the location of developments, was supported by both, conservation organisations and IAPs (VE 17): *"The SEA should have a strong focus on identifying no-go's and exclusion areas based on biodiversity and ecosystem features in the regional scale opportunities and constraints mapping"* (Conservation 12).

Shared VEs also included the need to fill knowledge gaps where there is limited data and the need for extensive fieldwork in the study area (VEs 18 and 19). The expectation to consider cumulative impacts with respect to existing projects in the study area, in order to conserve the environment and lifestyle of the local communities, was also shared by conservation organisations and IAPs (VE 20).

Realised and not realised VEs

This section deals with the outcome of the research in relation to the realisation of the different VEs identified and discussed in the previous section. Table 3 provides a summary of the analysis results which forms the basis for this discussion. Overall, of the 21 VEs, there is a high degree of variability both within and across VEs in terms of the extent to which stakeholders consider them to have been realised. The analysis was particularly focussed on those VEs that were 'realised' or 'not realised' by those interviewees who identified them. In this regard there are three VEs considered by all relevant interviewees (i.e. those who identified them as VEs) to have been realised (i.e. VEs 4, 5 and 8) and four to not have been realised (i.e. VEs 2, 7, 10 and 11).

Realised VEs relate primarily to the government stakeholder grouping and suggest the following (i.e. VEs 4, 5 and 8):

- *Provide opportunity for capacity building and knowledge transfer*: Capacity building and knowledge transfer expectations were realised on a broad scale (VE 4). Several workshops were hosted by the SEA project team at relevant departments' provincial offices as well as local government offices during the SEA process to inform and share knowledge with government representatives, share data and information as well as discuss the inclusion of REDZs, once adopted, into Spatial Development Frameworks (SDFs) and Integrated Development Plans (IDPs). Moreover, in order to integrate the planning for large scale strategic infrastructure development at a national level, as intended by the SIP programme, the outputs of this SEA are being taken into consideration when undertaking strategic planning for other SIPs thus facilitating the integration of learning and knowledge within the national strategic context of the SIPs.
- *Focus project level environmental assessments*: The SEA also satisfied the expectation to provide more focus to project level EIA (VE 5) by capturing the outputs of the SEA in the form of maps and development protocols which have been applied by government representatives during the EIA decision making process.
- *Provide strategic spatial guidance on location of projects*: A particular strength of the SEA was the provision of strategic guidance on the location of projects (VE 8), albeit that not all developers were supportive of government prescribing locations. It seems clear that the spatial data and analysis have been well received by the relevant stakeholders.

The following VEs were considered as not realised, namely (i.e. VEs 2, 7, 10 and 11):

- *Facilitate integration of decision making within government*: The expectation of integration of decision making within government was not met according to interviewees (VE 2). However, the SEA did succeed in aligning its outcomes with related strategic decision making in government. For example, certain large scale strategic infrastructure plans such as the identification and assessment of strategic transmission corridors as part of the Electrical Grid Infrastructure (EGI) SEA ensured alignment and coordination for future energy development such as the streamlined development of the transmission infrastructure required for the success of the REDZs.
- *Align policies between government agencies and departments (shared vision)*: The VE around alignment of policies between government agencies and establishing a shared vision (VE7) was considered not to have been realised. The formal alignment of policies is an ambitious expectation for SEA since policy alignment happens through different processes which the SEA does not have access to. For this to be achieved the SEA will have to be designed to align with various internal policy formulation processes happening within different departments and

across different spheres of government, which was not part of the process design for this particular SEA. In order to realise this VE a different approach to SEA would need to be applied, with a focus not just on one SEA process, but on the decision making system overall (see e.g. IAEA, 2017)

- *Provide strategic context to reduced process costs for individual applications and specialist studies*: The expectations around lowering process costs (VE 10) and the cost of specialist studies (VE 11) were considered not to have been realised at the time of the research. However, this expectation might take a longer time to realise through the internalisation of the SEA information with project level decision making and the promulgation of further policy and legislation supporting the implementation of the SEA outcomes. On 13 April 2017, the REDZs and power corridors were published in the South African Government Gazette (DEA, 2017), a significant step towards formally implementing the outcomes of the SEA.

The high level of variability for the remaining 14 VEs is difficult to analyse across or within stakeholder groups. This is because there is significant level of complexity underpinning certain views, and therefore this section only focussed on VEs that had a conclusive 'realised' or 'not realised' outcome.

Table 3: Meta matrix - summary of realised VEs for SEA by different stakeholder groups

Summary of value expectations (VEs) of SEA		Number of Interviews															
		Government				Industry				Conservation				IAPs			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Nr	**Question: To what extent were your expectations of the value of the SEA realised?**																
1	Facilitate co-operative governance between different spheres of government	P															
2	Facilitate integration of decision making within government	N	N		N				N								
3	Produce minimum requirements and protocols for decision making by government	Y						P									
4	Provide opportunity for capacity building and knowledge transfer	Y	Y		Y												
5	Focus project level environmental assessments	Y		Y	Y												
6	Streamline environmental authorisation processes		N			P	N	P	P								
7	Align policies between government agencies and departments (shared vision)		N	N	N												
8	Provide strategic spatial guidance on location of projects		Y	Y	Y			Y	Y								
9	Provide certainty and reduce risk in terms of decision making outcomes					P	P	P	P					P		P	
10	Provide strategic context to reduced process costs for individual applications					N	N	N									
11	Provide strategic context to reduced cost for specialist studies for individual EIAs					N	N										
12	Leads to fewer authorisation conditions for individual projects					P	P										
13	Facilitate the development of a South African green economy								P								
14	Unlock strategic opportunities for future energy development								P								
15	A strong focus on regional constraints for development									P	Y	Y	P				
16	Provide technical criteria around biodiversity for decision making									P	Y	P	P				Y
17	Provide areas of least impact on key biophysical features including no-go areas									P	Y	P	P	P	Y	Y	
18	Fill knowledge gap for areas where there is limited data									N	Y	P	P			Y	
19	Extensive specialist field work within the study area									N	Y	N	N				P
20	Address cumulative impacts with respect to existing projects in the study area									N	Y	N	N		P		
21	Determine the feasibility of individual project proposals													P	N		P

Y = VE realised ; P = VE partially realised ; N = VE not realised

5. Concluding thoughts on the value of SEA

The research underlying this paper has used a single case study within a single jurisdiction to investigate pluralism associated with VEs of SEA. The research is important given that it is unique in seeking stakeholder views of the value of SEA, which provides real insights into the pluralism inherent in the process. In the second section eight expectations of what SEA should deliver were identified from the international SEA literature. The research results clearly support these general expectations, but shows that different expectations relate to different stakeholder groups. Albeit this research is focussed on SEA, it is still insightful to compare the results of stakeholder interviews about the value of SEA, with the assumed objectives of EIA ascribed to the same sets of stakeholder by Petts (1999). Table 4 lists those values for which there was consensus, whether specific to a stakeholder or shared with another.

Table 4: Stakeholder expectations of the value of SEA

Government	Industry	Conservation	IAPs
Integrate decision making within Government Provide opportunity for capacity building and knowledge transfer Focus project-levels EIAs Align policies between Government agencies and departments Spatially locate projects	Spatially locate projects Provide certainty of decision outcome Help to reduce future application costs	Regionally constrain development Provide technical biodiversity criteria for decision making Identify biophysical no go areas and low impact areas Fill knowledge gaps Extensive specialist field work in study area Assess cumulative impacts	Identify biophysical no go areas and low impact areas Determine feasibility of individual project proposals

The focus on areas of consensus only in Table 4 recognises the small sample size of interviewees and indicates where at least 3 out of 4 have agreed on a particular value of the SEA process in any stakeholder group. Whilst shared views were identified to be more common between Government and Industry (see Table 2) and between conservation groups and IAPs, in general there is little overlap where there is consensus. In line with Petts (1999), industry drivers are associated largely with efficiency and cost; the desire to spatially locate projects, for example, helps to provide certainty over the stakeholders to engage in a process and to focus expense where it is likely to be successful. The Government's role in SEA is slightly different than the decision maker references in Table 1. Nevertheless, some of the same values are evident related to facilitation of development and capacity building. For conservation groups, the desire to protect the local environment is a clear driver, as might be expected (and in common with the suggested objectives of local environmental groups by Petts (1999)). Likewise, the desire of IAPs to have an understanding of what is at stake for them seems to be a predominant wish. This differs from the EIA context where it might be expected that some IAPs would have a desire to stop a project going ahead; at the SEA stage there is not a specific decision point leading to something being built in a particular location.

Table 5 indicates the extent to which the expected goals of SEA identified in Section 2 map on to the VEs expressed by the various stakeholders.

Table 5: Stakeholder value expectations in relation to international SEA goals

SEA goal	Identified value expectation
To address specific limitations of project level EIA	VE20 maps onto this goal, yet was restricted to IAPs and Conservation groups
To acknowledge the fractured nature of decision making	No specific VE maps onto this, but several address aspects of it, including VE1, VE2, VE7, VE10 and VE11. All of these are values held either by Government or Industry
To introduce sustainability into decision making	No value expectation addresses sustainability specifically, although many have some relevance
To provide a platform for wider, including public, debate, consultation and participation at strategic levels of decision making	No value expectation addresses the need for a wider platform. This may reflect a process perceived to be satisfactory in this regard, therefore not appearing as an expectation
To introduce a transparent, quality controlled decision support process, which should be led and managed by qualified experts	VE19 refers to the need for specialist fieldwork and is a value specific to conservation groups and IAPs
To influence the contents of policies, plans and programmes through a pro-active (rather than reactive) procedural approach	VE8 refers to strategically locating geographically, and VE14 refers to unlocking strategic opportunities. These are both Industry values
To facilitate learning by individuals, institutions and wider society	VE4 maps directly onto this and was a value expectation restricted to Government only
To provide sufficient, reliable and usable information in a cost and time efficient manner	VE 16, 18 and 19 map onto this in terms of requirements for specific types of information and reflects the values of conservation groups and IAPs; VEs 10 and 11 both relate to the need to reduce costs in the view of Industry.

All but two of the goals of SEA map on to value expectations of stakeholders, but in all cases there is a separation between the values of Government and Industry on the one hand, and Conservation groups and IAPs on the other. Thus the potential for dissatisfaction can arise from stakeholders guiding and funding SEAs to focus on elements they value rather than those valued by other stakeholders. The fact that neither sustainability considerations, nor broadening participation were reflected in VEs might, we would suggest, indicate that in the case investigated these issues were tacitly understood to be embedded, and therefore were not raised. Further investigation would be needed to test such a hypothesis.

Perhaps more noteworthy is the fact that a number of VEs do not map onto any of the goals. We would argue that this reflects the specific detail of those value expectations. For example, where Government express a wish to streamline environmental authorisation processes, this is a procedural means of delivering outcomes in a timely and cost effective manner. We would therefore argue that the goals of SEA reflect what Sadler (1996) classed as substantive (outcomes) or transactive (efficiency) effects, whereas many of the VEs are procedural in nature; that is, the means through which goals can be more efficiently delivered.

In summary, the four different stakeholder groups did present distinctly different expectations – broadly speaking around the following:

- Government clearly more concerned with process and mandate
- Industry with cost and efficiency and certainty
- Conservation agencies with data (technical rational)
- Public with own interest and local issues

As argued in the paper, South Africa has a mature SEA system. Whilst legal contexts vary, it seems highly likely that similar differences in the values of different stakeholder groups will be found in other jurisdictions. And given the alignment of these values with the generic objectives suggested by Petts (1999), it may well be the case that the results represent practice more widely, albeit such a suggestion has to be treated with caution in the absence of specific research into practice elsewhere. Such a suggestion matters because "it will always be possible for those with a specific framing to contest the outcomes" (Bond et al, 2013, p.125) of an assessment. It has implications for whether an SEA process is seen to be legitimate; the legitimacy of an IA process having been defined recently as "one which all stakeholders agree is fair and which delivers an acceptable outcome for all parties" (Bond et al, 2016, p. 188). In this respect, for an SEA process to be legitimate, the existence of very different value expectations is not an issue, but feelings that those expected values have not been met could be problematic.

6. References

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