

RECENT SEA EXPERIENCE IN SOUTH AFRICA AND NATIONAL PRINCIPLES:

Learning from national scale SEAs for renewable energy and power corridors

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ABSTRACT

Strategic Environmental Assessments (SEAs) for the development of wind and solar photovoltaic (PV) energy and powerline corridors have recently been completed in South Africa, leading to a decision by the South African Cabinet in February 2016 to legislate the outcomes of these SEAs. This is almost ten years since an updated version of the South African SEA Guidelines was released in 2007, which included principles for SEA in South Africa. This paper outlines the planning context, need and objectives of the recent wind and solar SEA and powerline corridors SEA. Thereafter, we reflect on the principles from the SEA Guidelines in the light of this recent SEA experience. Given the brevity of this paper, we focus on four principles that provide interesting examples of learning, as well as capturing the unexpected outcomes from the SEAs. The paper concludes with how this learning can inform future SEAs being conducted in support of similar national-scale development programs.

Introduction

In February 2016, the South African government approved the gazetting of the outcomes of the Strategic Environmental Assessments (SEAs) recently conducted for development of wind and solar photovoltaic developments and powerline corridors. The key outcomes from these SEAs to be translated into legislation include eight Renewable Energy Development Zones (REDZs), five national-scale powerline corridors, and protocols for enabling integrated decision-making amongst organs of state regarding authorisation of these projects (Figure 1).

South Africa has rich experience in the theory and practice of SEA (Retief et al, 2007). The first Guideline for SEA in South Africa was published in 2000 by the national Department of Environmental Affairs (DEAT, 2000) and included ten principles for SEA in South Africa. In 2007, almost ten years ago, updated SEA Guidelines were published with an expanded set of 13 principles (DEAT, 2007). It is therefore an opportune moment to reflect on these principles in the light of this recent SEA experience. Given the length restriction for this paper, we focus on four of the SEA principles that provide examples of interesting insights and learning.

Context, need, vision and objectives for these SEAs

The national planning context for these SEAs is set by the National Development Plan (NDP) for South Africa (2012) that provides the over-arching blueprint for accelerating sustainable socio-economic development. This plan is supported by the government's Strategic Integrated Projects (SIPs), of which an initial 18 have been identified. The Wind and Solar PV SEA was conducted in support of SIP 8, which supports the renewable energy generation targets as identified in the Integrated Resource Plan 2010 – 2030 for energy planning. And the Power Corridors SEA is in support of SIP 10, which facilitates the expansion of the energy grid.

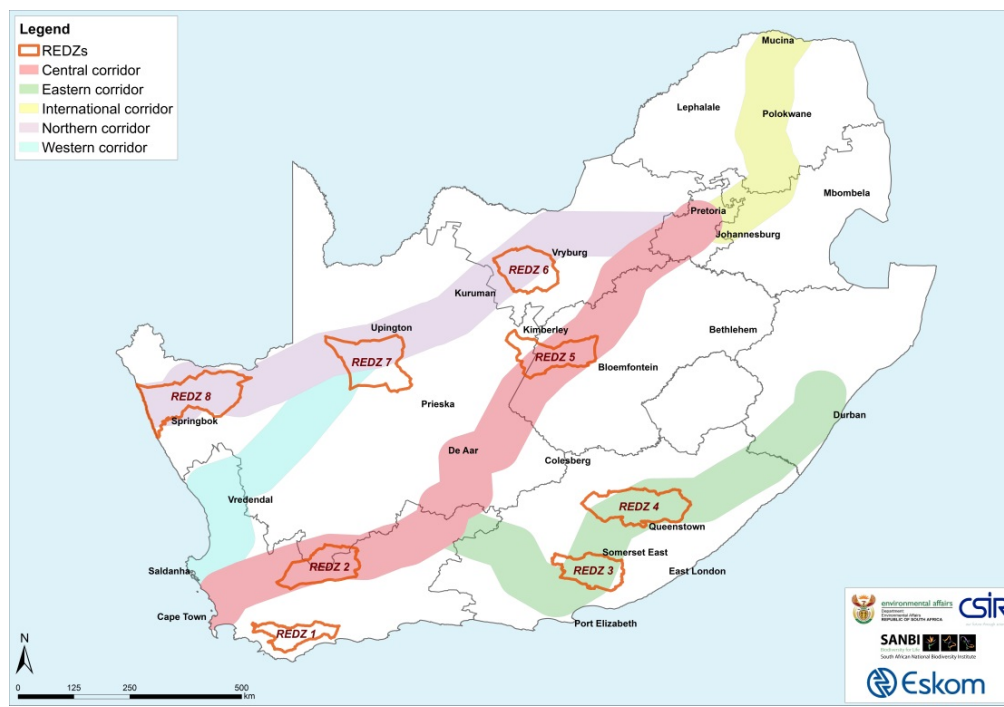


Figure 1: Renewable Energy Development Zones (REDZs) and Power Corridors for South Africa

(source: CSIR, <http://egi.csir.co.za/> and <http://redzs.csir.co.za/>)

A previous review of SEAs in South Africa (Retief et al, 2007) concluded that SEA is frequently conducted to fill the gap between national policies and project level decision-making. This is applicable to these SEAs for renewable energy and powerline corridors - they were designed to streamline implementation of projects that support national policies and programmes.

The following factors strengthened the need for these two SEAs within the context of national policies and plans:

- The energy crisis in South Africa, leading to load shedding and constraints to economic growth that emphasized the need for additional generation from renewable energy;
- Delays in conducting EIAs for transmission powerlines resulting in these EIAs taking up to 7 years to complete and hampering the ability for Eskom (the national electricity entity) to plan for and invest in new powerlines;
- The highly successful Renewable Energy Independent Power Producers Procurement Program (REI4P) being conducted by the Department of Energy and National Treasury that led to hundreds of EIAs being conducted for potential wind and solar PV projects and an overload of applications being submitted to government.

This context and need informed the design of the approach to these two SEAs. Given that the NDP and REI4P are already being implemented, these SEAs were not conducted as SEAs of an existing policy, plan or programme. These were outcomes-oriented SEAs that are intended to achieve specific objectives, for example to:

- Identify Renewable Energy Development Zones and strategic electrical grid expansion corridors (referred to as “Power Corridors”) at a national scale based on energy requirements, environmental sensitivities and socio-economic development priorities;
- Improve the efficiency and effectiveness of Environmental Impact Assessments (EIAs) for renewable energy and electricity grid projects;
- Provide an agreed decision-making framework for authorities in order to streamline and integrate decision-making in a responsible manner;
- Inform the pre-application planning phase for projects by pre-assessing environmental sensitivities to avoid fatal flaws;
- Develop site specific development protocols which prescribe the level of site specific assessment required, minimum information requirements and assessment process required.

Reflecting on SEA principles and recent experience

The current version of the South African SEA Guidelines (DEAT, 2007) provides 13 principles for SEA. A mechanistic analysis of these 13 principles in the light recent SEA experience is not possible given the brevity of this paper. Instead, we selected four of the SEA principles that provide examples of interesting insights and learning.

Principle: SEA is a flexible process which is adaptable to the policy, planning and sectoral development cycle

The SEAs were designed to be “fit for purpose”, rather than to meet a process provided in a guideline, and therefore adaptability was fundamental to the design of these SEA processes. The SEAs had to achieve specific outcomes within the context of the existing renewable energy targets and the need to strengthen the electricity grid.

When designing the approach to the SEA, we started with a blank page and asked the question “how can we design the SEA process to facilitate the efficient and effective development of renewable energy or powerline projects in a sustainable manner?” The team involved were well aware of the SEA guidelines and principles, and these principles were an innate part of the approach.

Our understanding of this question evolved substantially during the 24 month duration of the two SEAs. During the SEAs we constantly asked ourselves “how are we making the EIA process better for the all of the stakeholders?” and “how will the results of the SEA be used by decision-makers and other stakeholders?” This was an important consideration, as a poor understanding and integration between SEA and decision-making processes has been identified as one of the features of SEA practice in South Africa (Retief et al, 2008). Towards the end of the SEAs we asked “how will the outcomes of the SEA be converted into legislation?”.

A learning point was that the SEA itself could not be converted into legislation, rather the outcomes from the SEA (such as the REDZs, Power Corridors and protocols for decision-making) would be gazetted.

An unexpected outcome from these SEAs is that they started off as SEAs to streamline the environmental authorisation and EIA process with a focus on the legislative mandate of national DEA, but evolved into infrastructure planning studies that had substantially wider planning benefits for other government departments and parastatals.

Principle: SEA is a transparent and participative process

Conducting a transparent and participative SEA process is an undisputable requirement for any credible SEA process in South Africa. Two of the most interesting aspects of the stakeholder engagement process were the creation of an Expert Reference Group (ERG) for these SEAs and conducting roadshows across the study area for the SEAs.

The Expert Reference Group (ERG) was chaired by national DEA and brought together representatives of lead stakeholders in a facilitated debate with specific objectives to be achieved. This group represented approximately 40 institutions/organisations from the following sectors:

- National government departments
- Provincial environmental departments
- Parastatals and other organs of state
- Non-government organisations (NGOs)
- Industry associations for wind and solar energy
- Research and Scientific bodies.

Roadshows to major towns within the REDZs and Power Corridors were an interesting learning point. The roadshows extended across 7 provinces and comprised 40 meetings with provincial and local authorities and the general public.

Two learning points are, firstly, that the ERG was extremely valuable in bringing together a wide range of government departments and parastatals to focus on designing an integrated and agreed decision-making framework. These departments would not normally collaborate so closely on energy planning and environmental decision-making. And, secondly, the roadshows provided a valuable link with local government and enabled their socio-economic priorities to be incorporated into a process that was generally being conducted at a national/provincial scale and already had active involvement from national and provincial spheres of government via the ERG.

An unexpected outcome from the roadshows is that they identified where the local socio-economic development need was greatest on the ground, and built credibility for the SEAs with local government.

Principle: SEA is integrative and cross-cutting

The SEAs focused on generating an integrative decision-making and authorisation framework for use by government, and consequently our approach to integration needed to be underpinned by the legislative mandates of these government bodies. Renewable energy projects bidding in the REI4P process currently require 17 authorisations or permits in addition to environmental authorisation. The gazetting of the SEAs will provide an integrated authorisation process that allows 14 of the 17 additional authorisations or letters of consent required for a conforming bid to be prepared through the EIA process and be issued simultaneously with the environmental authorisation.

A learning point was that the socio-economic component of the SEA was unable to be linked with legislative requirements and decision-making protocols and tended to be more descriptive.

However, an unexpected outcome was that the value of the socio-economic studies for the SEAs was in identifying the local areas that are most in need of the socio-economic benefits associated with renewable energy and powerline development projects (for example, the social investment programme

that is a compulsory component of all REI4P bids). This was based on a review of local and provincial development plans in combination with consultation. Where feasible, the location of the REDZs and power corridors were then adjusted to include these areas most in need of social upliftment.

Principle: SEA identifies opportunities and constraints which the environment places on the development of plans, programs and projects

The original South African SEA Guideline (DEA, 2000) makes a conceptual distinction between EIA assessing the effect of development on environment; and SEA assessing the effect of environment on development (noting that in South Africa, the term “environment” is used in a holistic sense and includes the biophysical and the socio-economic environment). This is often achieved through some form of opportunities and constraints mapping.

In the SEAs for renewable energy and powerlines, this opportunities and constraints analysis was done in two phases and at two scales:

- Firstly, positive and negative mapping was done at a national-scale data to broadly identify the proposed REDZs and powerline corridors.
- Secondly, the specialist teams conducted more in-depth assessments of environmental sensitivities and mapping within these identified areas /corridors.

A learning point was that we moved away from defining areas as “no go” based on a specific environmental feature. This was mainly because the sensitivity mapping was done based largely on desk-top information and ground-truthing is required to make a definite statement on environmental sensitivity at a project scale, and because any decision has to take into consideration a balance of needs and values. Therefore, we defined these areas as “very high sensitivity” and stipulated the minimum requirements for further studies if development is proposed in these areas.

An unexpected outcome from the sensitivity mapping was that it provides a method for environmental screening in the early planning phases for projects. In future, project developers will be able to overlay their conceptual project plans onto composite sensitivity maps. This enables them to pro-actively evaluate the potential environmental risks early in the project planning and provides more certainty for the developers.

Concluding insights: What would we do differently in future?

From reflecting on these SEA principles and this recent experience, the following concluding insights are provided on how to improve future SEAs with a similar purpose:

- To optimally adapt the SEA process to the need, we would have a clear vision and objectives statement at the start of the SEA and convey how the process is adapted to these objectives;
- To improve the participative nature of the SEA, we would clarify the stages and methods of communication with the stakeholders, as we were overloaded with comments during the SEAs and it was not clear in our process when and how we would respond to these comments;
- To enhance the integrative capability of the SEA, we would involve a team of experts for each specialist study rather than have one specialist, as the team can provide a wider range of expertise and a balance of values.

- To improve the opportunity and constraints analysis, we would involve the use of a socio-economic specialist upfront to assist in identifying areas with the highest socio-economic need.

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For information on the Wind and Solar PV SEA, refer to <http://redzs.csir.co.za/>

For information on the Power Corridors (Electricity Grid Infrastructure) SEA, refer to <http://egi.csir.co.za/>