

Title: Legislative changes to enable renewable energy development and build capacity in Impact Assessment in South Africa

Authors: Adams, A., Abed, R., and Lochner, P. (all from CSIR: Environmental Management Services)

Abstract:

South Africa is currently facing an energy crisis with load shedding being implemented regularly by the national electricity public utility. To secure energy and as part of international climate change commitments, South Africa has implemented several policy and legislation amendments to remove environmental permitting blockages and streamline the application process for the development of renewable energy projects. These legislative changes are linked to several Strategic Environmental Assessments (SEA), commissioned by the national Department of Forestry, Fisheries and the Environment, aimed at identifying areas where large scale renewable energy can be deployed with limited impacts on the environment. The legislative changes include the gazetting of geographical areas dedicated for large scale renewable energy and electricity transmission lines, a reduction of decision-making timeframes linked to the gazetted geographical areas, the mandatory implementation of a national GIS based Screening Tool and the gazetting of several protocols for the assessment and the reporting of impacts during the EIA process.

This paper reviews the outcomes of the SEAs to provide the current legislative landscape linked to environmental authorisations for renewable energy projects and the rationale that has got us here. In addition, as these changes impact the competent authorities that are responsible for environmental authorisations, it essential that these authorities are equipped to do so in a sustainable manner. The paper identifies guidelines that are linked to the legislative changes.

Introduction

The combination of South Africa's commitment to address climate change imperatives and reduce Carbon Dioxide emissions from use of fossil fuels (in particular, coal), together with the national energy crisis and declining coal-based power generation, is leading to increased development of renewable energy projects nationally.

The Integrated Resource Plan (IRP) for South Africa is an electricity capacity plan which aims to provide an indication of the country's electricity demand, how this demand will be supplied and what it will cost. The IRP for the period 2010-30 was promulgated in March 2011. This led to the launch of the REIPPPP in 2011, to implement the vision of the IRP. Several bidding rounds (called "bidding windows") were conducted for the procurement of a set amount (Megawatts) of renewable energy from IPPs.

In 2019, an updated IRP was published for implementation. The 2019 IRP shows an increase in wind and solar energy capacity, equating to 26 030 MW of total installed capacity by 2030 (excluding hydropower, storage schemes and Concentrated Solar Power). Of this total, 1 474 MW of solar PV and 1 980 MW of wind is already installed. In addition, of the 26 030 MW, approximately 814 MW of solar PV and 1 362 of wind is committed or already contracted capacity. Furthermore, of the 26 030 MW total, 6 000 MW is allocated to solar PV, and 14 400 MW is allocated to wind as new additional capacity (IRP, 2019). Key to meeting the goals energy demand and the various national and international climate change

imperatives, for South Africa to have reliable and efficient energy generation at competitive rates and electricity that is environmentally sustainable.

The two main processes for the development of large-scale renewable energy in South Africa are:

- The Renewable Energy Independent Power Producer Procurement Program (REIPPPP), that procures renewable energy from IPPs in different bidding windows rounds, as part of the Integrated Resource Plan (IRP). To date, the Eastern Cape has benefitted from about 43% of the total wind farms in the country awarded under the REIPPPP.
- Embedded generation (also referred to as self-generation), which falls outside of the REIPPPP. The growth in embedded generation has been facilitated over the past two years by changes in legislation, in particular the removal of the cap for licensing of renewable energy facilities with the National Energy Regulator of South Africa (NERSA). These large-scale projects require Environmental Authorisation, with the provinces being the competent authority.

As there is growing demand for RE projects, the national Department of Environment Forestry and Fisheries (DFEE) embarked on National Strategic environmental Assessments (SEAs) to ensure that, when required, Environmental Authorisations (EAs) are not a cause for delay. This paper reviews the outcomes of the SEAs to provide the current legislative landscape linked to environmental authorisations for renewable energy projects.

Wind and Solar PV SEAs:

In 2012, Cabinet adopted the National Development Plan (NDP), which provided South Africa's plan to accelerate infrastructure development to address service delivery backlogs and facilitate economic growth and job creation (NPC, 2012). The NDP would be achieved through the implementation of Strategic Integrated Projects (SIPs). SIP 8 – Green energy in support of the South African economy; SIP 9 – Electricity generation to support socio-economic development; and SIP 10 – Electricity transmission and distribution for all are related to the development of the SEAs.

Linked to this, to ensure that, when required, Environmental Authorisations (EAs) are not a cause for delay, the DFEE and other government departments embarked on a program of commissioning SEAs for large scale developments and to support various Government priority projects including the REIPPPP for procuring renewable energy linked to the IRP. These SEAs were aimed to pre-assess environmental sensitivities within the proposed development or geographical areas at a regional scale to plan and simplify the site-specific Environmental Impact Assessments (EIAs) when they are undertaken and to focus the assessment requirements on the sensitivity of the sites.

Two Phases of the SEA were commissioned. The objectives of the Wind and Solar PV SEAs include facilitating sustainable development, enabling stakeholder participation, integration of science-based information and building an enabling environment for informed decision-making. In addition to these objectives, the Phase 2 Wind and Solar PV SEA aimed to identify REDZs in previously mined areas to enable the rehabilitation of abandoned mines and to contribute towards the planning of the Just Energy Transition framework by strategically planning large scale wind and solar PV developments in areas where job losses

may occur from closure of mines such as coal, diamond and gold mines (Wind and Solar PV SEA, 2019).

With this vision and mission in mind, the following key objectives of the Phase 1 and 2 SEAs were to:

- Ensure the sustainable development of renewable energy projects;
- Enable the participation of all relevant stakeholders;
- Enable integration and alignment between government departments;
- Create an enabling environment for renewable energy development; and
- Contribute to planning for a Just Transition towards a low carbon, climate resilient economy and society

Electricity Grid Infrastructure SEAs

The EGIS SEA was commissioned by DFFE in 2014. The main objective of the SEA was to enable streamlined and integrated environmental authorisation for transmission and distribution infrastructure projects in areas identified as strategically important from a grid development perspective (EGI SEA, 2016).

The EGI SEA, 2015 states that a reliable transmission network with adequate capacity is essential for the provision of a reliable electricity supply in South Africa. To remain reliable, the transmission system requires not only maintenance, but must also be developed and expanded to meet changing electricity demand. The speed at which new generation assets can be built typically ranges between two to ten years, depending on the technology. The timeframes for renewable energy projects are. Conversely, the time taken for the national electricity utility to build a long transmission line to support the evacuation of electricity from a new generation asset is between six to ten years. The misalignment in development timeframes means that Eskom is often unable to respond fast enough to the connection requirements of new energy generation (EGI SEA, 2016).

Delays in building electricity grid infrastructure invariably impacts the connection of renewable energy projects as can be seen in the REIPPP bidding Round 6 where two provinces in South Africa due to grid constraints and no wind power projects were granted preferred bidder status (Creamer, T., 2022).

Outcomes of the SEAs:

The SEAs resulted in the gazetting of geographical areas with reduced timeframes for environmental authorisation. In addition, other IEM tools such as standards were derived from the outputs of the SEAs. Below some of the outcomes of the SEAs are briefly discussed.

The National Web-Based Screening Tool:

As a result of the environmental data collected during the national SEAs, the DFFE embarked on an online Screening Tool which is mandatory to use for all development applications requiring Environmental Authorisation in South Africa (NATIONAL Web Based Screening Tool, 2023). The Screening Tool classifies sensitivities into a four-tier system – very high, high, medium or low or a two-tier system - very high and low based on the presence of sensitive features on a selected site. The Screening Tool is repository of all Geographic Information System Data in South Africa, and an applicant uses this tool to pre-screen development footprints for environmental sensitivities and for the required specialist studies for various development types. Based on the sensitivities of the development area,

the level of assessment in specialist studies is assigned, from vigorous assessment in very high sensitivity areas to compliance statements in areas identified as low sensitivity. In July 2019, DFFE mandated compulsory use of the Screening Tool.

Renewable Energy Development Zones (REDZs)

Based on the findings of the Phase 1 and Phase 2 Wind and Solar SEAs, 11 REDZ were authorized. These REDZs are distributed all over South Africa and represent areas where scoping of environmental sensitivities has been conducted as part of the SEAs. In these areas, developers are aware of the environmental sensitivities to be considered in the impact assessment phase. In these REDZs, a Basic Assessment Process can be followed instead of a full Scoping and EIA Process and the authority decision-making period has been reduced from 107 days to 57 days.

Strategic Transmission Corridors (or EGI Corridors)

Based on the findings of the EGI SEAs, five Strategic Transmission Corridors and two expanded Strategic Transmission Corridors were gazetted. In these corridors, a Basic Assessment Process can be followed instead of a full Scoping and EIA Process and the authority decision-making period has been reduced from 107 days to 57 days. In addition, the power line route must be pre-negotiated with landowners and such pre-negotiated route must be submitted with the Application for EA.

Generic EMPs for Substation and Power Line Development

As part of the EGI SEAs, a generic Environmental Management Programme (EMPr) was compiled for the development and expansion of (a) overhead electricity transmission and distribution infrastructure; and (b) substation infrastructure for the transmission and distribution of electricity.

EGI Development within the REDZs

Procedures to be followed in applying for or deciding on an EA application for the development of electricity transmission and distribution infrastructure when occurring in any of the REDZs were published in 2021. Any application for an Amendment to an EA or any Application for an EA for EGI development within the REDZs will be subjected to a decision-making timeframe of 57 days instead of 107 days, and that a pre-negotiated route of the infrastructure with the affected landowners must be included in the Application for EA.

EGI Standard

The EGI Standard was published in July 2022 and allows for the exclusion of the requirement to obtain an EA for a power line and substation development within low and medium sensitivity areas (according to the National Web Based Screening Tool), within any of the gazetted Strategic Transmission Corridors that were gazetted based on the EGI SEAs

Capacitating officials with legislative changes:

As there is a greater amount of environmental decision-making in respect to renewable energy facilities and with changes in the renewable energy legislative space evolving, authorities responsible for reviewing and granting environmental authorisations were capacitated with a Guidance document. The purpose of the document and workshop sessions was to provide guidance and resource documentation for officials, case offices and managers to support balanced, consistent, evidence-based decision-making on wind and solar PV projects. It is important that the guidance document was created in a co-creative ways that officials using it take ownership of the document. Several workshops with officials are also held to cover the content of the guidance document.

Conclusion:

Much has been written about streamlining environmental impact assessment (Alberts, et. Al, 2023), there is no study to determine whether or not the outcomes of the SEAs have been enabling to renewable energy. Effectiveness of the legislative changes as a result of the SEAs and continuous capacity building for officials as the legislation is updated needs to be investigated. The study should include document the issues experienced by IEM practitioners and private sector while implementing the various tools. In addition, the study should aim to quantify any cost and time savings that have come as a result of the outcomes of the SEAs.

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