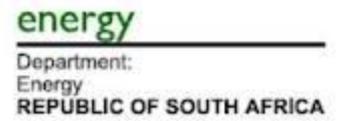




Implemented by:



Mapping of authorisation processes for renewable energy projects

2015 update

Commissioned by:

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

South African – German Energy Programme (SAGEN)

Hatfield Gardens, Block C 2nd Floor

333 Grosvenor Street

Hatfield, Pretoria, 0028

South Africa

Contact:

Dr Soeren David (soeren.david@giz.de)

Marlett Balmer (marlett.balmer@giz.de)

Website: www.giz.de

Department of Energy

192 Visagie Street

Corner Paul Kruger & Visagie Street

Pretoria

South Africa

Consultants:

Michael Goldblatt

Parkview, Johannesburg, 2193

South Africa

Contact: goldblatt.mike@gmail.com

PDG

Ubunye House, 1st Floor

70 Rosmead Avenue

Kenilworth, Cape Town, 7708

South Africa

Contact: Meagan Jooste (meagan@pdg.co.za)

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1 Introduction

1.1 Context

Grid connected renewable energy projects are major construction projects and while they are included under the green energy strategic infrastructure projects of the National Infrastructure Plan they have no special exemption from the prevailing regulations governing large infrastructure. The nature of these projects in fact means that they sometimes have a wider set of permitting requirements than typical construction activities, for example due to their location on agricultural land or the potential impacts of large wind turbines or hydropower infrastructure on biodiversity.

Although there was no history of large scale renewable energy projects in South Africa prior to 2012, the pre-existing regulatory framework has been robust and flexible enough to support the emerging industry and, where required, regulations have been adapted, such as in the land-use rezoning process, to accommodate the sector. That being said, the transaction costs of authorisations are high and administrative processes are not always timeous or consistent. Ongoing improvements in legislation and in its administration are important in facilitating what must be the most rapidly growing industry in the country.

As the industry expands, the regulatory framework will also need to adjust appropriately. An important example is the exploration by the Council for Scientific and Industrial Research (CSIR), on behalf of the Department of Environmental Affairs (DEA) of establishing Renewable Energy Development Zones (REDZ)¹ which will use the principles of strategic environmental assessment to streamline the environmental permitting process and to steer renewable energy development to preferred locations. Regulatory authorities will also need to manage the inevitable challenges that come with a fast growing sector. These include the not-in-my-backyard, or NIMBY, complaints that will be raised against projects in some areas as well as more well-founded concerns, such as impacts on biodiversity or aviation and conflicts with other land uses that need to be responsibly managed.

1.2 Study purpose

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) is supporting the strengthening of the South African Department of Energy's (DoE) institutional and regulatory capacities to successfully promote investment in renewable energy. GIZ previously supported the DoE in establishing the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). Further to this, the GIZ continues to provide support in the:

- Review and improvement of the regulatory framework conditions for Independent Power Producers (IPPs);

¹ The output of this work has translated into the South African Renewable Energy Environmental Impact Assessment (EIA) Application Database containing spatial data for renewable energy applications for environmental authorization (DEA, 2015). This spatial information is available to the public through an online geographic information system (GIS) [map](#).

- Promote cooperation amongst relevant institutions;
- Develop support services for IPPs;
- Build capacity at the municipal level for the implementation of (national) Renewable Energy (RE) support schemes.

In 2012, the GIZ commissioned an in-depth assessment of the state of the RE regulatory environment as well as the current constraints and barriers facing renewable energy developers to assist in the establishment of the REIPPPP Unit in the DoE. This study serves as an update to this previous study to update the detailed picture of the current regulatory procedures required by IPPs in the project development process; and solicit from developers their experience of the project development process and to identify the major regulatory barriers experienced, as well as suggestions as to how IPPs could be supported to reduce these barriers.

1.3 Methodology

The assignment was divided into two areas, each requiring a specific approach. The report is structured accordingly as follows:

- a) Section Two: Provides a detailed mapping of regulatory processes in the original report with a discursive description of the regulatory processes required to bid and close a RE project. This includes an update of the process flow diagrams contained in the earlier report to include changes to the diagrams where there have been amendments to authorization processes.
- b) Section Three: Includes critical consideration of the regulatory framework to: identify whether there are any significant permitting obstacles to RE development or important conflicts or dependencies between processes; highlight different approaches being taken by different branches of government; and identify areas where streamlining of processes appears possible. This is based on an analysis of the regulatory processes from practical experience of developers and regulators.

2 Regulatory and authorisation processes

The section provides a detailed mapping of the key regulatory and authorisation processes required for individual projects currently being developed under the REIPPPP. The processes are presented in the form of short descriptions for each process. The section concludes with an overview of the interaction and dependencies between the various processes.

The regulatory processes are not presented per technology. The majority of the authorisations are required for all renewable energy technologies, with some technologies requiring specific licenses, for example water use licenses, which are not required by others.

Relationship to the Renewable Energy IPP Procurement Programme

The Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) outlines a specific set of regulatory approvals (see Figure 1) likely to be required for projects. The Department of Energy (DoE) notes that this set of approvals is not necessarily comprehensive. REIPPPP experience suggests, however, that in most cases the DoE list covers the majority of required consents. Although the list looks daunting, thus far no project selected as a preferred bidder under the REIPPPP has failed to reach financial close due to the withholding of a required permit.

The principle of the REIPPPP is that project proponents need to demonstrate that they have a very high likelihood of securing all required regulatory approvals. A sub-set of these approvals are required to either be in place at the bid submission stage or project developers need to demonstrate reasonable prospects that the relevant approval will be granted for the project. Following appointment as a Preferred Bidder, project proponents are required to demonstrate to the DoE that they are making sufficient progress so as not to delay Financial Close.

Typically a double check is imposed by financiers who will identify all the authorisations needed as pre-conditions to financial close. Most commercial lenders to renewable energy projects in South Africa comply with the Equator Principles.² Due to stringent environmental and social consultation requirements under South African legislation the Equator Principle standards are generally met through legal compliance, with minor additional requirements.

It should be noted that while the majority of renewable energy projects are being developed under the REIPPPP the same set of requirements will apply to any renewable project, such as one for a private off-taker, to be lawfully developed and operated.

Pre-Construction Approvals

The Environmental Impact Assessment (EIA) process effectively forms the framework for most of the environmental authorisations under the National Environmental Management Act (NEMA). The Department of Environmental Affairs

² The Equator Principles are a set of guiding principles adopted by many banks and financing institutions to guide responsible investment.

has structured its approval process so that the EIA procedures are largely applicable to other environmental regulations within the NEMA framework – specifically waste management and atmospheric emissions licensing.

Many other authorisations are dependent on the environmental authorisation process – either in terms of regulation or with respect to de facto practice by authorities. These include the air, waste, heritage and biodiversity authorisations, as well as Eskom grid connection approval and land sub-division and rezoning which are contingent on receipt of an environmental approval. The Environmental Impact Report (EIR³), with its associated specialist reports, in practice therefore becomes an important document consolidating key environmental information on the proposed project and paving the way for other permits.

Construction and operational phase legal requirements

There are likely to be further regulatory requirements for projects during the construction and operations phase – for example electrical compliance certification for balance of plant facilities, or transport and health and safety regulations during the construction phase. However, these types of permits are typically addressed at the construction stage of a project, post-financial closure, are common to all large construction projects, and are often the responsibility of the contracted construction company. These types of legal requirements are therefore not considered.

Authorisation timelines

Where there are formal timeframes established for the processing and issuance of permits these are identified in the process maps. Developer experience of the adherence to these timeframes is then addressed in the next section.

2.1 Renewable Energy Procurement under the REIPPPP

In essence there are two key stages in the procurement process:

- The bid submission stage by which time a set of authorisations are required to be in place; and,
- The conclusion of the PPA and Implementation Agreement by which time a further set of permits need to be secured.

The current DoE procurement process is not a legislated process, but a bespoke process and hence may be modified over time as the preferred approach to procure energy from renewable energy IPPs. Such modification would not alter the regulatory requirements for developers but may change the relationship between securing these authorisations and the procurement of power by the DoE. For example, an alternative procurement process may require projects to be at a different stage of securing authority approvals prior to selection or conclusion of PPAs and related agreements.

³ This is completed for high impact activities and forms part of the fundamental EIA framework of the Department of Environmental Affairs.

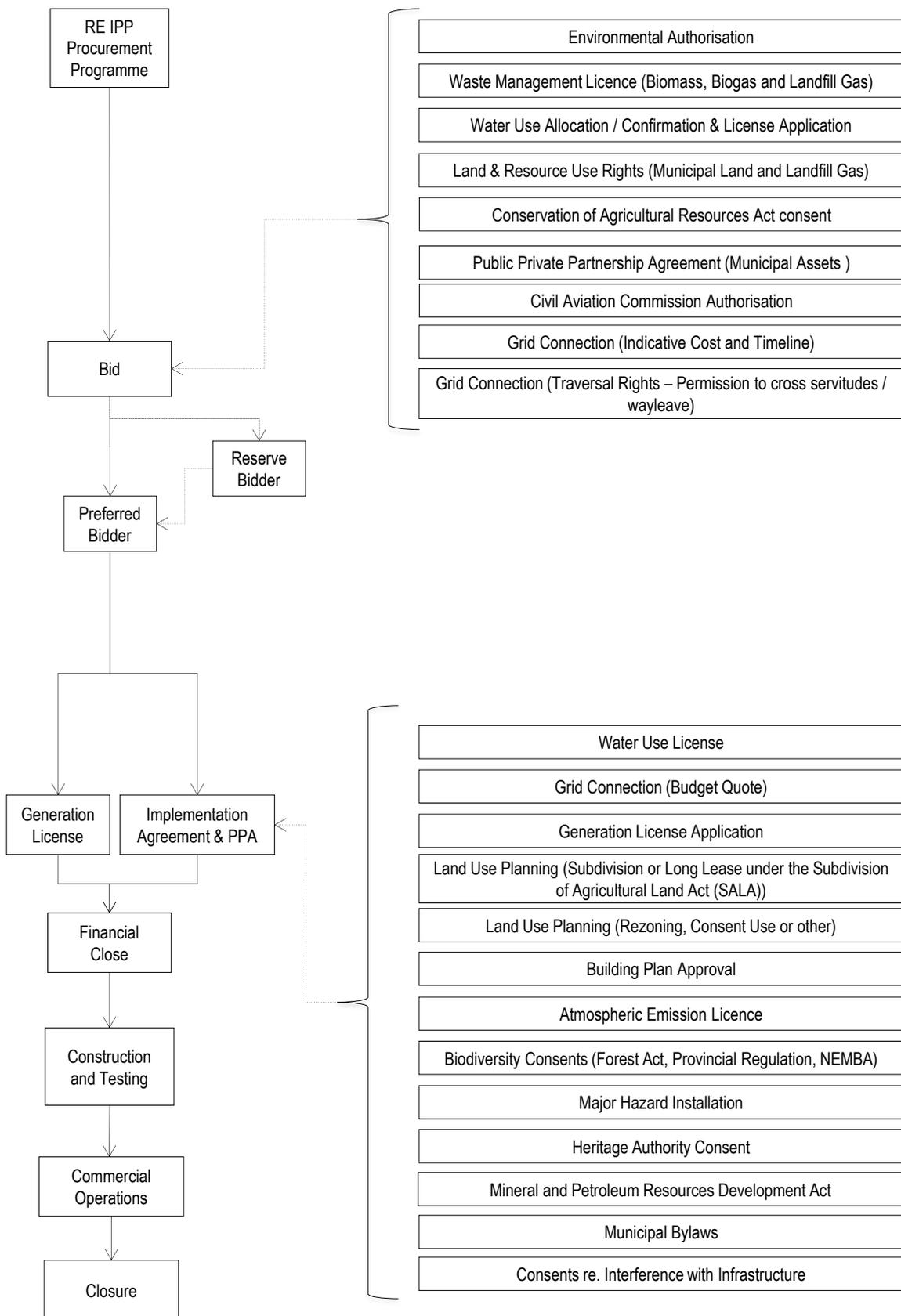


Figure 1: Relationship of key authorisations to the REIPPP Programme

2.2 Environmental and Natural Resource Management

2.2.1 Environmental Impact Assessment

South Africa has a rigorous environmental impact assessment process (EIA) prescribed in the Environmental Impact Assessment Regulations, 2014, issued by the Minister of Environmental Affairs in terms of Chapter 5 of the National Environmental Management Act, 107 of 1998 (NEMA). Activities which require environmental authorisation through the EIA process are listed in three Listing Notices. To assist in renewable energy authorisation processes, an [EIA guideline for renewable energy projects](#) has been developed. National guidelines are also available on [appeals and amendments](#), although these require updating to align them with the 2014 EIA Regulations. The following activities are examples of those which require environmental authorisation: the development of facilities or infrastructure for electricity generation from a renewable resource greater than 10MW or where the extent of the facility covers a combined area in excess of 1 hectare; and the development of facilities or infrastructure for the transmission of power greater than 33kV outside industrial complexes or 275kV or more inside industrial complexes. This effectively leads to the inclusion of all grid connected renewable energy projects within the scope of the environmental authorisation process.

There may however be other subsidiary activities which will be triggered by the proposed development, such as the building of access roads, which are dependent on the thresholds set out in the listing notice. Given that an environmental authorisation must be obtained prior to the commencement of any activity, it is important that developers determine all of the listed activities which may be triggered so that these may be evaluated through the EIA process and included in the final environmental authorisation. It is advisable to also ensure that the most recent version of the Listing Notices are consulted, as they may be amended from time to time.

It is also important to note that the granting of an environmental authorisation for the development by the competent authority does not guarantee that other authorisation, licences or other permissions will be granted. For example, even if the environmental authorisation is granted, the water use licence or planning permission may be refused by the relevant authority.

Competent authority

The relevant competent authority (CA) for different types of projects is determined with reference to NEMA and the Listing Notices. For most renewable energy projects the CA in terms of the regulations would be the Provincial MEC and hence the decision is generally made by a delegated official in the Provincial department responsible for environmental management.

As noted by the DoE in their REIPP procurement documentation, projects under the REIPPPP, are however now treated as Strategically Important Developments (SIDs), due to their potentially significant contribution to the national economy. Accordingly applications for environmental authorisations under NEMA in respect of Projects may generally be made directly to the national Department of Environment

Affairs ("DEA")⁴ instead of to the provincial department responsible for environmental affairs. It appears that most renewable energy developers have made use of this allowance and have submitted their environmental authorisation applications to the national DEA.

EIA as framework for other authorisations

The EIA process effectively forms the framework for most of the authorisations required. The Department of Environmental Affairs (DEA) is seeking to ensure that the fundamental EIA framework, comprising either a [Basic Assessment](#) for low impact activities or less sensitive areas per province, or a full EIA process, referred to as the **Scoping and Environmental Impact Reporting Process ("S&EIR")**, for higher impact activities, is applicable to other environmental licensing processes within the NEMA framework – specifically waste management and atmospheric emissions licensing. As will be seen, a number of other authorisations are dependent on the environmental authorisation process as well, either in terms of regulation or with respect to *de facto* practice by authorities. The Environmental Impact Report (EIR) in practice therefore becomes an important document consolidating key environmental information on the proposed project.

The Council for Scientific and Industrial Research (CSIR) have been commissioned by DEA to complete a set of Strategic Environmental Assessments (SEAs) for wind and solar energy including the identification of geographical areas best suited for the roll-out of wind and solar photovoltaic (PV) energy projects in South Africa. This assessment will help the DEA designate renewable energy development zones (REDZ) within which large-scale renewable energy projects can be rolled out, incentivized under a streamlined environmental authorization process (CSIR, 2014). The output of this work has translated into the South African Renewable Energy EIA Application Database containing spatial data for renewable energy applications for environmental authorization (DEA, 2015). This spatial information is available to the public through an online geographic information system (GIS) [map](#).

The process map for environmental authorisations is shown in Figure 2. It includes the *maximum* timeframes included in the EIA regulations for the processing of applications and the *minimum* timeframes for the public participation processes required. Under the current EIA regulations, these timeframes are very short, and therefore most of the assessment work and consolidation of information should be undertaken prior to the submission of the application, so that these activities are not constrained by the short timeframes. Pre-application consultations with the relevant department are also advisable.

It should be noted that although timeframes can be extended, the circumstances in which this may be done is has been significantly curtailed in the current regulations: there are certain allowances for time extensions by the authorities; there can be delays in specialist studies report preparation and public participation; and there are certain excluded periods for public participation such as school holidays. Further, National Appeal Regulations make provision for appeals against the decision to grant or refuse an authorisation, which can cause additional delays.

⁴ [Contact details](#) of the Chief Directorate: Environmental Impact Management of the DEA.

Note also that National Exemption Regulations provide for a procedure through which exemptions from certain provisions of the EIA regulations may be applied for.

Fees

An application which requires S&EIR is subject to an application fee of R10 000.00, whilst an application which requires a BA is subject to an application fee of R2 000.00. These fees are applicable for the whole application and not per listed activity triggered.

Useful documents

Documents applicable to the EIA and appeals process, where the competent authority is the national DEA, may be found [here](#).

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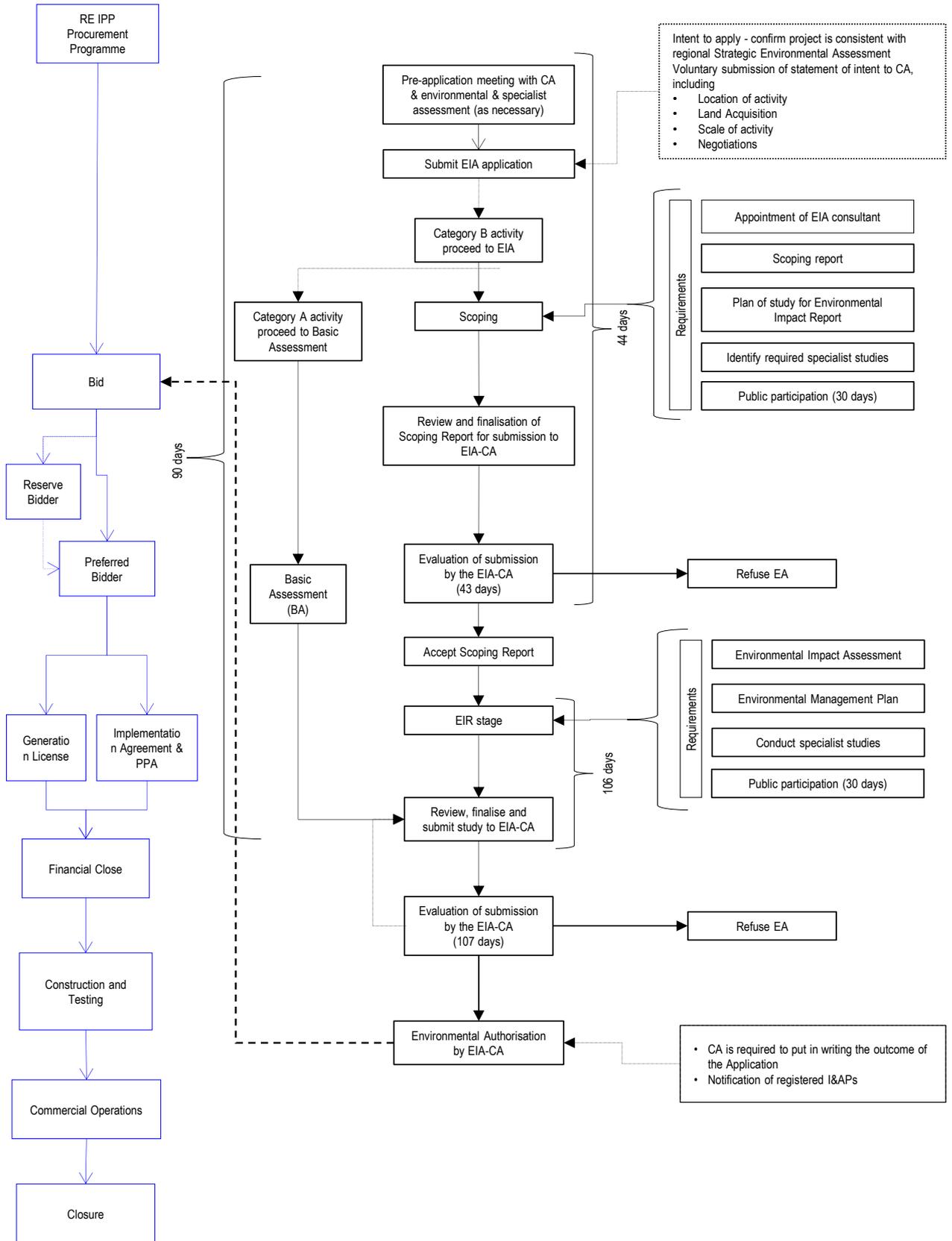


Figure 2: Environmental Impact Assessment Process

2.2.2 Waste Management Licence

Only some renewable energy projects will require a waste management licence. A waste management licence is required for listed waste management activities which exceed certain stipulated thresholds, whilst other waste management activities will need to be registered and comply with the norms and standards for that activity.

For example, a waste management licence is required for the recovery (meaning the controlled extraction or retrieval of any substance, material or object from waste) including the refining, utilisation, or co-processing of waste in excess of 100 tons of general waste per day or in excess of 1 ton of hazardous waste per day. On the other hand, registration and compliance with norms and standards is required for the storage of waste exceeding stipulated thresholds as well as for the extraction, recovery or flaring of landfill gas.

Typically biogas and biomass projects will use some forms of waste as fuel inputs and hence will require a waste management licence and/or compliance with norms and standards. Similarly, concentrated solar thermal power projects may store or generate sufficient waste quantities to require either registration or licencing.

The core legislation governing waste licensing is the National Environmental Management: Waste Act, 59 of 2008 (NEMWA), the List of waste management activities that have, or are likely to have, a detrimental effect on the environment (GN 921 of 29 November 2013), read together with the EIA Regulations, as an EIA is required as part of the application process.

There are three categories of waste management activities which determine which process is to be followed:

1. **A basic assessment process**, in terms of the EIA Regulations, 2014, must be applied to an application if the licence applied for is in respect of an activity listed in Category A of the Schedule contained in Government Notice 921, published on 29 November 2013, in terms of section 19 of NEMWA; and
2. **Scoping and EIR**, in terms the EIA Regulations, 2014, must be applied to an application if the licence applied for is in respect of an activity listed in Category B of the Schedule contained in Government Notice 921, published 29 November 2013, in terms of section 19 of NEMWA.
3. Although no waste management licence is required, **registration and compliance with norms and standards** is applicable to an activity listed in Category C of the Schedule contained in Government Notice 921, published on 29 November 2013, in terms of section 19 of NEMWA.

A significant proportion of the information required for the waste management licensing process is the same information that would be covered within a broader environmental impact assessment. Accordingly, and in terms of NEMA and NEMWA, the DEA has established an integrated environmental authorisation process which means that if both NEMA listed activities and NEMWA waste management activities are triggered, an integrated EIA process may be followed – in other words, the same process should be used for the EIA and waste licencing process. The DEA (no date) notes that the intention is to work towards full integration of different licensing processes but that for practical reasons this integration cannot happen for all authorisations all at once.

Additional information required from the applicant will be specific to the waste generation and management components of the project – many of the information requirements in the standard waste management licence will not be applicable to renewable energy projects, such as the information required that pertains to on-site disposal or landfill sites as it will be more likely that renewable energy projects will use existing authorised disposal facilities.

Typical additional information required by applicants will include:

- a flow chart of the operation showing all inputs and outputs of the process, giving particulars of the source, location, nature, composition and quantity of waste emissions to the atmosphere, surface water, sewer, and ground-water including noise emissions;
- indications of the type of waste management facility/operation to be carried out;
- the size of the landfill disposal site and classification (where appropriate);
- details of the types of waste and the estimated quantities expected to be managed daily;
- details of the applicable waste types and quantities expected to be disposed of and salvaged annually; and
- information showing the licence holder's competence to operate the site (where appropriate).

Detailed information on the waste management licensing process can be found on the [website](#) of the South African Waste Information Centre (SAWIC). The process map for a Waste Management License is shown in Figure 3.

There is some complexity with regards to the competent authority for waste licensing because for most of the waste management activities related to renewable energy generation, the competent authority will be the Provincial department, whereas the EIA will, as noted above, typically will be dealt with by the national DEA.

To address these types of circumstances, the DEA states that National and Provincial Departments have reached agreement that the EIA officials who receive such applications will send copies of the necessary documentation to their relevant waste officials for processing the waste licence. There is also the ability for the Province and National departments to agree that the waste licencing process is dealt with by the same authority dealing with the EIA. Application forms are available [here](#).

Fees

An application which requires S&EIR is subject to an application fee of R10 000.00, whilst an application which requires a BA is subject to an application fee of R2 000.00.

2.2.3 Atmospheric Emission Licence

Under the National Environmental Management: Air Quality Act 139 of 2004 (AQA), atmospheric emission licences (AELs) are required for those activities which result in atmospheric emissions which have or may have a significant detrimental effect on the environment, listed in GN 893 of 22 November 2013. Only a small minority of renewable energy projects may require AELs, which may include biogas, biomass and landfill gas projects, as well as concentrated solar thermal projects with supplementary fuel use, as all these projects will have some combustion emissions. However, the energy generation facility will only require a licence if it falls within the list of activities in category 1 of the Air Quality Act (AQA). The thresholds are relatively high, for example a capacity greater than 50MW heat input per unit for liquid fuel combustion installations used primarily for steam raising or electricity generation, including biomass fueled installations.

For the AEL process, the relevant metropolitan municipality or district municipality is the licensing authority, except in a situation where the municipality has delegated the licensing function to the province or the province has intervened in terms of section 139 of the Constitution. In such circumstances, the relevant provincial environmental affairs department is the licensing authority.

An environmental authorisation is also required for activities which require an AEL. For the EIA process for the environmental authorisation, the competent authority is either the national DEA or provincial environmental affairs department depending on the size and nature of the proposed development. This potential split responsibility between the spheres of government poses a potential coordination challenge as the AEL process is closely tied to the EIA process.

According to the DEA (2011) there are three main principles which underpin the relationship between the EIA and AEL processes.

1. Firstly, the EIA process must proceed and inform the AEL process. This is a logical sequence for various reasons including that the EIA process:
 - considers all potential environmental impacts and this could result in the environmental authorisation being refused by the competent authority and thus no need to issue an AEL;
 - may require the submission of a specialist air quality impact assessment study which should comply with the requirements of the AQA, and will provide the AEL licensing authority with all the critical information needed when assessing the AEL application;
 - will require public participation and input which will also contribute to the understanding of public concerns and comments on the atmospheric impacts of the proposed development or activity.
2. Secondly, there must only be one information gathering process for the two processes. Thus all information required for the AEL process must be gathered through the EIA process to avoid duplication of effort.
3. Thirdly, there should be a joint review of information related to atmospheric impacts by the EIA competent authority and the AEL licensing authority. This is a legal requirement from the National Framework for Air Quality Management, and is one which may strengthen the effectiveness of the EIA-AEL procedural relationship and may promote good cooperative governance relations.

The effective result is that the AEL licensing authority is supposed to play an 'active' role in the EIA process. The AEL licensing authority needs to have all of the relevant information before it to enable it to make a decision whether to grant the AEL once an environmental authorisation has been granted.

According to the DEA there should be no instances where an environmental authorisation has been granted and the AEL licensing authority then finds that the EIA has not considered an atmospheric impact sufficiently to allow an AEL to be granted. It is thus up to the AEL licensing authority to ensure that it participates actively in the EIA consideration and approval process to ensure that the EIA process covers all the atmospheric impacts which must be addressed in order for an AEL to be issued once the EIA environmental authorisation has been granted.

This is similar to the process for waste management licensing which also is aimed at ensuring that the licensing process parallels the EIA process and uses the same public participation and consultation procedures for both authorisations. However, the DEA has gone somewhat further procedurally with the atmospheric emission licensing processes to ensure even tighter and more explicit coordination between the authorisation processes. For example, the [manual for licensing authorities](#) requires a joint evaluation of the Environmental Impact Report and the Atmospheric Emissions Licence application documentation by the relevant Competent Authorities (CAs).

In general, all development applications involving listed activities will be required to undergo an EIA and will require a specialist Air Quality Impact Assessment study. Through its various requirements, the AQA prescribes and informs the scope and content of such specialist Air Quality Impact Assessment studies.

The information required by the licensing authority in the licensing process, such as atmospheric emission impacts, discharges to the atmosphere under various scenarios and fugitive emissions, is best addressed in the specialist Air Quality Impact Assessment study.

The fact that the licensing authority for AELs will be local government, in many cases is not necessarily a problem with regards to coordination, but it does raise the concerns about the timings and practicalities of proper joint evaluation and consideration of documents between the CAs. For example, there may be logistical difficulties with a rural District Municipality arranging proper consultation with the relevant national DEA or Provincial official over-seeing the EIA application. The process map for an Atmospheric Emission Licence is shown in Figure 4.

Further information on the AEL process can be found on the SAAQIS [website](#). In particular, the [National Framework for Air Quality Management](#) (2012) and the [Atmospheric Emission Licence: Manual for Licensing Authorities](#)⁵ (2010) are useful documents.

⁵ This document is useful from a general guidance point of view. However, please note that its legal references are out of date and should not be relied upon.

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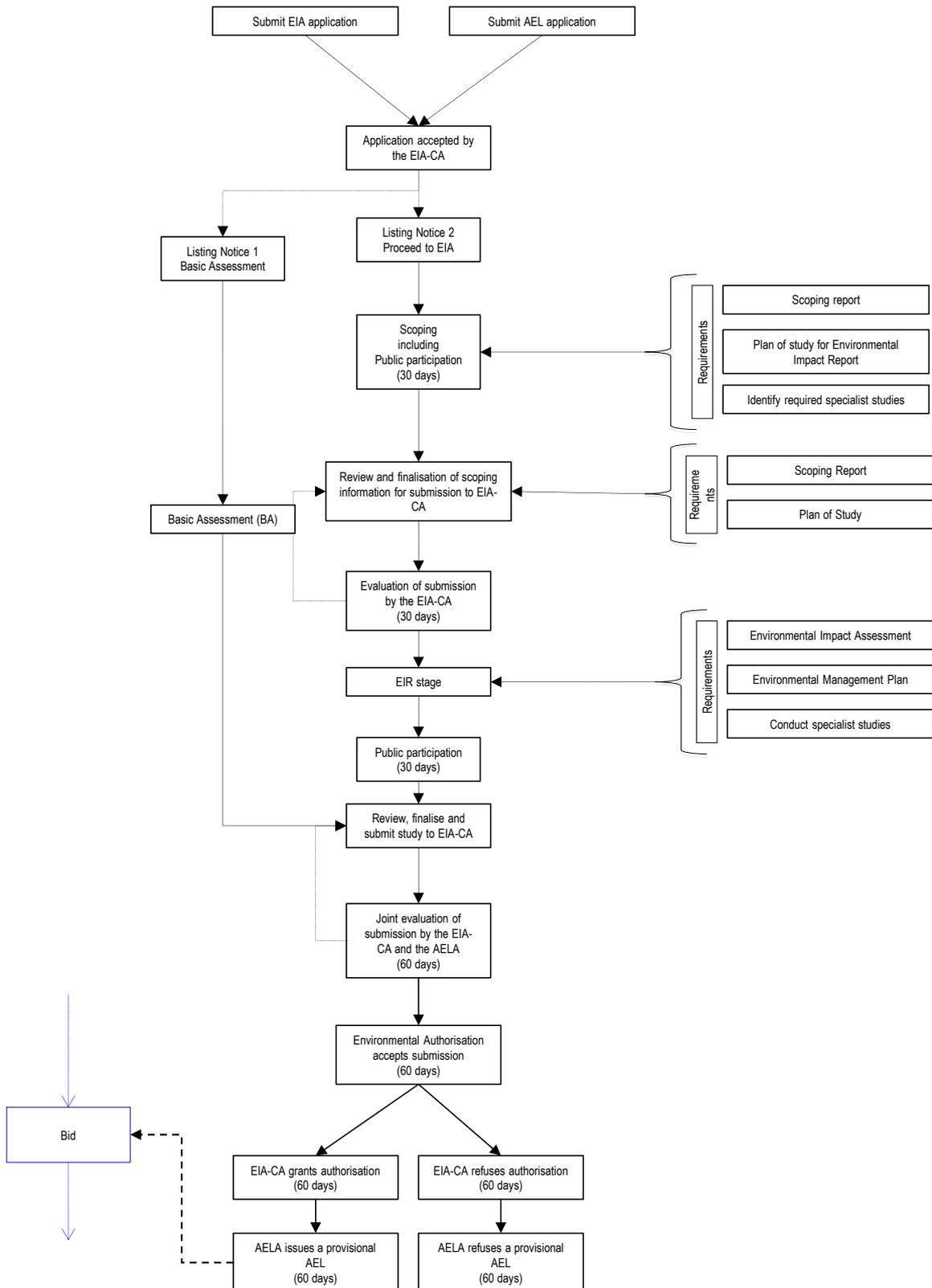


Figure 4: Atmospheric Emission Licence

2.2.4 Biodiversity Authorisations

Many renewable energy projects will require specific biodiversity authorisations outside of the EIA process. This will include circumstances when the site affects declared protected areas, areas containing sensitive ecological habitats or areas containing threatened or protected species. Biodiversity authorisations may also be required where there are specific species of conservation importance, or where impacts represent a threat to biodiversity.

The Provincial environmental and conservation authorities are responsible for biodiversity authorisations. Typically, the need for an authorisation will arise from the scoping and specialist studies carried out through the EIA process. The information required for the application should largely be already gathered through the EIA specialist study process, although additional specialist support may be needed to properly complete application forms and engage in discussions with the authorities.

The National Environmental Management: Biodiversity Act, 10 of 2004 (NEMBA) is the primary national legislation regulating biodiversity and conservation, and in terms of which two permits which may be required.

- Firstly, a permit is required in respect of restricted activities involving species listed as threatened or protected. For example, where a listed protected species will be destroyed or requires relocation during the construction process, a permit must be obtained. The process for applying for these permits is set out in the Threatened or Protected Species Regulations (GN 152 of 23 February 2007), and the species are listed as critically endangered, endangered vulnerable or protected in GN 151 of 23 February 2007.
- Secondly, the Alien and Invasive Species List, 2014 (GN 599 of 1 August 2014) lists invasive species for which a permit must be obtained for certain activities or in respect of which activities are prohibited. It further sets out the circumstances where a permit is not required for restricted activities involving alien species, and which activities are prohibited in respect of certain species.

Developers should also take note of the general duty of care to avoid the spread of alien and listed invasive species, and as owners of land on which certain listed invasive species exist, they may have obligations to specifically eradicate or control these species.

In addition, the various Provincial authorities have their own provincial legislation which governs the management of biodiversity and conservation in the Province and will tend to have their own procedures. However, it appears that these procedures are typically relatively straightforward and are based on direct application to the relevant authority.

Activities within declared protected areas are generally very restricted, and will depend on both the regulations which govern that protected area, and its management plan.

A licence under the National Forest Act, 84 of 1998 may also be required for some renewable energy developments which impact on trees protected in terms of the Act. A licence or exemption will be needed for any development which requires the developer to:

- cut, disturb, damage or destroy any protected tree; or
- possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, or any forest product derived from a protected tree.

Again, the process followed is a relatively straightforward application to the relevant regional Department of Agriculture, Forestry and Fisheries (specifically the Forestry Division). The application should largely be informed by information collected in the EIA specialist report. Guidelines for involving specialists are available [here](#). The process map for Biodiversity Authorisations is shown in Figure 5.

There is a new, though sometimes controversial, trend in conservation management in SA which is the use of biodiversity offsets. This approach allows a developer to establish an 'equivalent' offset, such as setting aside a piece of land elsewhere with equivalent biodiversity status or contributing financially to the extension of a declared conservation area in the same biome. This can be done as a form of trade-off for the reduction of biodiversity due to the project.

There are not yet clear guidelines on how such processes will be managed and they are simply indicated as a step in the flow diagram below. However, it can be expected that the process of establishment may be time-consuming. Draft guidelines have been published by the Provincial Government of the Western Cape (Provincial Guideline on Biodiversity Offsets, 2006) that give some sense of possible processes that may be followed.

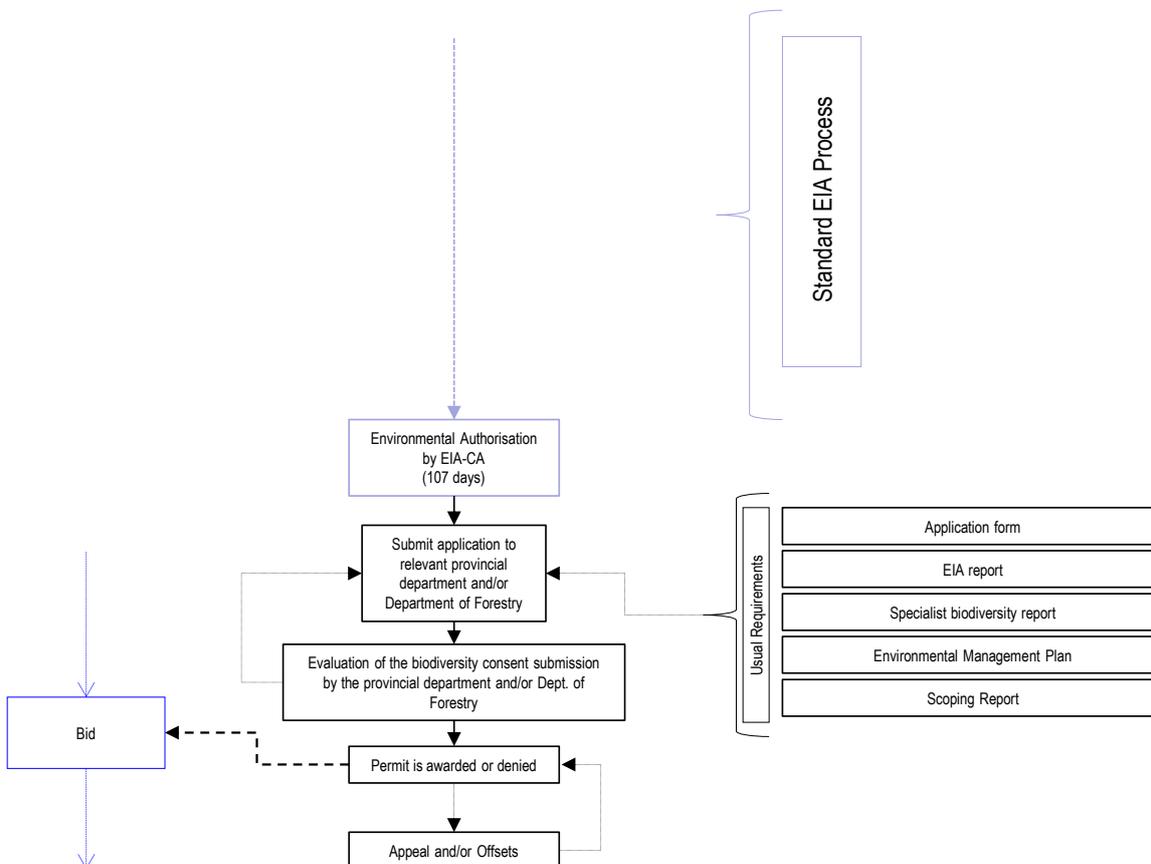


Figure 5: Biodiversity Authorisations

2.2.5 Water Use Licence

Only some renewable energy projects will require water use licenses from the Department of Water and Sanitation (DWS) under the National Water Act (NWA) (Act 36 of 1998). These are any projects that have the following water uses:

- taking water from a water resource;
- storing water;
- impeding or diverting the flow of water in a watercourse;
- engaging in a Stream Flow Reduction Activity;
- discharge waste or water containing waste into a water resource;
- disposing of water in a manner which may detrimentally impact on a water resource (this is generally interpreted to include the storage of wastewater in a lagoon / dam);
- altering the bed, banks, course or characteristics of a watercourse.

Typically, this would include hydropower projects, as well as any concentrated solar thermal projects with high water requirements for the steam cycle and cooling (if evaporative cooling is being used). Projects will not need a specific licence if they are using water from an existing distributor, such as a Municipality, or fall within the limits of general authorisations which automatically apply to low levels of water use. The general authorisations do however still require registration of that use. For example, where a water use falls within the scope of the general authorisation, it must be registered for:

- taking of more than 50 cubic metres from surface water or 10 cubic meters from groundwater per property on any given day; and/or
- a combined storage of more than 10 000 cubic metres of water per property.

Therefore, projects which are only using small amounts of water, for example for on-site use by staff or for small amounts of panel washing in the case of photovoltaic (PV) plants, will not require an authorisation unless their siting impacts on water resources. This is because water use licensing does not only cover consumptive water use but includes the impacts on watercourses noted above. A project that will not use significant volumes of water may still require a licence for non-consumptive impacts.

In terms of the Water Services Act, approval is required from the municipality to use water from a source other than the nominated water services provider. The storage of water in dams will also be subject to dam safety requirements and registration. The DWS has developed external guidelines for a generic water use authorisation application process available [here](#).

The current REIPPPP bidding requirements do not include a water use licence at the bidding stage as the DWS has indicated that it will only process applications from projects that have already been selected under the programme. The DWS will issue non-binding letters confirming the availability of water for a project if required. The water licensing process therefore will have to be initiated prior to bid submission, but completed after selection and before financial closure.

There is not a legislatively set timeframe for the water licensing process and historically licensing has been slow, sometimes with periods of more than two

years, with a licensing backlog having consequently developed. However, the DWS has recently published draft regulations to regulate water use licensing process. These regulations, once finalised, are also intended to align the water use licensing process with other environmental authorisation and licensing requirements.

It should be noted that the water use licensing process is more complicated than other environmental authorisations as a wider range of factors tend to be taken into account, primarily because the award of the licence requires a consideration of:

- water quantities available and how best to balance a scarce water resource amongst competing users including the environment itself;
- water quality and the interaction between water use, discharge and water quality; and
- general water resource protection, such as stream-flow disturbance, river-bank maintenance and so forth.

Relationship with EIA process

There is currently no direct relationship between the EIA process and the water use licensing process in the sense that a NEMA EIA process is not specifically required for the provision of a water use licence, and separate processes are required. However in practice there is likely to be a strong interaction, with much of the basic information required for the water use licence being also gathered as part of the EIA process. It is however intended that the two departments align their application and assessment processes in the future, and this is partly what the water use licensing regulations seek to achieve. The final alignment of the processes will be the subject of an intergovernmental agreement between the relevant Ministers.

The NWA does make provision in some circumstances for dispensing with the requirement for a licence. Akin to similar provisions under NEMA, section 22(3) of the NWA stipulates that the requirement for a licence for water use may be dispensed with by the responsible authority if it is satisfied that the purpose of the NWA will be met by the grant of a licence, permit or other authorisation under any other law. An internal DWS guide (2007) states that "a common example is when a wastewater treatment plant is authorised in terms of the National Environmental Management Act (NEMA) (Act No 107 of 1998). As the Environmental Impact Assessment (EIA) process incorporates the input of all stakeholders, affording input from the public as well as regulatory authorities, the need to submit an additional Water Use Licence Technical Report is dispensed with by this Department through the responsible authority". It is not clear whether this could also apply to renewable energy projects subject to a full EIA.

Consultation

The DWS states that "it is critical to note that the pre-application process includes timeously requesting the future input and participation of other government departments, non-governmental organisations (NGOs), as well as other relevant external stakeholders (such as people living in and around the area of the proposed water use). The applicant is responsible for approaching the relevant government departments for any other authorisations required." The DWS and the NWA do not appear to require a specific public consultation process, but rather a demonstration by the applicant that such a process has occurred effectively during the licence application process. It is likely that the EIA interested and affected parties

consultation process could be used to also serve as consultation for the water use licensing if managed correctly.

A process flow for the Water Use Licensing process is shown in Figure 6.

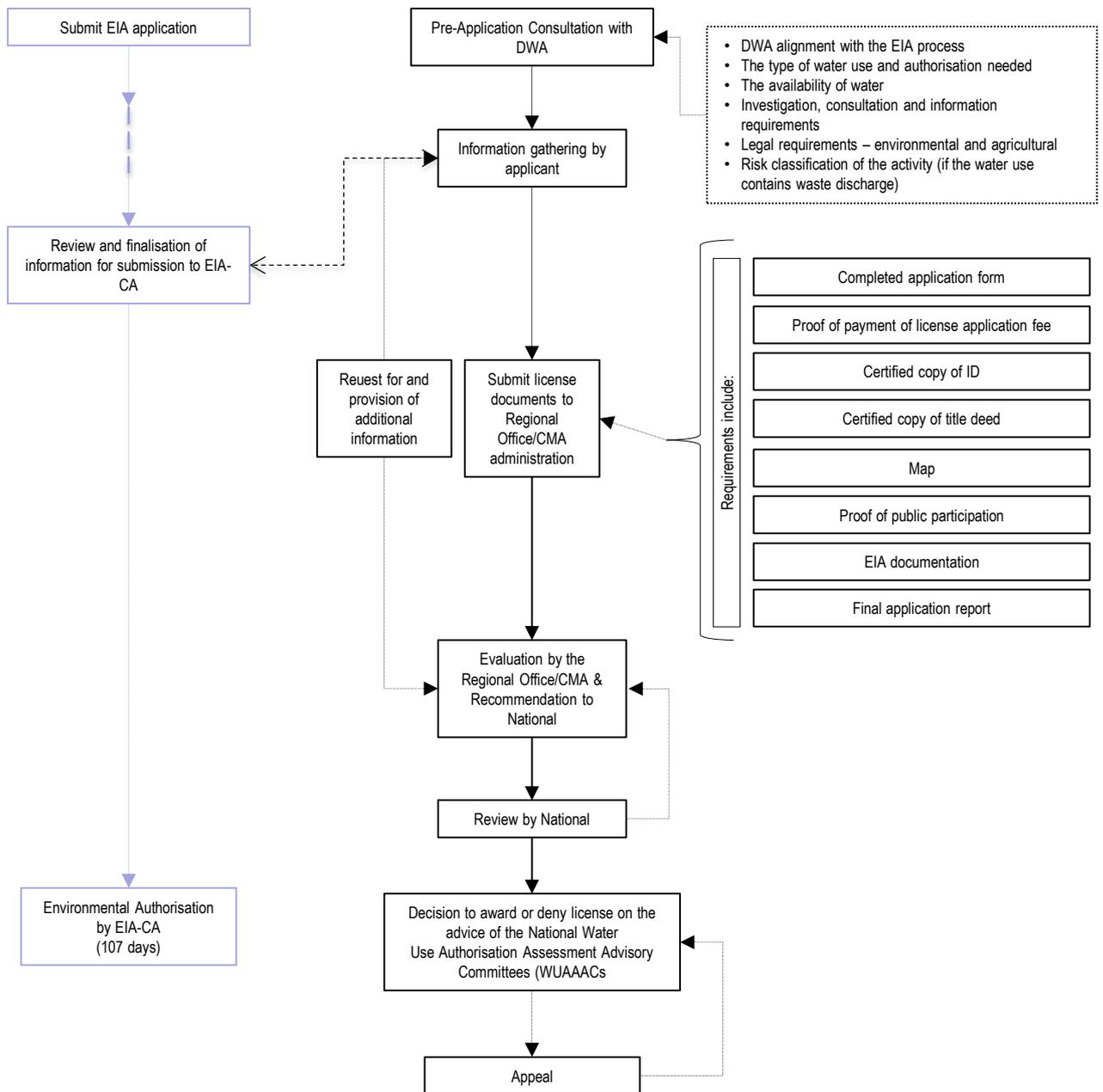


Figure 6: Water Use Licence

2.3 Land Use Approvals

2.3.1 Land Use Planning Requirements⁶

The vast majority of renewable energy projects will require some form of land use planning authorisation. All projects will require legal rights to use the land for the project and in most cases alongside these legal rights will be the securing of various planning and land-use permissions. Whilst land use and land development approval is a function of municipalities, where agricultural land is involved, approval from the national Department of Agriculture, Forestry and Fisheries may be required. It is assumed that the majority of proposed renewable energy developments, including wind, hydro power and solar thermal or PV, are likely to trigger a number of regulatory requirements because they will require:

- a) subdivision of land; and/or
- b) change of use of the land.

There may be some projects where a change in land-use is not required, such as some landfill gas projects or urban solar PV projects, but this will depend on the municipal zoning in place.

These are considered separately below, although both form part of municipal planning.

Municipal planning processes are currently being overhauled pursuant to the commencement of the Spatial Planning and Land Use Management Act, 16 of 2015 (SPLUMA) and its regulations on 1 July 2015. This Act does not have direct compliance obligations for developers, but provinces and municipalities are required to amend their planning legislation to ensure compliance with its requirements. Most provinces are currently in the process of amending their provincial legislation accordingly, and simultaneously municipalities are amending and developing their own land use planning laws (through zoning schemes and zoning by-laws) in line with the provincial laws. Therefore, although planning requirements will become more uniform throughout the country than previously, there will still be differences between provinces and between municipalities. In the Western Cape, the Western Cape Land Use Planning Act, 3 of 2014 (LUPA) has been finalised and published, but is being phased into operation according to the readiness of municipalities.

It is important to note that although municipal planning is regulated at both a national level (through SPLUMA) and provincial level (through provincial legislation), municipal planning is a municipal function and accordingly, applications and decisions on applications (and accordingly land use and development approval) are managed by municipalities, primarily through zoning schemes and associated by-laws. These must be read together with applicable provincial laws and the Spatial Planning and Land Use Management Regulations.

Applications (which must meet the requirements of the relevant municipal and provincial legislation) must be submitted to the municipality. SPLUMA provides for the establishment of municipal planning tribunals who will then decide on applications. Municipalities may however also designate an official to decide on

⁶ Some of this section has been drawn from CAMCO (2009).

certain applications, whilst the tribunals will decide on others. The tribunals may be set up by local and metropolitan municipalities individually, jointly with other municipalities or by the district municipality.

Any appeals against the decision of the authorised official or tribunal will be to the executive authority of the municipality. Appeals to provincial departments have been confirmed by the Constitutional Court as unconstitutional.

Given the complexity of land-use planning and differentiation between municipalities and provinces currently, it is not possible to capture all the detail here, however the flow diagram below provides a generic overview of the processes to be followed by developers and key dependencies.

A **sub-division** of land parcels may be required to facilitate the purchase of a smaller land parcel or may be connected to a subsequent consolidation of land parcels in order to reconfigure the cadastral boundaries of the land to meet the project's needs.

A necessary requirement for obtaining land use approval is that the applicant must own land in question or have the written consent of the owner. If the applicant wishes to own the land then obviously he or she will need to engage in the purchase of that land by way of commercial transactions with existing land-owners.

As noted above, in most cases such purchase will require the reconfiguration of existing cadastral boundaries, hence the assumption that subdivision will be required at some point in the land acquisition process. The applicant may decide to avoid actually owning the land but rather engage in long-term leasehold arrangements with existing owners – long term leasehold arrangements, however, trigger similar requirements as sub-division.

Agricultural land use and sub-division

Where agricultural land is to be subdivided, approval from the Minister of Agriculture, Forestry and Fisheries will be necessary in terms of the Subdivision of Agricultural Land Act, 70 of 1970 (SALA). This law is somewhat outdated, but continues to apply. The Conservation of Agricultural Resources Act, 43 of 1983 (CARA) is aimed at controlling the use of natural agricultural resources to ensure the conservation of soil, water and vegetation, as well as the combating of alien and invasive plants. Projects that affect such resources may require approval under CARA.

Subdivision is likely to be needed either where parts of a farm, or other property, that are suitable for renewable energy production are separated from those retained for other purposes or where various portions of various farms need to be excised from the current farms and consolidated into a new property. Alternatively, or in addition, it may be necessary to consolidate certain land portions. This will depend on the specific land situation and negotiations with landowners.

Approval for a proposed subdivision in terms of SALA is obtained by submitting an application to the national Department of Agriculture, Forestry and Fisheries (DAFF). Generally, the Department will then consider the application and make a recommendation which is submitted to a unit in the national Department of Agriculture in Pretoria. That office then makes a recommendation to the Minister of Agriculture, Forestry and Fisheries, who makes a decision whether or not to accept that recommendation.

Subdivision and consolidation of land are also regulated as part of municipal planning, and will therefore be subject to municipal by-laws and provincial legislation. As referred to above land-use planning and the land-use planning requirements differ from province to province, and are currently being overhauled. The applications for rezoning and the subdivision may be submitted simultaneously.

The DAFF is generally opposed to sub-dividing farms into uneconomic units and has a National Policy on the Preservation of Agricultural Land which outlines how the Department will view developments which impact on productive agricultural land. The Department also has draft regulations specifically for the review of applications pertaining to wind farming. While the DAFF is principally concerned with protecting agricultural productivity the regulations acknowledge that wind farming has the potential to complement farming activities, provided that it is managed correctly.

Recent indications are that the Department will not look favourably on applications that require the sub-division of more than 10% of the farm area. Clearly different project types have different implications for farming, for example wind-farms may allow current farming activities to continue, and the relationship between renewable energy and farming activities is an important and ongoing debate. In the interim, approval under SALA and under CARA poses a potential regulatory concern for projects.

Land use zoning

The legal processes related to a change of land use are distinct from those of subdivision although there is a relationship between the two (as noted above, rezoning has to be approved prior to approval for subdivision being granted). Where there is a zoning scheme which applies to the land in question, an application to change the land use may be required. Ultimately however, all land will need to be zoned in terms of single municipal zoning schemes.

Changing the use of land – typically in the case of renewable energy projects from agricultural to a land-use zoning that permits the renewable energy development – requires permission in terms of the relevant provincial and municipal legislation. This process can cause delays as some provinces have a policy that an application for change in land-use may not be considered, or finalised, until the NEMA environmental authorisation has been granted. However, SPLUMA now makes provision for the alignment of municipal planning application processes and approvals with similar processes required by other organs of state. It may be possible in the future to fully align and integrate environmental and planning authorisation processes.

As there has been no history of renewable energy in South Africa, the provincial legislation typically has not made provision for renewable energy as a land-use activity under the provincial zoning schemes which set out the permissible land-uses that apply to all land outside of specific, municipal zoning schemes. Similarly, municipal zoning schemes generally do not have this land-use specified. To allow such projects to proceed, different provinces have previously applied different approaches.

However, this is changing with the overhaul of the regulatory framework. Western Cape's LUPA make specific provision for renewable energy developments. Some provinces, such as the Northern Cape, have defined new zones that provide reference to specific renewable energy technologies.

This process of amendment of legislation and municipal zoning is still ongoing and project developers will need to refer to the relevant provincial planning department for the current status.

Sequencing

Securing the land required for the renewable energy development, and securing the required regulatory approvals for that land use is a fundamental step in renewable energy project development. The developer will firstly need to do the following or, in some cases possibly a combination of the following, in relation to different land parcels:

- purchase the land;
- secure a lease agreement over the land; or
- obtain the land-owner(s)'s written consent to the proposed project.

The second step is typically an application for an environmental authorisation in terms of NEMA, which may be integrated with other environmental licensing requirements. There may also be the need to carry out a Heritage Impact Assessment at this stage should it be required.

The third step is the various applications for subdivision and land use change. However, as referred to above, it may become possible to integrate this process with the previous step. It is important to remember that in most provinces two applications for subdivision have to be submitted, one in terms of the provincial planning legislation and one in terms of the Subdivision of Agricultural Land Act, with the first submitted to the municipality and the second to the Department of Agriculture. It may well be that some municipalities have their own process of handing over subdivision applications to the Department of Agriculture.

See the process map in Figure 7 for these various steps.

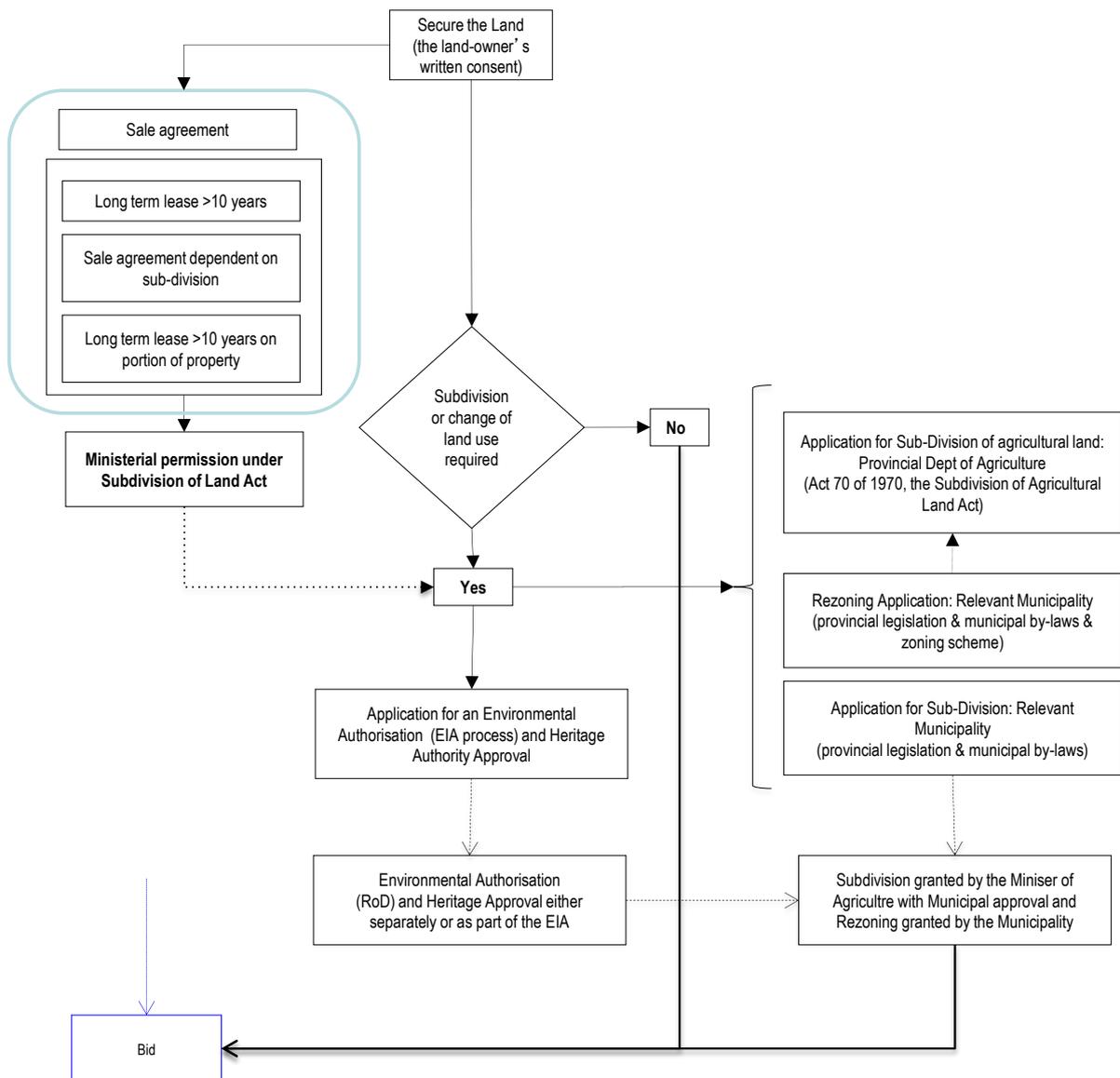


Figure 7: Land Use Planning

Additional land use considerations

There are some additional considerations that should be considered by developers in relation to securing the required rights to land.

Land Claims

There is a specific land claims process in South Africa which was established to provide redress to individuals or communities who were dispossessed of their land after 1913 due to racially motivated legislation. The Commission on Restitution of Land Rights (CRLR) and the specialised Land Claims Court were established in terms of the Restitution of Land Rights Act, 22 of 1994 as amended, in order to finalise land claims. The process is managed by regional Land Claims Commissions and allows for three mechanisms of redress: land to be returned to original owners;

alternative land to be provided; or a comparable cash payment to be made in lieu of land. It is possible that some land being considered for renewable energy development may have land claims pending.

Although the initial deadline for the submission of all land claims was 31 December 1998, a recent amendment extended the deadline for lodgment of land claims to 30 June 2019. Therefore in considering the lease or purchase of a parcel of land developers should ascertain whether a land claim exists on that land. The existence of a land claim does not necessarily preclude the use of that land for a renewable energy project but does raise certain issues which developers should be aware of which are discussed below.

If a decision is taken to return land to the original owners or their descendants and land is expropriated for the purposes, the value of the land for the expropriation is established at the time of the registration of the land claim. The implication of this is that any improvements on the land made after that time will not be included in any future expropriation – this would include any infrastructure established for the purposes of renewable energy generation.

A land owner can also negotiate with the land claimants around future land use. For example, land could be leased from land claimants after a claim is settled. However, it should be noted that there may be restrictions imposed upon the sale of land after a claim has been granted. Further, care needs to be taken in ensuring that any agreement entered into is entered into with the correct land-owners or their representatives.

Servitudes and access

In addition to securing access to the land itself, developers will, depending on the location of the land, need to secure road access to the land itself and access to the transmission or distribution network. In certain cases this may require negotiating access rights and servitudes over neighbouring farms or other land parcels. Any such servitudes need to be registered with the Deeds Office. Furthermore, access roads may in themselves trigger the need for an environmental authorisation and therefore basic assessment, and accordingly should be considered when determining what activities must be assessed during the EIA.

Case Study: Solar Project X

This case study is provided as an example of the land-use planning considerations applicable to a typical renewable energy project.

The project is a medium sized solar energy project located in the Northern Cape. The developers have entered into a lease agreement with the land-owner. The property is currently zoned as agricultural land and is 4 000 hectares in extent, of which 200 hectares are required for the project.

To secure the required land-use approvals with respect to the sub-division of land use Act the developers will either have to:

- Purchase the entire property (in which case sub-division is not required);
- Enter into a long-term lease for a portion of the property (in which case Ministerial consent under the subdivision of agricultural land);
- Sub-divide the property (and purchase the sub-divided portion or else sell the remaining portion back to the landowner.

As can be seen, a range of possible arrangements have to be accommodated in the legal agreements entered into with the landowner. The preferred process is to purchase the entire property and then to allow the current land-owner to purchase the remaining portion of the property following sub-division.

In addition to the sub-division requirements, the property has to be rezoned to accommodate the solar project. Consideration was given to the options available in this regard with specific reference to the Northern Cape Planning and Development Act, 7 of 1998. It should be noted that the Act is complex and that the current status of the zoning schemes under the Act are not simple to understand.

The Act provides for various alternative land-use permissions – such as rezoning, consent use and departures from the applicable zoning scheme. After consideration it was decided that the most appropriate and secure option was to secure a rezoning for a portion of the property from Agricultural Zone to a Special Zone (renewable energy). Under Article 76 of the Northern Cape Planning and Development Act the MEC delegated the powers to approve the rezoning of the area to applicable zonings to the Local Authority. The application for rezoning was therefore made to the local municipality. A rezoning for a portion of the land under the Special Zone was authorised by the local municipality, with the remaining extent of the land remaining zoned as agricultural land. The Department of Agriculture was an interested party in this process and was consulted and the Department did not object to this rezoning. No sub-division is triggered by the rezoning authorisation.

The project has therefore secured the necessary authorisations to proceed but it is still constrained by the requirement to purchase the entire property, to avoid a sub-division requirement, prior to project financial close. In the event that the project does not receive later authorisation to sub-divide there is the potential that the current land-owner will not be able to re-purchase the remaining 3 600 hectares of land. An alternative arrangement, such as a lease arrangement, will need to be entered into to allow the current agricultural activities to continue. This would increase the net costs of land for the project and will have a negative impact on the current land-owner, as his land rights will be less secure. It appears that there is no way to avoid these arrangements given the constraints imposed by the Sub Division of Land Act.

2.3.2 Mining rights

Where mineral or petroleum rights are held in respect of land on which a renewable energy development is to take place, renewable energy developers are required to submit applications to the Department of Mineral Resources (DMR) for ministerial approval in terms of section 53 of the Mineral and Petroleum Resources Development Act, 28 of 2002. Furthermore, section 53 empowers the Minister to initiate an investigation if it is alleged that a person intends to use land in a way which may detrimentally affect the mineral resources on that land.

The [SAMRAD portal](#) (the South African Mineral Resources Administration System) provides a mechanism where the public can view the locality of applications, rights, permits made or held, and where applications can be submitted electronically. The section 53 application form can be downloaded [here](#) and submitted via the portal.

Generally, the regional offices of the Department of Minerals Resources (DMR) have facilitated this section 53 approval process. An alternative approach that has been used is for developers to seek a ministerial exemption from the DMR, whereby the project site is excluded from the designated mining area and the resulting mining-related laws and protocols (Fevre and Behr, 2014).

Where there is conflict over pre-existing mineral rights, parties can also enter into negotiated agreements allowing the use of the land for both energy and mining purposes. For example, options include altering the location or layout of the renewable energy plant or similarly limiting mining or prospecting operations to portions of the project site. Such arrangements can be addressed in either lease or surface use agreements (Fevre and Behr, 2014).

2.3.3 Civil Aviation Authority

In terms of regulation 139.01.30(3) of the Civil Aviation Regulations, 2011 published under the Civil Aviation Act, 13 of 2009, the Director of the Civil Aviation Authority must give approval for the erection of any structure in the vicinity of an aerodrome which constitutes an obstruction or potential hazard to aircraft or which will affect the performance of the radio navigation or instrument landing systems, such as a wind turbine.

Accordingly it is a legal requirement to obtain prior approval for an [obstacle](#) in terms of the Aviation Act. An obstacle is defined as all fixed or mobile objects that are located on an area intended for the surface movement of aircraft; or extend above a defined surface intended to protect aircraft in flight; or stand outside those defined surfaces and that have been assessed as being a hazard to air navigation. The wind-farm application form is available [here](#).

The determination of what is an 'obstacle' will depend on local factors, such as proximity to airports and type of airport and interference with radar systems. However, it is likely that most wind-farms and other projects with tall stacks or masts will require prior approval from the CAA. The Regulations operate together with Civil Aviation Technical Standards (CATS) and CATS 1.14.b provides specifically that wind farms should not be built closer than 35 kilometers from an aerodrome.

The CAA has established a relatively simple application form and procedures (see process map in Figure 8). However, given the sensitivity around aircraft safety as well as the importance of military, communication, navigation and meteorological

radar system, there may be instances where wind-farms in particular face close scrutiny or complex mitigation requirements.

The standards for markings of obstacles can be found in the technical standards to this regulation.

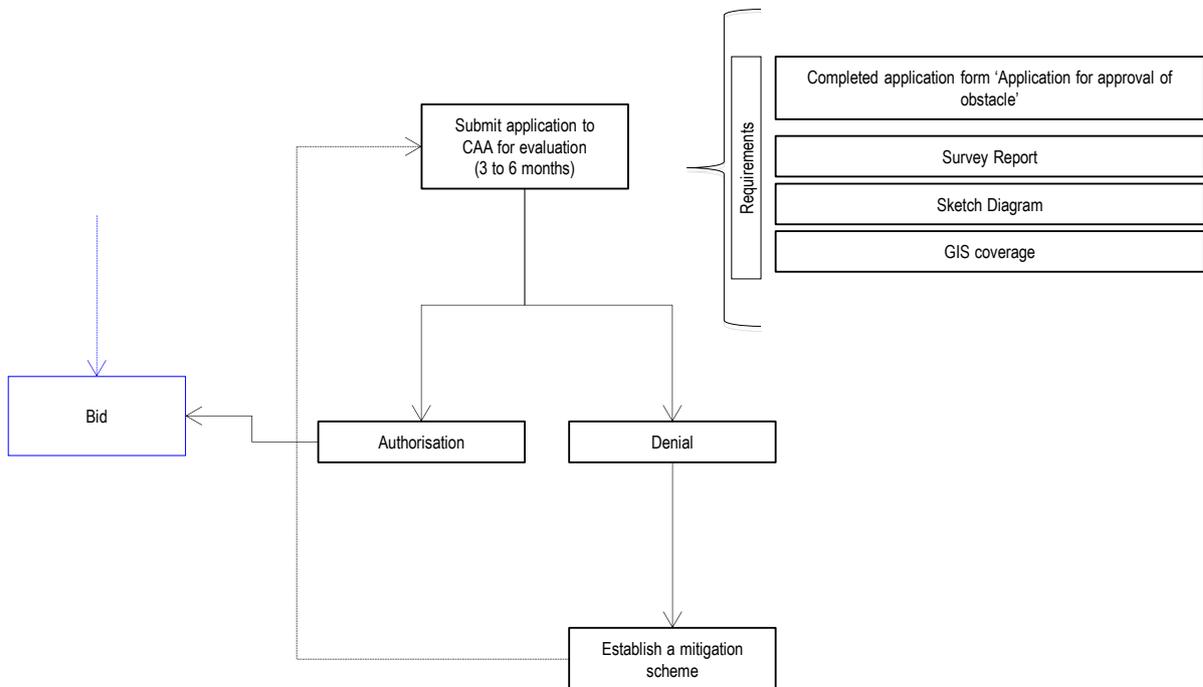


Figure 8: Civil Aviation Authority

2.3.4 Heritage impact approval

In certain cases – determined by factors that include the scale of the proposed project, whether or not there is a need to demolish or change buildings over sixty years old or whether the proposed project is on or near to a national or provincial heritage site – a permit has to be obtained from the Provincial Heritage Resources Agency, generally following the completion of a Heritage Impact Assessment (HIA). This is required in terms of section 38(1) of the National Heritage Resources Act, 25 of 1999 (NHRA), if the development which will be taking place:

- is a linear development which exceeds 300 meters, a bridge or structure longer than 50 meters, or a development exceeding 5000 square meters;
- requires re-zoning of land according to municipal by-laws; or
- is required by the South African Heritage Resources Agency (SAHRA).

Furthermore, heritage impact assessments are required in terms of section 24(4)(b)(iii) of the National Environmental Management Act, to be read with section 38(8) of the NHRA, and provincial heritage legislation. Notably, where an assessment is required in terms of NEMA, a separate assessment under the NHRA is not also required.

In all cases it is advisable to consult the provincial Agency, or a knowledgeable heritage management consultant. Should a Heritage Impact Assessment be required – and whether or not this will be the case will depend very much on the nature and location of the proposed project – then it would be best for that to run simultaneously with any process required in terms of NEMA.

The process which is to be followed to ensure compliance is to, firstly, submit a notification of intent to develop (NID) to the provincial SAHRA offices. Then, should an HIA be necessary, the developer will move on to Phase 1: engaging a specialist to identify and assess the site, and to develop heritage indicators which should inform the design of the development. See DEA's guidelines for the use of heritage specialists for more information.

It is understood that SAHRA will issue a record of decision (ROD) informing the developer whether or not the consultant's heritage indicators have been accepted. Should they have been accepted the developer may move on to Phase Two, designing the development in such a way as to take the heritage indicators into account. The documentation to be submitted includes a report, executive summary, and either an onsite visit by SAHRA or an assessment which includes archeological, architectural, historical, and social anthropological components.

The executive summary must include:

- a DEA reference number, name and site location, magisterial or municipal district of site, the name and contact details of developer, consultant, specialist and owner;
- the date when development was first mooted, date of the report, as well as proposed date of commencement of development; and,
- a summary of findings and recommendations.

The report should include:

- a wide angled photo, close ups of heritage resources, GPS coordinates and a 1:50 000 map showing position and map grid reference;
- identification and mapping of heritage resources, an assessment of impact vs. social and economic benefit, and results of the consultation process; consideration of alternatives to prevent adverse impact, and a plan for the mitigation of adverse effects.

The process map for the Heritage impact approval is shown in Figure 9.

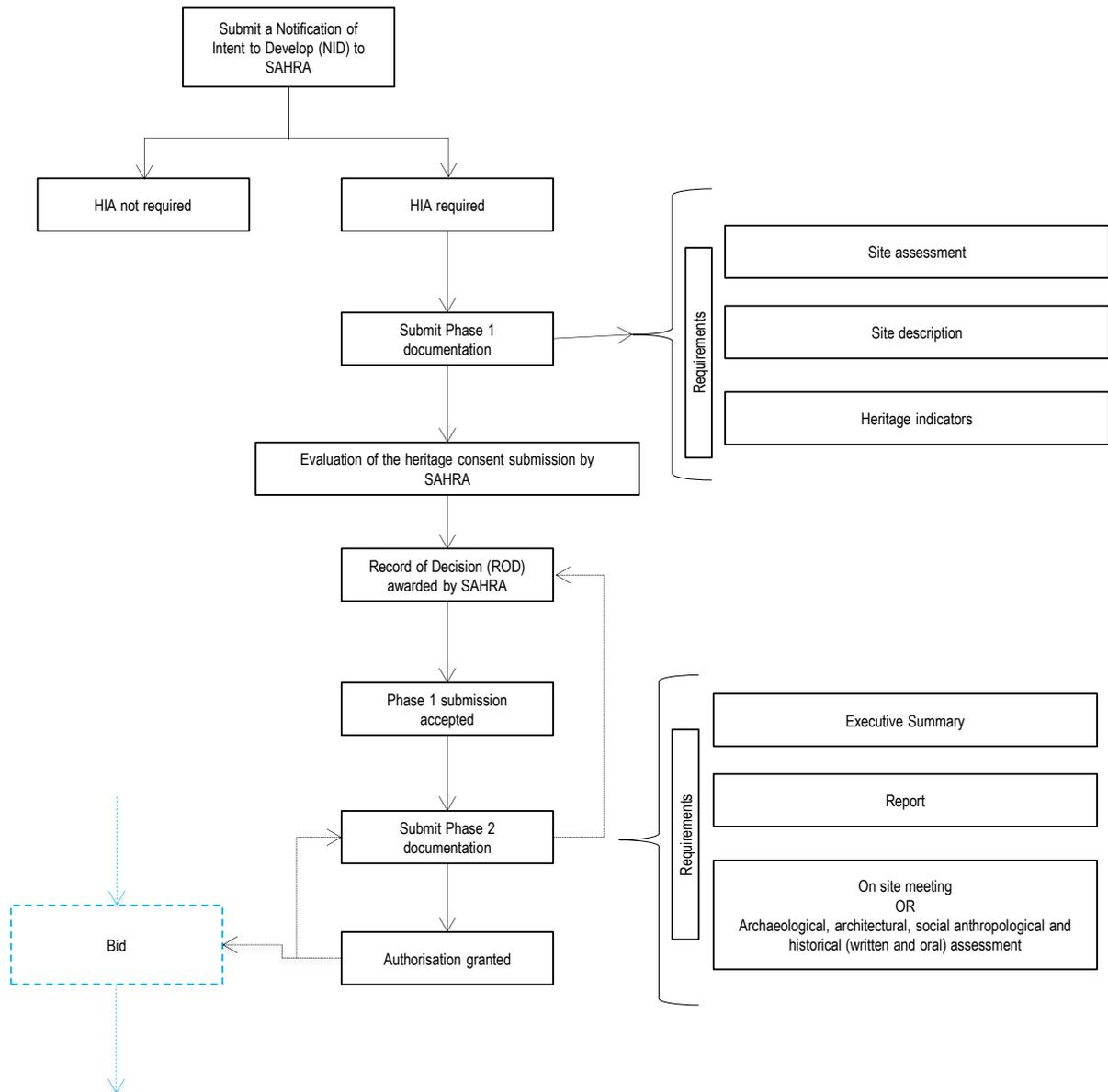


Figure 9: Heritage Approval

2.4 Health and Safety

2.4.1 Community Hazard Management

The DoE Renewable Energy IPP Procurement Programme indicates that some projects may need to be authorised as Major Hazard Installations. This may include projects where large quantities of fuel are stored, such as solar thermal projects using co-firing, or possibly some bio-mass projects depending on the fuel used.

The Major Hazard Installation Regulations (MHI Regulations) were promulgated in GN R 692 of 30 July 2001. According to the Department of Labour (DoL, 2005) the big difference between these Regulations and other Regulations in terms of the

Occupational Health and Safety Act, 1993, is that these Regulations do not only address the health and safety of the employer and workers but also that of the general public. An explanatory note on Major Hazard installation regulations is available [here](#).

A “major hazard installation” means an installation:

- a) where more than the prescribed quantity of any substance is or may be kept, whether permanently or temporarily; or
- b) where any substance is produced, used, handled or stored in such a form and quantity that it has the potential to cause a major incident.

The quantities and type of substances are prescribed in the General Machinery Regulation 8 and its Schedule A, on notify-able substances. A “major incident” means an occurrence of catastrophic proportions, resulting from the use of plant or machinery, or from activities at a workplace. The potential for a major incident is determined through a risk assessment.

In the Regulations the employer is instructed to notify the three governing bodies namely the provincial office of the Department of Labour, the Chief Inspector and Local Government of existing, new and changes to MHIs.

To inform the public in the vicinity of the MHI, the employer of the installation must publish the notification to the governing bodies in a newspaper serving the public in that area and by way of a notice posted within those communities. Within 60 days after people with an interest to or who are affected by a MHI, were informed of a MHI, can make representations in writing to the local government or Provincial Executive Manager of the Department of Labour if the MHI is not acceptable to them.

The authorisation requirements are very straightforward for MHIs and typically it appears that the MHI regulations would need to be adhered to prior to construction but are not necessarily a requirement for bidding to the DoE programme. A process flow for the Major Hazard Installations process is shown in Figure 10.

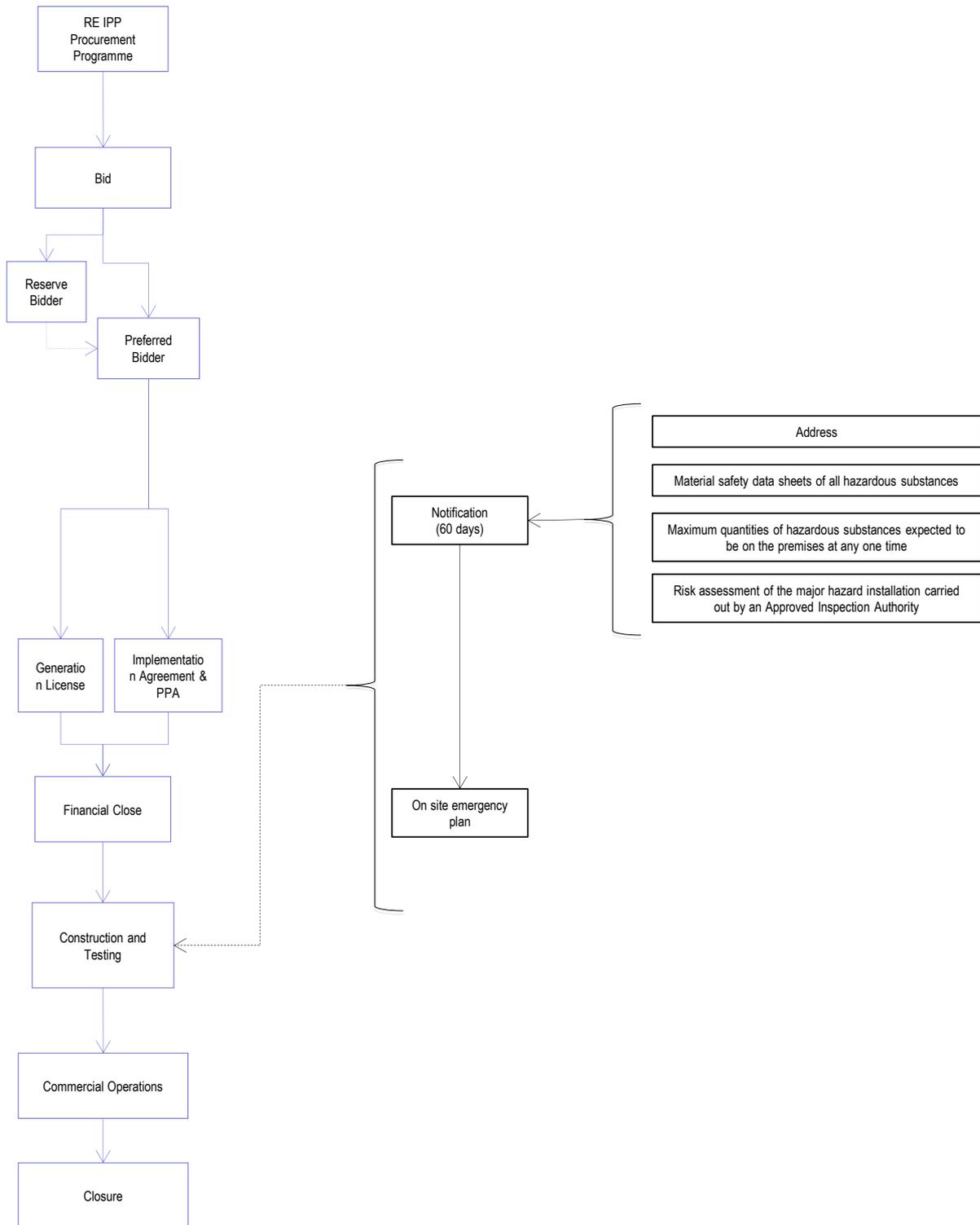


Figure 10: Major Hazard Installations

2.5 Grid Connection and Compliance

Electricity generation licensing are regulated at a framework level by the National Energy Act and the Electricity Regulation Act, 6 of 2008, and relevant regulations.

The Electricity Regulations on New Generation Capacity (GN 399 of 4 May 2011) allows for the procurement process for independent power producers to take the form determined by the procurer (Eskom). The procedure is accordingly set out on the Eskom website, which is explained further below. The Regulations require the conclusion of the power purchase agreement between Eskom (as the buyer) and the independent power producer.

Renewable energy generators also require an electricity generation licence in terms of section 7 of the Electricity Regulation Act, issued by the National Energy Regulator of South Africa (NERSA). NERSA is required to provide the applicant with all the necessary information to facilitate the filing of an application for a licence.

All renewable energy IPPs will require a grid connection. The majority will connect to the Eskom distribution or transmission network, with some connecting via municipal distribution networks. Eskom has been formalising the grid connection process for renewable IPPs and has established a Grid Access Unit (GAU) for IPPs and other generators. The main purpose of the unit is to be the point of contact or entry point for connection to the Eskom grid and to service customer needs (Eskom, 2015).

The basic procedure is straightforward. Prior to bid submission Eskom will, on receipt of an application, provide a Cost Estimate Letter to the project proponent outlining the preferred grid connection approach and an estimated cost. The letter does not place any obligation on Eskom to provide a connection as the provision of a connection is subject to, amongst other conditions, NERSA generation licence approval. The cost estimate is also subject to change on final design. A fee is levied by Eskom for the provision of the Cost Estimate Letter. Before Eskom issues the letter they require reasonable assurance that there are rights to the project site and that the EIA activities have started.

Eskom will provide a cost estimate letter for grid connection after the following conditions are complied with:

- Completion of Part 1 of the [application form](#);
- Completion of a request for a Cost Estimate Letter and payment of the relevant fee;
- Reasonable assurance of the right to develop on a proposed site, e.g. letter from landowner;
- Proof that EIA activities have been initiated, such as:
 - a. acknowledgement by DEA of application;
 - b. an acknowledgement of receipt letter from the DEA;
 - c. Proof of the appointment of an EIA consultant;
 - d. If available, information regarding the public participation process.

The cost estimate letter will contain:

- The assumptions used, the estimated scope including the proposed line route, and the indicative estimated costs and connection charge based on assumptions and scope.
- A quote for the non-refundable quotation fee to cover costs.
 - The quotation fee payable by the generator covers, amongst other items, Eskom's cost of design, survey and detailed studies for the

grid connection that are necessary in order to prepare a budget quotation should the generator decide to proceed with the project by requesting a budget quotation.

- The terms and conditions contained in the indicative cost estimate letter regarding the non-refundable quotation fee are valid for one (1) year from the date of the letter to allow time for the necessary conditions to be met.

Eskom will only request Part 2 of the Application Form to be filled in and proceed with a budget quotation once a letter from NERSA has been obtained which indicates engagement on an application for the generation licence.

Thus, following preferred bidder status Eskom will provide a budget quote, the cost of which is included in the original Cost Estimate Letter. The quotation fee payable covers Eskom's cost of design, survey and detailed studies for the grid. The budget quote is a binding quotation for the costs of connecting the project to the grid and will include the detailed design basis as well as the expected time-frames for connection. A process flow for the Eskom Grid Connection process is shown in Figure 11.

There is not a similar formal process for grid connections to municipalities and these processes are likely to be municipality specific and generally an ad hoc process of discussion and engagement with the municipality's relevant engineering or electricity distribution department.

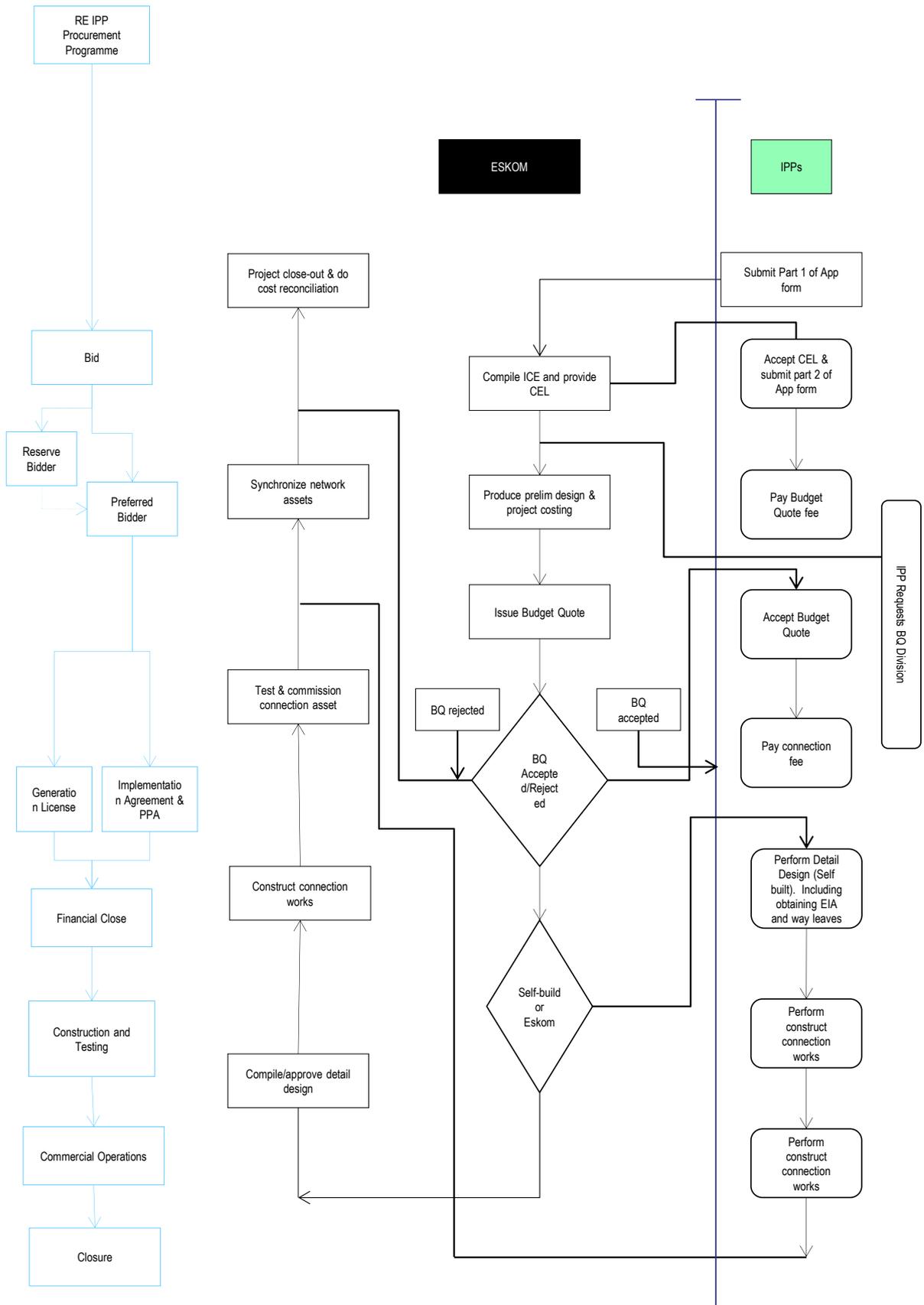


Figure 11: Eskom Grid Connection

2.6 Construction and Operational Phase Approvals

There are likely to be further regulatory requirements for projects during the construction and operations phase – for example electrical compliance certification for balance of plant facilities, or transport and health and safety regulations during the construction phase. However, these types of permits are typically addressed at the construction stage of a project, post-financial close and are common to all large construction projects. Consequently many of these are typically made the responsibility of the contracted construction company.

A particular requirement is building plan approval which is granted by Municipal authorities. The National Building Regulations and Building Standards Act 103 of 1977 stipulates that a municipality must not approve a building plan unless it is satisfied that all other legislative requirements have been complied with by the relevant entity and therefore project proponents will typically seek such approval close to financial close and once final project layouts are in place.

2.7 Evolution of the Permitting Framework

The DEA has received approximately 700 EIA applications for renewable energy projects, see Figure 12 below, (DEA and CSIR, 2013) and through the review process certain inefficiencies in the current authorisation system have been identified. In order to address these inefficiencies and to improve the coordination of energy sector planning with the EIA process, the DEA, in discussion with DoE, established a Strategic Environmental Assessment (SEA) process to determine the preferred locations for wind and solar PV projects through identifying areas with the lowest environmental sensitivity, best energy resources and a supporting grid network.

The SEA is intended to support strategic planning and medium and long term investment into grid infrastructure and will also provide a platform for coordination between the various government departments responsible for project authorisations to allow for a more streamlined authorisation process. The end point of the process is intended to be the promulgation of Renewable Energy Development Zones, or REDZ, which will allow for wind and solar PV energy projects and the associated grid infrastructure to be developed in these areas with limited additional environmental authorisation, subject to certain conditions or guidelines.

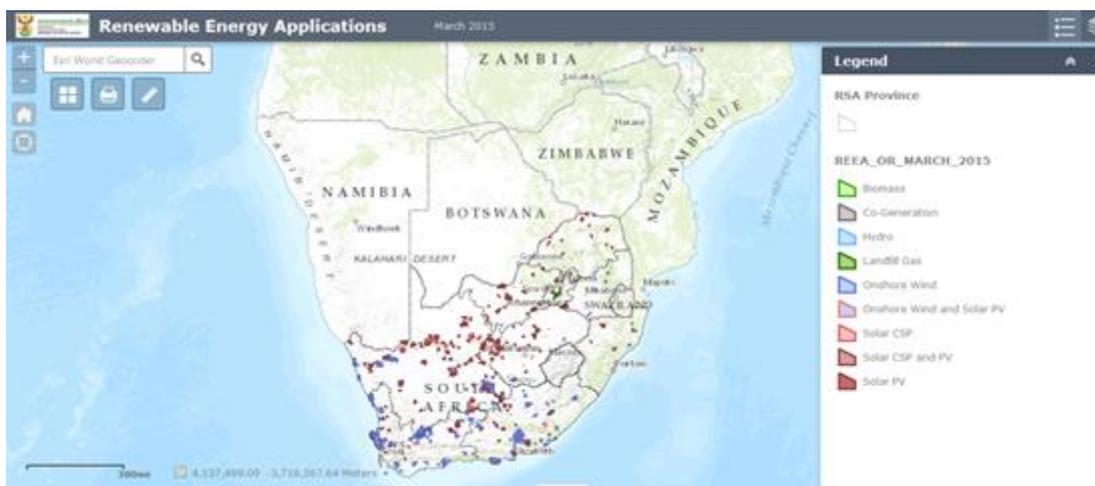


Figure 12: Location of Renewable Energy EIA Applications

The REDZ process is indicative of the regulatory response to the emergence of the renewable energy industry. Alongside some of the other regulatory changes already implemented it demonstrates that environmental and spatial planning is not static and therefore as the renewable energy sector expands it is likely that further changes in regulations to manage this growth will be seen.

For example, while there are indications that the DAFF is considering specific limits on farm sub-division to avoid impacts on agricultural production, experience may show that energy projects make some farms more, rather than less, profitable and keep marginal agriculture in existence. It is expected that as this type of evidence is gathered regulation and policy approaches will adapt accordingly in land use planning and other regulatory areas.

A number of authorisations also include a monitoring and reporting element. For example, many wind-farm environmental management plans include requirements for the monitoring of the impacts on birds and bats of *operational* projects, rather than just during their construction. Experience and evidence gathered from the monitoring of the operational impact of projects, including their environmental and social impacts, will be important in an iterative process that will allow for responsible siting, design and management of renewable energy projects but also provide for clear, timeous and objective approval procedures that will support the expanding industry.

2.8 Conclusion

The regulatory overview and process mapping shows that there is a complex, but relatively structured regulatory system which renewable energy project developers have to contend with. Core to the regulatory processes are the Environmental Impact Assessment process and the land-use planning processes which themselves are inter-linked.

It appears as if the land-use planning processes are the most complex regulatory procedures and pose some of the larger potential barriers to renewable energy developers in part due to the fact that there is less national standardisation than the other regulations as land use planning requirements differ from province to province and by municipal area. Many of the land use zoning schemes were also developed without renewable energy in mind and there is currently a process of learning and adaptation to enable such projects to be accommodated in existing planning frameworks, through such mechanisms as the establishment of new zones within zoning schemes to include renewable energy. The Subdivision of Agricultural Land Act, and the concern that the national Department of Agriculture has with regards to the sterilisation of viable agricultural land also poses a particular challenge to renewable energy development and there appears to be merit in adjustments to this legislation to more easily allow the integration of renewable energy with agriculture and other rural development activities.

The EIA process is central to air, waste, heritage and biodiversity authorisations and these can all be relatively easily integrated into the EIA process. The Eskom grid connection process also is contingent upon EIA progress. Water use licensing is somewhat of an outlier as a complete water use licence is not required prior to submission of projects to the DoE under the current procurement programme. However, it is likely that the EIA consultation and specialist report process can also be used to address many of the WULA procedural and technical requirements and can be done in parallel with the EIA process in large measure. An EIA is also required for sub-division and generally for rezoning. Given the centrality of the EIA

process, the degree to which this process is robust and managed timeously will have considerable impact on the time and cost and ease of securing the required authorisations for renewable energy project developers.

It must also be remembered that permission from one relevant authority does not guarantee that permission will also be granted by another, and that all approvals are necessary before the development may commence.

3 Experiences with RE authorisation processes

The section above provided an overview of the standard authorisation processes required of renewable energy developers. This section discusses the practical experience of renewable energy developers with these authorisation processes based largely on interviews and discussions with developers and regulators involved in the REIPPPP. It represents an update of the earlier (2012) version of this study and as such, the section focuses on the experiences of developers and regulators with the REIPPPP since 2012.⁷ The focus of this section is to highlight where regulatory processes create specific obstacles to developers as well as where there are opportunities for streamlining of authorisation processes to enhance the efficiency and effectiveness of the programme.

3.1 Permitting obstacles to renewable energy projects

3.1.1 Communication

In terms of the evolution of the authorisation processes from the first to the current REIPPPP round, developers have observed some improvements in these processes. In particular, the previous rounds of bidding had more onerous authorisation requirements imposed on RE developers and developers have reported that pre-preferred bidder requirements have notably reduced with successive bidding rounds. To minimize the risk of delay in the post-preferred bidder phase however, some developers opt to obtain the full set of original pre-preferred bidder authorisations so as to avoid the risk of delay at a later point in the RFP process.

Relatedly however, developers still feel there are constraints to the quality of information and communication forthcoming from national government departments. Particularly as relates to the reasoning for the outcome of their authorisation applications. In some instances, RE developers are not granted authorisations but are not given sufficient clarity as to the reasoning for the lack of authorisation which would allow them to potentially, appeal the verdict or alternatively, submit a more appropriate application. While some developers have experienced interactions with local authorities to be smoother as local authorities tend to be more open to engagement and to learning from developers, it is often bureaucratic red tape which creates an obstacle to a rapid authorisation process with such authorities.

⁷ Readers are encouraged to refer to the earlier study for an extensive assessment of these views.

3.1.2 Capacity

The limited capacity of government personnel and particularly the limited familiarity or knowledge of RE technologies, has been identified as a major obstacle to greater efficiency and effectiveness in RE authorisation processes. This was a particular concern during the first round of RE bidding but has been a consistent constraint throughout the subsequent bidding rounds. Such staff capacity constraints has led to RE developer applications at times being misplaced or set aside, due to Case Officers lacking sufficient understanding of RE technologies and their possible impacts on environmental resources. Further to this, a lack of sufficient government information on the extent of environmental resources, has also been attributed to an inability to make adequately informed decisions on authorisation applications.

Two authorisation applications which RE developers have noted as notably problematic have been in terms of securing Water Use Licences and Civil Aviation Authorisation. The corresponding impact to developers is a slowed overall process of securing the necessary authorisations.

3.1.3 Evolving authorisation requirements

Another constraint which RE developers voiced is the continuous change of authorisation requirements, as the related legislation evolves. As the authorisation requirements evolve, RE developers need to adapt accordingly and at times, these requirements are seen by different developers as reasonably or unreasonably increasingly onerous.

A case in point is the requirement for Bird and Bat Monitoring studies for wind projects. Revisions to the Environmental Authorisation (EA) requirements have meant that RE developers must complete a 12 month survey of birds and bats for all wind projects. Whereas previously, such studies could be completed post-EA provision, it is now a pre-condition for EA approval. While developers are encouraging of expanding research and scientific capacity on this in South Africa, they are finding the continuous revision of related requirements as a challenge to timeous site permitting. That said, developers acknowledge that internationally, there are countries which make even more stringent requirements that such surveys be completed for a period of three years, before EA approval.

3.1.4 Lack of transparency and slow pace of authorisation

A number of concerns have been raised in relation to the Eskom Grid Connection Authorisation process. These include: i. the slow pace of processing of such applications, ii. the deteriorating quality of information contained in cost estimate letters as well as a mismatch in cost estimates reflected in the cost estimate letter and budget quote, and, iii. sharp declines in Eskom Grid Capacity since the first bidding round. These are discussed respectively below.

The slow pace with which Eskom processes cost estimate letters has been raised as a considerable constraint to the permitting process for RE projects. Developers make substantial payment for such letters and view it as an 'asset' without which a project can be derailed and sunk costs unrecovered.

There are also concerns about the deteriorating quality of information provided in the cost estimate letter, relative to the standard of quality in previous bidding rounds. Developers have for example, observed inaccuracies in the information captured in such letters and/or significant discrepancies between the costs stipulated in the cost estimate letter versus those reflected in the budget quote. This not only creates confusion for developers in their project planning but has also

resulted in significant cost escalations which make it infeasible for developers to make their investments.

There is a view held that by escalating costs between the cost estimate letter and budget quote, Eskom is possibly trying to have developers shoulder some of the financial cost of upgrading its infrastructure to expand capacity on the grid. This it is felt, corresponds to the fact that, as compared to the initial bidding round, Eskom now has much less spare capacity on the grid to make available to RE developers. This places pressure on Eskom to expand its capacity but it does not necessarily have the financial resources to realise this expansion.

3.2 Conflicts or dependencies between authorisation processes

3.2.1 Views on the REDZ

From a regulator perspective, the REDZ are intended to create predictability for developers as, if their project falls within the REDZ there is likely to be less-intensive authorisation requirements relative to a project located outside of the REDZ. Further, regulators are hoping to have more site-specific assessments completed in the REDZ areas, in advance of RE developers applying for authorisations. As an example, regulators might conduct Bird and Bat Monitoring before developments begin in the REDZ so that this information or such studies are available for consideration during authorisation applications. This would, it is hoped, reduce the burden on developers to conduct such studies and potentially add to a smoother, more efficient authorisation process.

Developers understand the REDZ as being designed to simplify the authorisation requirements for RE developments. In this way, and by designating geographic zones within which RE developers could be eligible for smoother and less extensive authorisation requirements, the REDZ is designed to facilitate a faster deployment of RE projects in future. Some developers await the REDZ cabinet approval with eager anticipation, particularly where they have projects planned within the designated REDZ.

There are however some developers who feel the REDZ have come too late and are misaligned to the most ideal project locations, and, potentially represent a threat to any RE projects beyond its boundaries. These are discussed next.

In terms of the REDZ having come too late, as developers are already venturing into the fourth bidding round, they have already made significant investments into assessing the best locations for RE developments in South Africa. In some instances developers see obvious misalignment between the REDZ and locations which they have identified as 'environmentally neutral' and as representing optimal RE resources. It is viewed that while the REDZ are perhaps intentionally designed to take a strong environmental priority focus, the limited consideration of the investment attractiveness to RE developers may result in the exclusion of high potential RE development locations which could be used for low cost energy generation.

While the REDZ are still under review by cabinet, some developers are concerned that if they propose projects outside of the REDZ, despite the sites being optimal with regard to resource and cost factors, they may not be considered for authorisation. This is a significant concern to developers who may have, prior to the designation of REDZ, invested significant funds in financial and other assessments of potential project sites.

3.2.2 Misalignment in authorisation verdicts or conditions

Developers have identified a number of conflicts between authorisation processes administered by different government departments. There have been instances where one department grants a developer an authorisation and yet another department either denies the same developer authorisation or applies conditions to the permit which conflict with those of the first department. Some developers also report receiving no response to certain authorisation applications. This talks largely to poor or limited inter-departmental coordination and to government departments not meeting their obligations in terms of providing comment within certain timeframes.

Regulators have also reported that despite them having issued authorisations, many such approved renewable energy projects are ultimately not implemented. This is believed to either be due to developers not securing other necessary authorisations or due to their inability to acquire Eskom grid access or financial backing for their developments. It is also inferred that the highly competitive REIPPPP bidding process leads to potential RE developments being crowded out of the market. There is some degree of frustration from regulators about the time devoted to projects that may never reach fruition.

Regulators feel that if the REIPPPP process remains as competitive as it has been, developers are likely to try to opt for alternative customers for their supply, such as local authorities or big industries (particularly in the mining industry where own electricity generation is favoured over Eskom supply given the security of supply).

3.3 Areas for possible streamlining of regulatory processes

3.3.1 Concerns of cumulative impacts of RE developments

A notable concern raised by regulators was that, if the magnitude of RE developments approved for implementation continues at its current pace, the cumulative (i.e. combined) environmental and resource impacts of RE could be dramatic and potentially unacceptable.

There is a sense that it may well be too soon to tell what 'real' impact RE will have both from a socio-economic and environmental perspective. There is also a view held that society is yet to derive an impression of their views on RE in South Africa because only a few developments have occurred. Regulators believe it is thus crucial that adequate strategic planning is done which accounts for the possible concomitant and cumulative impacts of RE developments so as to manage the extent of impact they will have on society.

Part of this planning process will involve more comprehensive post-construction monitoring and auditing. Further, a centralised reporting system into which developers can channel such data and/or information is needed so as to track the scale of impacts in order to better mitigate these.

3.3.2 Existing legal or policy provisions

Within the existing legal framework of authorisations for RE projects there is already an in-built potential for the alignment of authorisation processes. In particular, NEMA acts as an 'umbrella' legal framework to the Air Quality, Biodiversity, Coastal Management, EIA, Waste and Water Acts. NEMA Section 24(k) specifically, talks to the alignment of authorisation processes and NEMA Section 24(l), their integration.

Further to this, at the heart of the National Environmental Impact Assessment and Management Strategy (EIAMS) is the requirement of giving effect to the objectives of integrated environmental management as contained in Section 23 of NEMA, within the context of the principles of sustainable development. NEMA thus hosts the 'empowering provisions' for the integration of authorisation processes.

From 8 December 2014, The Ministers of Environmental Affairs, Mineral Resources as well as Water and Sanitation agreed on fixed time-frames for the consideration and issuing of the permits, licences and authorisations in their respective legislation. This agreement, so-called the 'One Environmental System', was established to streamline the licensing processes for mining, environmental authorisations and water use. Further to this, the Ministers agreed to synchronise the process for the issuing of permits, licences and authorisations within a 300 day period. In the event that a decision to issue a license is appealed, an additional maximum period of 90 days is provided for legislatively, to finalise the process (Department of Environmental Affairs, 2015).

Further to this, there are a number of coordinating or engagement forums in place between, for example, DEA and renewable energy associations like the South African Wind Energy Association (SAWEA) and South African Photovoltaic Industry Association (SAPVIA). DEA regularly updates developers on amendments to authorisation processes through such forums. Provincial regulators also participate in a number of forums where they engage with national regulators, other provincial regulators as well as interdepartmentally, in order to enhance coordination and engender knowledge transfer.

There are thus evidently legal and/or policy provisions in place to facilitate the enhanced streamlining of certain RE authorisations. It will take time for this to take effect but there is an opportunity for these provisions to potentially enhance the efficiency and effectiveness of these processes.

3.3.3 Streamlining versus regimentation

While there are obvious benefits to the improved streamlining of the authorisation processes, some RE developers are concerned that further streamlining may simply add further levels of bureaucratic red tape to an already onerous authorisation process. In fact, there is a view held that the system as it currently stands, with its evolving regulatory amendments, might in fact be more manageable for developers to deal with, than a more synchronised process. Much of this 'ease' is attributed to developers having already adapted their understanding and capacities to comprehend and manage the existing authorisation processes. As such, a notable 'learning curve' has already been overcome.

This view aside however, developers generally feel that the authorisation process is in need of greater regimentation rather than alignment or integration. It is felt that enhanced regimentation complemented by better inter-governmental and inter-departmental coordination as well as transparency in communication with developers, will assist in engendering a more effective and efficient authorisation process for developers.

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