

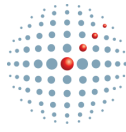


## Regional Regulatory Action Plan for the Western Cape – November 2009 Section 4: Process Map



Commissioned by the Western Cape Department of Environmental Affairs and  
Development Planning and the German Technical Cooperation (GTZ)

*report*



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Client: Western Cape Province, Department of Environmental Affairs and  
Development Planning  
Client contact: Birgit Moiloa

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Authors: Jonathan Curren, Liteboho Makhele, Andrew Jakubowski (Camco);  
Mike Goldblatt (PDG); Ole Langiss, Timo Basteck, Andreas Schiffner  
(Fichtner).

QA: Andrew Jakubowski

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#### Author contact details

Email: [jonathan.curren@camcoglobal.com](mailto:jonathan.curren@camcoglobal.com)  
Telephone: +27 11 253 3400

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# Introduction

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## Overview

The Regional Regulatory Action Plan is part of a joint project carried out by the Department of Environmental Affairs and Development Planning (D:EA&DP) and the TERNA Wind Energy Programme of the German Technical Cooperation (GTZ). TERNA is funded by the German Federal Ministry of Economic Cooperation and Development (BMZ).

The aim of the Regional Regulatory Action Plan, developed for the Western Cape Provincial Government, is to identify and develop appropriate strategies and mechanisms for incentivising and supporting the implementation of renewable energy projects in the Western Cape Province. This specifically relates to grid-connected power projects implemented under the Renewable Energy Feed-in Tariff (REFIT), which was established by the National Energy Regulator of South Africa (NERSA) in March 2009, with a particular focus on wind power projects.

Although the REFIT provides an attractive incentive for developers, which significantly reduces the financial risk for clean energy power projects, there are still areas of regulatory uncertainty and barriers to the implementation of projects. This study aims to identify strategies and mechanisms to support the utilisation of the REFIT in the Western Cape Province, while encouraging interest from local and international project developers and provide concrete plans of action for specific measures.

This document is an extract from the main report, providing a stand-alone copy of the process map. The process map will provide a useful tool for developers in understanding the necessary legal and regulatory requirements for getting projects off the ground.

## Process Map Summary

A key barrier for developments and a major motivation for the development of this study is to assist developers and investors in negotiating the many layers of complex bureaucracy related to getting a project approved. A first step to understanding the key challenges and barriers was the development of a process map. The process map highlights the main regulatory steps that a renewable energy developer needs to undertake in order to establish a project, including steps related to the environmental impacts of the project as well as the specific steps related to securing access to the electricity network and the sale of power generated. The process map is not a comprehensive developer's guide, but focuses on the renewable energy regulatory framework in South Africa and the Western Cape Province.

A number of constraints to the introduction of renewable energy projects have been identified; these include:

- The requirements to apply for an environmental authorisation prior to applying for required sub-divisions of land. This potentially introduces significant additional delays in the development process.
- The current uncertainty over the specific process to be followed in procuring new generation capacity, i.e. whether a structured request for prequalification and request for proposals process will be followed or whether renewable generators can simply apply for generation licenses with the expectation that the REPA will be obliged to purchase renewable energy from licensed generators.
- The difficulty is that Eskom, as the system operator, has left a great deal of uncertainty in their grid planning, specifically concerning the amount and type of renewable energy to be licensed. This makes it difficult for Eskom to provide developers with firm commitments around grid access and around the infrastructure costs of such access.

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## 4 Process Map

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The process map below includes the main regulatory steps that a renewable energy developer needs to go through to establish a project. These include those steps related to the environmental impacts of the project as well as the specific steps related to securing access to the electricity network and the sale of power generated. It should be noted that the process map is not a comprehensive developer's guide and focuses only on the renewable energy regulatory framework in South Africa and the Western Cape Province. The process map is also not a comprehensive repository of all the relevant regulatory information and provides links to information sources and regulatory departments where appropriate.

### **Technology**

The process map primarily focuses on wind projects and generally notes specific policy or regulatory requirements relevant to wind power projects. However, where there are important regulatory processes or requirements that are specific to other renewable energy technologies these are noted.

### **Timeframes**

Where specific timeframes are outlined in legislation or in the policy of government regulators these are noted. However, in many cases there are no specified timeframes and only an indication of the likely time required for a specific process can be provided.

The process map does indicate where regulatory processes can be followed in parallel and where particular regulatory steps are contingent upon the completion (or initiation) of other steps or processes.

### **Proactive planning and Strategic Environmental Assessment**

In addition to the various regulatory steps in the process outlined below it is important to note that there is also a strategic initiative developed by the Western Cape Province to facilitate wind energy projects. This initiative has developed a regional approach to the location of wind developments. The approach is established as a Strategic Environmental Assessment and is intended to be used as a proactive regional planning tool to encourage the introduction of wind energy developments in the Western Cape. This initiative is discussed further below.

It should be noted at the outset that the framework, referred to as the "Strategic Initiative to Introduce Commercial Land Based Wind Energy Development to the Western Cape" has important implications for the evaluation of individual EIAs. When entering an EIA process for wind projects, developers should include consideration of this regional strategy in their EIA application process.

### **4.1 Regulatory Processes**

The regulatory processes required for a typical development have been divided into the following categories. It should be noted, and will be explained further below, that some of these categories overlap to a certain degree – for example, while the EIA process is legally distinct from processes around land-use planning there is significant interaction between these processes. An EIA is unlikely to receive approval if it conflicts with land-use plans or policy and similarly a change in land-use is unlikely to be approved if an EIA is not approved.

The categories used are:

- *Land Use Planning*: an explanation of the key regulations governing land-use planning and zoning at the local government and provincial level and related issues including subdivision of land and the securing of servitudes or other land use requirements.
- *Environmental Impact Assessment*: a description of the key steps and regulatory authorities in the EIA process as well as items of specific relevance to renewable energy projects.
- *Grid Connection*: the procedure and requirements for securing a suitable grid connection including interaction with Eskom.
- *Power Purchase Agreement*: the process for securing a PPA with the designated purchaser of renewable energy under the Renewable Energy Feed-in-Tariff system.
- *Generation License*: a description of the NERSA application process for a generation license and the key requirements.
- *Other Regulations*: where appropriate other potential regulatory requirements to be addressed in the project development phase will be identified. These will not be comprehensive as a renewable energy generation development will need to address a range of health and safety, labour and other regulations during construction and operation which the developer will need to address from early in the project design.

## 4.2 Land Use Planning

This section sets out the land development regulatory hurdles to be cleared by a prospective investor in renewable energy in the Western Cape. It assumes that the majority of proposed renewable energy developments, including wind, hydro power and solar thermal or PV, are likely to trigger off a number of regulatory requirements because they will require:

- a) subdivision of land; and
- 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.

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. In either case, where a project will require a subdivision of existing land parcels this triggers off requirements for approval in terms of the following legislation:

- Subdivision of Agricultural Land Act, 70 of 1970;
- Land Use Planning Ordinance, 15 of 1985; and, in certain cases
- National Environmental Management Act, 107 of 1998 (where there is the subdivision of portions of land 9 hectares or larger into portions of 5 hectares or less).

Most projects will also involve a **change of land use**. This triggers off requirements for approval in terms of:

- Land Use Planning Ordinance, 15 of 1985;
- National Environmental Management Act, 107 of 1998; and, in certain cases
- The National Heritage Resources Act, 25 of 1999.

A requirement of all these laws' procedures is that the applicants must either be the owner of the land in question or have the written consent of the land 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. Either way, these processes will be concluded independently of regulatory authorities, with the transactions simply having to be registered with the Registrar of Deeds and the Surveyor-General once they have been concluded.

#### **4.2.1 Subdivision**

A number of pieces of legislation need to be complied with in the case of the subdivision of land. These are discussed separately below.

##### **Act 70 of 1970**

Subdivision is likely to be needed either where parts of a farm 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. Currently the subdivision of any land that falls outside of what would have been a municipal boundary at the time when wall-to-wall local government came into effect requires the written approval of the Minister for Agriculture, Forestry and Water. This is in terms of Act 70 of 1970, the Subdivision of Agricultural Land Act.

Although this law was repealed in 1998 the repeal has not come into effect yet. Following a period of uncertainty as to its applicability a Constitutional Court decision in 2008 (the Stalwo case) resolved that the Act continues to apply. The Act is retained until such time as new legislation can be enacted to replace it. Draft legislation (known variously as the Sustainable Use of Agricultural Resources Bill and the Sustainable Use and Protection of Agricultural Resources Bill) has been in the pipeline at the then Department of Agriculture for more than five years. There is no certainty as to when it will be finalized and submitted to parliament. However it is highly likely that the new law will retain Act 70's requirement that the subdivision of farmland obtain Ministerial consent before it can be registered by the Registrar of Deeds.

Approval for a proposed subdivision in terms of Act 70 is obtained by submitting an application to the Provincial Department of Agriculture. The provincial 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 Water, who makes a decision whether or not to accept that recommendation. The Act also allows for an appeal process to the Minister in the event that the application is refused.

##### **Land Use Planning Ordinance**

Under Chapter III of the Land Use Planning Ordinance (LUPO), applicable in the Western and Eastern Cape provinces, permission to subdivide any land has to be obtained from the relevant municipality and a rezoning to Subdivision Area under some land uses/zonings is required before the subdivision can be approved. The applications for this rezoning and the subdivision may be submitted simultaneously.

##### **The National Environmental Management Act**

The National Environmental Management Act (NEMA) requires an environmental authorization for certain subdivisions. This would be addressed as part of the Environmental Impact Assessment process.

#### **4.2.2 Change of land use**

The legal processes related to a change of land use are distinct from those of sub-division although there is a relationship between the two (as noted above, rezoning has to be approved prior to approval for subdivision being granted).

##### **Land Use Planning Ordinance**

Changing the use of land – primarily in this case from Agricultural to a land-use zoning that permits, say, wind farming requires permission in terms of the Land Use Planning Ordinance as well as the National Environmental Management Act, 107 of 1998. The NEMA authorizations are dealt with elsewhere so this section focuses on permission in terms of LUPO. It is important to note that in the Western Cape there is a policy in place to the effect that an application for change in land-use may not be considered in terms of LUPO *until* the NEMA authorization has been granted. This clearly may introduce additional delays in the process.

In terms of LUPO (section 14) all land in the Western Cape that does not fall within an existing zoning scheme is 'deemed to be zoned in accordance with the utilisation thereof' with effect from the date of commencement of the relevant ordinance (Ord. 15 of 1985) (LUPO). The process entails an enquiry of a factual nature into the purpose for, and manner in, which the land referred to was actually being used as at 1 July 1986, the date on which LUPO commenced. The current use of land, therefore, has no relevance in respect of a deemed zoning and in the case where the deemed zoning and current land use are at odds, a rezoning in terms of Section 17(1) of LUPO is required.

Thus even though land has never been formally zoned for a particular use it is deemed to be zoned in terms of the most restrictive zoning that would nevertheless permit the use on the date on which LUPO commenced. So, for example, land that was being farmed will be deemed to be zoned 'agricultural' in terms of the applicable provincial zoning regulations. A prospective renewable energy developer is therefore likely to have to rezone the land on which the renewable energy facility falls, through an application to the municipality concerned.

An applicant, unhappy with the outcome of a rezoning decision taken by a municipal Council, first has the right of appeal in terms of Section 62 of the Local Government Municipal Systems Act, 2000 (Act 32 of 2000). Once the process for applicant's exercising their right of appeal in terms of the Municipal Systems Act has been concluded, the applicant and any person who objected to such application, shall be afforded the right of appeal against such decision to the Minister of Local Government, Environmental Affairs and Development Planning in terms of Section 44(1) of LUPO.

The Western Cape province has a set of general Zoning Scheme regulations, in terms of section 8 of LUPO, that apply to all land outside of specific, municipal Zoning Schemes. There is no zoning in terms of these regulations that would specifically permit the operation of a wind farm or other renewable energy development. Unless these regulations are changed by the Provincial government the best option would be for the rezoning of the land to 'Special Zone' (paragraph 3.28 of the regulations).

The purpose of a 'Special' zoning is to accommodate a situation where 'special factors justify the creation of a new zone on the zoning map for a site or sites without justifying the creation of a new zone in the scheme regulations'. It could certainly be argued that the need to generate renewable energy is such a 'special factor'. In the longer term however it would probably make sense to revise the scheme regulations to provide specifically for either renewable energy generically or specific types of renewable energy such as wind farms, solar thermal plants, mini-hydro schemes and so forth.

### **4.2.3 Heritage impact**

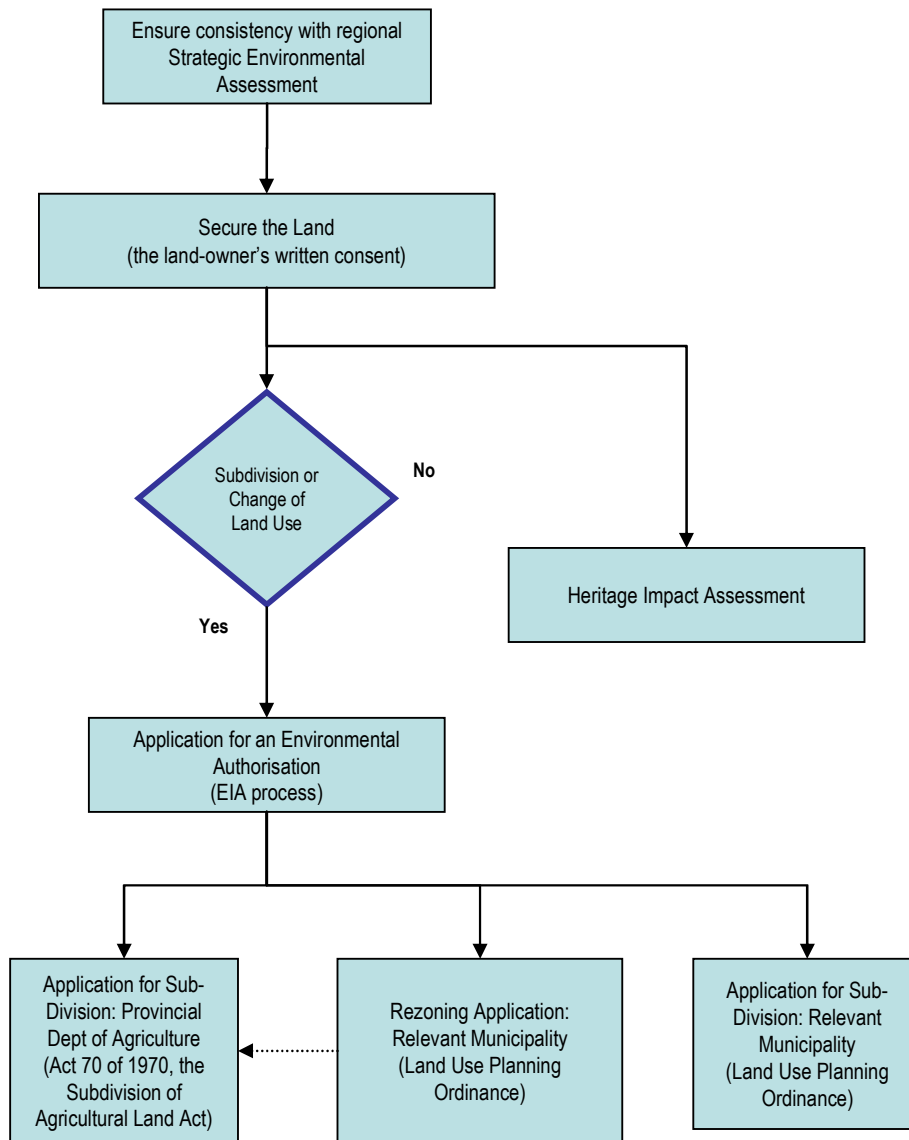
In certain cases – determined by factors that include the scale of the proposed project, whether or not there is a need to demolish or change buildings over sixty years old or whether the proposed project is on or near to a national or provincial heritage site – a permit has to be obtained from the Provincial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

#### **4.2.4 Sequencing**

The first step for a prospective investor is to deal with the land ownership issues. He or she needs to do one of 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 the application for an environmental authorization in terms of NEMA. This is necessary in the Western Cape before the rezoning application can be considered. It is also important to note that the project should also be in compliance with the regional Strategic Environmental Assessment, as shown in figure 4.1. It is advisable to carry out a Heritage Impact Assessment at this stage too, should it be required. It is important to remember that the need for an environmental authorization in terms of NEMA is triggered both by the change of the land use and, in most cases, the subdivision of land (a subdivision of portions of land 9 hectares or larger into portions of 5 hectares or less will trigger an EIA).



**Figure 4.1: Land rezoning and sub-division sequencing**

The third step is the various applications for subdivision and land use change. As indicated above in terms of LUPO subdivision cannot be permitted unless the land use zoning permits it, but the subdivision and rezoning applications can be submitted simultaneously. It is important to remember that two applications for subdivision have to be submitted, one in terms of LUPO 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.

#### **4.2.5 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 due to racially motivated

legislation since 1913. 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, No. 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.

The deadline for the submission of all land claims has passed, however not all these claims have yet been verified, registered and compensation granted in terms of the required process. Out of a total 17,000 land claims lodged in the Western Cape Province, the regional office is now left with only 1,400 claims. 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.

### **Water use licenses**

A renewable energy generator may require a water use license in terms of the National Water Act (Act 36 of 1998). A license will be required for all hydro-power schemes, even though the use is non-consumptive, as well as for any water used that is not from a service provider, local authority, water board, irrigation board, government water scheme or other bulk supplier. Details of the water use licensing and registration procedures can be found at the Department of Water Affairs website:

- <http://www.dwaf.gov.za/Projects/WARMS/default.asp>

### **Public Private Partnership regulations**

In the event that a renewable energy developer is entering into some sort of financial or contractual arrangement with a local authority or other government department it is possible that the arrangement may be viewed as a Public Private Partnership. The National Treasury defines a PPP as “a contract between a public sector institution/municipality and a private party, in which the private party assumes substantial financial, technical and operational risk in the design, financing, building and operation of a project.” An example of this could be a landfill gas to energy project where a private party takes on the bulk of the financing and operational risk of the project while using a municipalities landfill assets. In such a case a developer may be required to comply with specific PPP regulations overseen by the National Treasury. Details on these processes can be found at: <http://www.ppp.gov.za/>.

### 4.3 Environmental Impact Assessment

Most renewable energy projects will require an Environmental Impact Assessment. A brief overview of the process is provided below. However, the full EIA process is complex and significant guidance is provided by both the Department of Environmental Affairs and Development Planning (D:EA&DP) of the Western Cape as well as outside organisations. Developers are directed to the Provincial website:

- <http://www.capegateway.gov.za/eng/directories/services/11537/10199>

where details on the EIA process as well as all the relevant documentation, forms and contact details are provided. In addition to this website, the Endangered Wildlife Trust (EWT) hosts an independent website which also provides detailed guidance to the EIA process from the perspective of an environmental non-governmental organisation

- <http://www.eiatoolkit.ewt.org.za/>

Developers can provide additional information, case studies and elaboration on the EIA procedures at this site.

The EIA process in South Africa is established via regulations in terms of Chapter 5 of the NEMA. These are Government Notices (GN) R385, R386 & R387 comprising:

- The EIA Regulations (R385)

Two processes for undertaking an EIA:

- Basic Assessment Process (R386)
- Scoping / EIR Process (R387)

The Department of Environmental Affairs is the competent authority for issuing authorisations with regards to renewable energy facilities requiring EIAs in South Africa<sup>1</sup>. In January 2008 the National Electricity Response Plan (NERP) was developed in response to the electricity supply shortages in the country. The NERP requires the programme for constructing facilities relating to the generation, transmission and distribution of electricity to be accelerated in the short term (2008-2013). In this regards the national Department of Environmental Affairs (DEA), Eskom and the Department of Public Enterprises have developed a draft Guideline on Environmental Impact Assessments for Facilities to be Included in the Electricity Response Plan and the Minister of Environmental Affairs requested delegation from all 9 provinces to deal with electricity related EIAs. The national department has indicated that shortened timeframes will apply to these projects. These projects include:

- Independent Power Producers (IPPs) including renewable energy generators;
- Non Eskom electricity generation, including additional municipal generation; and
- Co-generation by industrial entities.

In terms of this agreement all applications for proposed renewable energy facilities must be made to the national DEA and provincial environmental departments must comment on all applications lodged with the DEA.

It should be noted that amendments to the current EIA process under the National Environmental Management Act are in the process of development. The publication of the amendments is expected in November 2009, with implementation of the amendments from January 2010. The implications of these amendments are not addressed here.

<sup>1</sup> Much of the information for this section is drawn from a presentation at the D:EA&DP Renewable Energy Project Implementation Workshop held in Cape Town on the 14-15 May 2009 entitled, "The Environmental Impact Assessment Process" presented by Ms Lené Grobbelaar, Assistant Director: National & Parastatals, Department of Environmental Affairs and Tourism, Pretoria.

## EIA triggers

A simple schematic of the EIA process is shown in the diagram below. From the diagram it can be seen that there are effectively two types of EIA – one in which the project requires only a ‘basic assessment’ for consideration by the competent authority; and the other more comprehensive process in which the project proponent first prepares a scoping report, outlining the required scope of environmental analysis, for consideration by the competent authority. After the authority is satisfied with the scoping report the project proponent then proceeds to the full environmental impact report.

Project types subject to the first process are listed in Government Notice R386 and those subject to the full EIA process are listed in Government Notice R387.

### Basic assessment processes

There are a number of potential project activities arising from a renewable energy project that could be included in the basic assessment listed activities. These include the following:

Activites
The construction of facilities or infrastructure, including associated structures or infrastructure, for:
<ul style="list-style-type: none"><li>• The generation of electricity where the electricity output is more than 10 MW but less than 20 MW</li></ul>
<ul style="list-style-type: none"><li>• The transmission and distribution of electricity above ground with a capacity of more than 33 kilovolts and less than 120 kilovolts</li></ul>
<ul style="list-style-type: none"><li>• Any purpose in the one in ten year flood line of a river or stream, or within 32 metres from the bank of a river or stream where the flood line is unknown, excluding purposes associated with existing residential use</li></ul>
<ul style="list-style-type: none"><li>• The off-stream storage of water, including dams and reservoirs, with a capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of the activity listed in item 6 of Government Notice No. R.387 of 2006</li></ul>
<ul style="list-style-type: none"><li>• Construction or earth moving activities in the sea or within 100 metres inland of the high- water mark of the sea, in respect of buildings; or infrastructure</li></ul>
The construction of masts of any material or type and of any height, including those used for telecommunication broadcasting and radio transmission, but excluding –
(a) masts of 15 metres and lower exclusively used
(i) by radio amateurs; or
(ii) for lighting purposes
(b) flag poles; and
(c) lightning conductor poles

The above examples are not exhaustive and there are certainly other activities in the government notices which developers should consider to determine whether an EIA is required.

In consideration of activities requiring EIAs developers should also note that it is not only the project itself that may require an EIA but also any upgrades that may be required to infrastructure, or associated infrastructure.

### Scoping / Environmental Impact Report processes

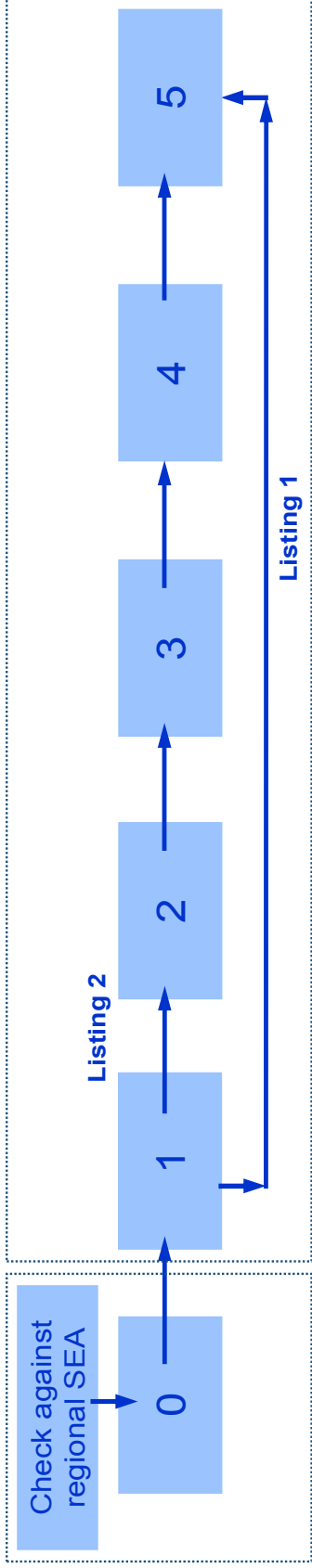
Activities contained in R387 are subject to a thorough assessment process. These are activities that due to their nature and/or extent are likely to have significant impacts that cannot easily be predicted.

Activites
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The construction of facilities or infrastructure, including associated structures or infrastructure, for:
<ul style="list-style-type: none"> <li>• the generation of electricity where: <ul style="list-style-type: none"> <li>○ the electricity output is 20 MW or more; or</li> <li>○ the elements of the facility cover a combined area in excess of one hectare</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• the extraction or processing of natural gas including gas from landfill sites</li> </ul>
<ul style="list-style-type: none"> <li>• the transmission and distribution of above ground electricity with a capacity of 120 kilovolts or more</li> </ul>
<ul style="list-style-type: none"> <li>• Any development activity, including associated structures and infrastructure, where the total area of the developed area is, or is intended to be, 20 hectares or more</li> </ul>
<ul style="list-style-type: none"> <li>• The construction of a dam where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the high-water mark of the dam covers an area of 10 hectares or more</li> </ul>

Again, the above examples are not exhaustive and there are certainly other activities in the government notices which developers should consider to determine whether an EIA is required. What is clear is that any renewable energy generation facility greater than 10 MW will require basic assessment and those greater than 20 MW will require a full scoping report and EIR. Many projects under 10 MW will also require at least a basic assessment due to other activities associated with their construction or operation.

**Pre-Application Stage**      **Application Stages**



0	1	2	3	4	5
<b>Intent to apply</b> <ul style="list-style-type: none"> <li>• Confirm project is consistent with regional Strategic Environmental Assessment</li> <li>• Voluntary submission of statement of intent to CA</li> </ul> This includes: <ul style="list-style-type: none"> <li>• Location of activity</li> <li>• Land Acquisition</li> <li>• Scale of activity</li> <li>• Negotiations</li> </ul>	<b>Basic Assessment</b> <ul style="list-style-type: none"> <li>• EAP appointed for duration of Assessment</li> <li>• Perform minimum requirements for Public Participation Process</li> <li>• Activities listed under <b>Listing 1</b> proceed to step 6</li> <li>• Activities under <b>Listing 2</b> go to step 2</li> <li>• Activity may be granted exemption from certain steps.</li> </ul>	<b>Scoping</b> <ul style="list-style-type: none"> <li>• Plan of Study for EIA</li> <li>• Scoping report</li> <li>• Public participation process before and after scoping</li> </ul>	<b>EIA</b> <ul style="list-style-type: none"> <li>• EIA Report submitted with I&amp;APs comments on report</li> </ul>	<b>Environmental Management Plan</b> <ul style="list-style-type: none"> <li>• Draft EMP included with EIA Report</li> </ul>	<b>Record of Decision</b> <ul style="list-style-type: none"> <li>• CA is required to put in writing the outcome of the Application</li> <li>• Notification of registered I&amp;APs</li> </ul>

\* Note that at any step of the EIA Process before the Record of Decision, the authorisation can be refused, granted as well as appealed, amended, withdrawn and suspended. **Public consultation** may be necessary at any of the 5 key stages above. When submitting any of the above mentioned reports, the **NEIMA application form** must be included.

**Figure 4.2: Schematic EIA process**

**Table 4.1: Description of key EIA steps**

Stage	Description	Time frame
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Intent to apply	Where a regional Strategic Environmental Assessment is in place (as developed by the Western Cape Province) the developer should ensure that the project is consistent with the framework established by the SEA (see below for further information). Developer provides indication to the competent authority (CA) of their intent to apply for an environmental authorization	Developer to submit 14 days before first application form submitted
Basic Assessment	The basic assessment must include: <ol style="list-style-type: none"> <li>1. Activity information</li> <li>2. Description of receiving environment</li> <li>3. Public Participation process</li> <li>4. Impact assessment</li> </ol>	The competent authority has 14 days to acknowledge receipt of report
Scoping	The Scoping Report covers the main environmental impacts, the depth of analysis needed & the terms of reference for the full assessment. This stage applies to projects which may have impacts that cannot be predicted.	The competent authority has 30 days to either accept, reject or request amendment to Scoping Report
Environmental Impact Assessment	Full EIA is prepared in accordance with the Scoping Report. The EIA lays out: <ol style="list-style-type: none"> <li>1. Possible impacts of the activity/ies</li> <li>2. Actions that can be taken to lessen these</li> </ol>	The competent authority has 60 days to look at both these reports
Environmental Management Plan (EMP)	The EIA has to include a full EMP for consideration by the competent authority. The EMP aims to highlight: <ol style="list-style-type: none"> <li>1. Unnecessary negative impacts of the project for prevention</li> <li>2. Promotion of the positive impacts</li> </ol>	
Environmental Authorisation / Record of Decision (RoD)	The RoD includes: <ol style="list-style-type: none"> <li>1. Conditions for the authorisation</li> <li>2. Ways in which the protection of human health and the environment can be ensured</li> </ol>	The competent authority presents decision on authorisation within 45 days (includes conditions as well as relevant appeal information)

### **4.3.1 The Strategic Initiative to Introduce Commercial Land Based Wind Energy Development to the Western Cape**

In addition to the generic EIA process outlined above, which is applicable to all renewable energy projects encompassing any of the listed activities, there is a specific strategic initiative developed by the Western Cape Province to facilitate wind energy projects. This initiative has developed a regional approach to wind farm approvals and have recommended that the proposed method is deemed to be a Strategic Environmental Assessment that can be used as a proactive regional planning tool to encourage the effective introduction of commercial wind energy development in the Western Cape. Project details, including a number of detailed planning reports, can be found at the Provincial website:[http://capegateway.gov.za/xho/publications/reports\\_research/S/138757/](http://capegateway.gov.za/xho/publications/reports_research/S/138757/)

The vision of the strategic initiative was to develop and establish a policy on the implementation of a methodology to be used for the identification of areas suitable for the establishment and implementation of wind energy developments in the Western Cape. The methodology proposed within this guideline is intended to be a regional-level planning tool to guide applicants, planners and decision-makers with regards to appropriate areas for wind energy development. As a strategic plan the application of the approach has important implications for the evaluation of individual EIAs. An important issue to note is that the strategy suggests that “given the large scale and value of South African landscapes to tourism, it is proposed that the regional method derive recommended Wind Energy Zones based on an overlay of the Preferred Wind Energy Areas to ensure that a minimum of 30km, and a preferred distance of 50km separate any future wind farm. (Note: A commercial wind farm is deemed to be more than 10 turbines.)”. When entering an EIA process for wind projects, developers should include consideration of this regional strategy in their EIA application process.

However, the rule on the preferred distance is not justified. If pristine areas should be protected in terms of visibility, then there should be a minimum distance of wind power plants to these particular areas instead of randomly creating areas with no visual impact. We have not found any similar restrictive regulation world wide.

## **4.4 Grid Connection**

The requirements and processes for a grid connection are outlined below.

It should be noted that there is no clear process yet mapped out with regards to grid connections and licensing for renewable energy – despite the existence of the feed in tariff policy. There are also some differences of opinion amongst the main organisations involved which make it difficult to outline a clear and simple process.

The processes below are therefore outlined based on discussions with Eskom and NERSA and with reference to the existing regulations and policy documents available. Where there are differences or conflicts these are highlighted.

The New Generation Capacity Regulations<sup>2</sup> published in August 2009 outline a number of processes required for the introduction of new generation capacity onto the South African grid. These regulations outline different processes for Independent Power Producers in general (s.5) and Renewable Energy (s.7) in particular. There is however, some difference of understanding as to which process will be followed in practice.

<sup>2</sup> Department of Energy, 2009: Government Notice, Regulation. 721, Electricity Regulation Act (4/2006): Electricity Regulations on New Generation Capacity, Government Gazette, 2009: 5 August 2009, No. 32378, Vol. 530, Pretoria.

Although the process of grid connection is distinct from the process of securing a generation license and a power purchase agreement, in practice these three processes are closely linked. A renewable energy generator is unlikely to be granted a generation license in the absence of some certainty that the proposed generation capacity can be connected to and integrated with the electricity grid. Similarly, Eskom is unlikely to provide serious consideration to the connection requirements of a proposed generator unless there is some reasonable expectation that the generator will be granted a generation license and can secure a power purchase agreement. The New Generation Regulations also provide a role for the Minister of Energy who can determine that “the REFIT programme must be used to meet the required new generation capacity” (s.7(1)).

In the absence of close collaboration between Eskom (and the System Operator if separate from Eskom in the future), NERSA and the Department of Energy it can be envisaged that different views may arise over the suitability of a particular proposed renewable energy development. This may well lead to a mismatch between the various responsible agencies – for example the licensing by NERSA of renewable energy capacity in excess of that deemed financially prudent by the System Operator.

The most important concern is a possible mismatch in the total amount of renewable energy that is envisaged by the various responsible parties. In the absence of a clear target for the amount of renewable energy (and of different types of renewable energy) to be provided on the grid it is difficult for the system operator, currently Eskom, to plan the required grid infrastructure and to allocate suitable access to the grid between proposed projects. The Renewable Energy White Paper, as well as the National Integrated Resource Plan, provide some indication of the envisaged amount of renewable energy to be licensed but neither of these are fully up to date with current electricity generation planning and infrastructure developments. The Renewable Energy White Paper in particular also only provides minimum targets, not maximum amounts of renewable energy to be licensed. The REFIT policy itself does not prescribe upper limits to the amount of renewable energy which can be licensed and provided with the feed in tariff.

Given the current uncertainty, the process map sketched below outlines two alternative possible processes for securing access to the national grid by a renewable energy project developer. It is hoped that clarity will emerge soon over which of these processes will be followed, or if both are applicable, under which circumstances a particular process will be followed.

### **Strategic planning**

In either case it is important to note the constraints currently being reviewed in a parallel Western Cape wind grid integration study that Eskom faces in evaluating numerous potential renewable energy projects which are at different stages of development, with different technical parameters and different likelihoods of eventually being funded and developed.

The processes outlined below pertain to a single embedded generator making a grid connection application. However, the process becomes considerably more complex when numerous developers apply to use the same network capacity. This requires a larger and more strategic grid planning process. Such a process is currently underway, parallel to this project. This is referred to as ‘Eskom Strategic Planning’ in the process map and will be important in outlining the realistic technically, environmentally and financially viable options for renewable energy generators to connect to the Western Cape and national grid.

#### 4.4.1 Responsible authority and standards

Renewable energy generators are deemed by NERSA to be “Embedded Generators” operating on the national electricity grid. Eskom Transmission is responsible for the planning and integrity of the transmission network, defined as the network above 132 kV. The distribution network is deemed to be all electricity distribution at 132 kV or below. At different locations either local authorities or Eskom Distribution will be responsible for the distribution network. Eskom Transmission will nevertheless have a role to play in agreeing to distribution grid connection as such connections, especially where more than one embedded generator is being considered in combination, can affect the transmission network.

The Embedded Generator requires a grid connection agreement to be allowed to connect a generator in parallel with the Eskom or local authority distribution network. This grid connection agreement is a separate agreement to the commercial agreement (i.e. the Power Purchase Agreement) which will, for example, address the feed-in-tariffs for generation exported into the distribution network. The connected Embedded Generator might also sell the generated power to another party (via wheeling through the Eskom network).

#### Eskom Embedded Generation Interconnection Standard

According to the South African Distribution Network Code, each distributor must have an interconnection standard specifying the technical criteria for the connection of an embedded generator. The Eskom Distribution Standard (DST 34-1765: Distribution Standard for the Interconnection of Embedded Generation) specifies minimum requirements for such items as generator power factor, frequency control, earthing, circuit breaker capacity, protection, synchronization, metering and tele-control.

It is likely that any other distributor, such as a local authority, will require that an embedded renewable energy generator complies with the same standard.

#### 4.4.2 Embedded Generation connection process

*As discussed above it should be noted that a full formal process for renewable energy grid connection has not yet been mapped out by Eskom. This process is currently being developed by Eskom Customer Services.*

The process outlined below is the process that would typically be followed by Eskom<sup>3</sup>. There is not necessarily a comparable standard process that would be followed by all local authorities nor would most local authorities in fact have a standardised process. The Eskom process is therefore outlined and it is proposed that as far as possible local authorities follow a similar process to Eskom for the consideration of grid connection applications. This is especially important where such connections may influence the transmission network.

Two different process flows are shown below. The first process flow follows section 5. of the New Generation Regulations and assumes a process for renewable energy generation licensing which includes a Request for Prequalification stage, a Request for Proposals stage for further short-listing, and further negotiations prior to agreeing on a PPA and license. The grid connection applications would be linked to a developer moving through these other stages.

<sup>3</sup> Some of the information below has been drawn from: *Bello, M., Carter-Brown, C., and Coney, R., no date: A methodology for evaluation of Cogeneration applications under the Eskom Pilot National Cogeneration Project, unpublished paper.* Other information has been drawn from discussions with Eskom personnel.

The second process flow assumes that the primary decision point for allowing new renewable generation capacity onto the grid is via a single step selection of the preferred renewable energy generation capacity by the system operator based on criteria to be established by NERSA as well as licensing of the generator by NERSA. In such a case the grid application process would not be dependent to the same degree on a developer's progress through the stages as in the first process. The second process flow shown below presumes that Eskom will therefore consider equally all applications brought to in on the assumption that any of them could feasibly be selected as new generation capacity. It does include an initial project assessment phase which would consider at a high level the grid integration merits of the project in line with the proposed criteria for selection of renewable energy generators under s. 7.3 of the New Generation Regulations.

### **Explanation of process steps**

A brief explanation of some of the steps outlined is provided below:

#### **1. Project Concept**

The project concept is established by the developer who recognises the potential business opportunity of connecting the proposed plant to a distribution network. At this stage, the developer would have identified a potential site for the renewable energy plant, suitable energy resources, types of generating plant and cost estimates for the plant.

#### **2. Embedded Generator Application**

At the application stage the developer provides the following basic data to the operator of the distribution network:

- Number of generating units, type of generator, size (rating) and other electrical parameters
- Energy resource
- Physical location of the plant and single line diagram of the connecting equipment with major internal network equipment parameters.

On receipt of the application, Eskom carries out a preliminary system study which includes such issues as:

- Voltage performance: steady state system voltages must be within standard limits
- Network adequacy: equipment and conductor thermal limits must not be exceeded
- Short-circuit calculations: equipment fault level ratings must not be exceeded
- Losses: relative change in technical losses
- Load flow study:

The system study will identify network options for connection of the Embedded Generator. The costs of each option that satisfy the technical connection criteria are estimated considering the cost for both dedicated assets (as are required solely for connection of the Embedded Generator to the network) and shared assets (upstream network reinforcement that supports more than one Embedded Generator developer or conventional customer).

The renewable energy Embedded Generation developer pays the full cost of dedicated assets and a Rand per kilo volt-amperes (R/kVA) contribution towards shared network costs.

### **3. Feasibility Quotation (FQ)**

A summary of the cost is then sent to the developer in a form of a Feasibility Quotation (FQ) to be incorporated in the business planning processes of the developer. Normally in Eskom, the FQ is only 65% accurate as a project design has not yet been determined. The developer is required accept this quote formally and may be required to pay a commitment fee to proceed to the next stage.

### **4. Design Phase and Design Quotation (DQ)**

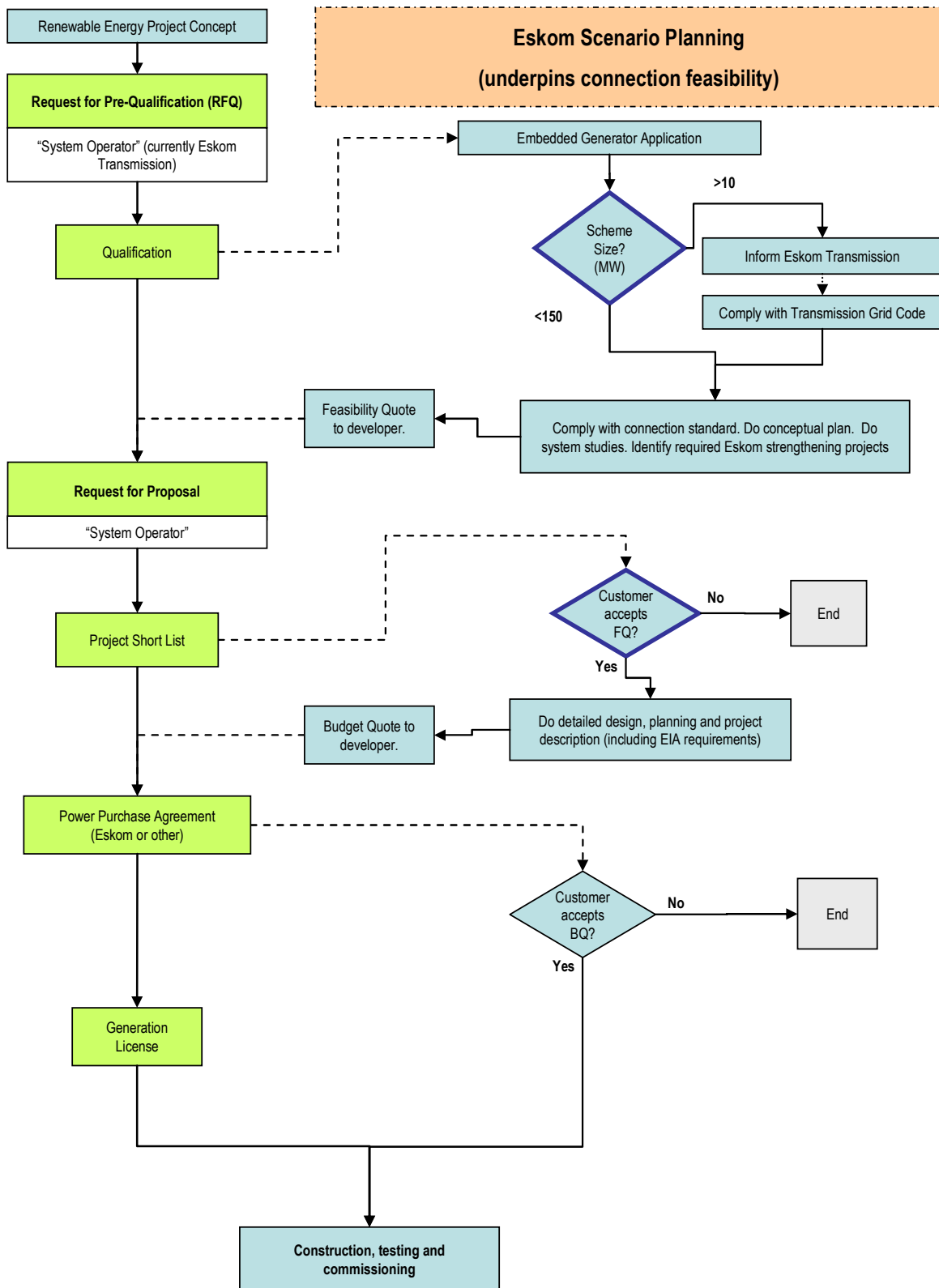
If the developer accepts the Feasibility Quotation, the design phase of the process proceeds. The developer pays for the design work. Further system studies are performed which would include such items as:

- transient stability studies;
- protection coordination studies; and
- specific studies related to the nature of the renewable energy plant under consideration.

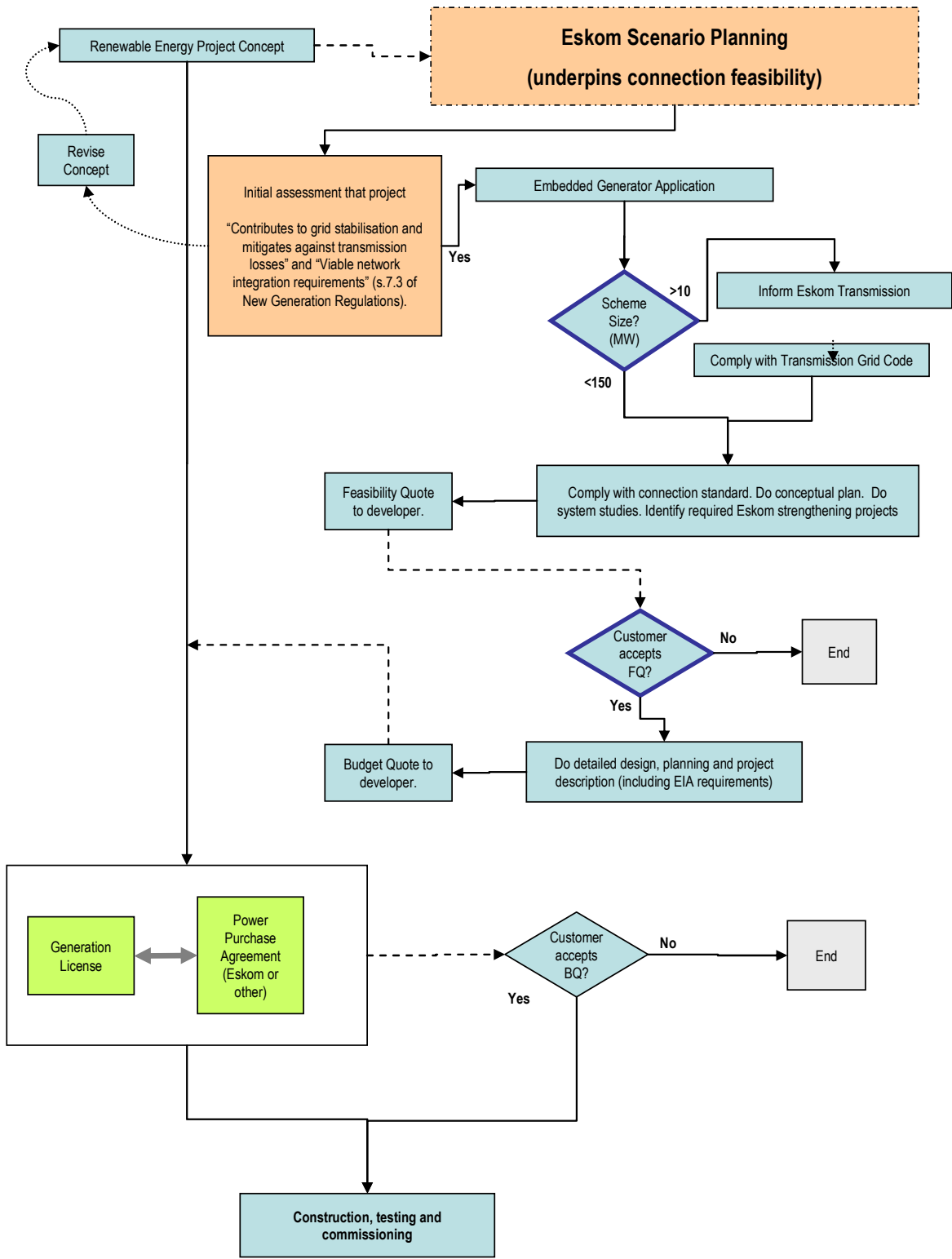
The connection options, scope and costs are refined and a Budget Quotation (BQ) is issued. The DQ is typically committed as 100 percent accurate and is premised on Eskom certified service providers carrying out the required engineering. On the acceptance of the BQ, the processes for construction, testing and commissioning commence. The presumption, as shown in the figure, is that the developer would only accept the BQ if there was certainty that the project would proceed (i.e. that a generation license and PPA had been secured).

The two processes incorporating these elements are shown schematically below. They show the possible different relationship of the grid connection process to the licensing and PPA processes.

However, it is noted that the issue of strategic planning is overestimated and too early to approach at this stage. Experiences from other countries indicate that grids can easily accommodate 20 to 30% of intermittent power without any strategic planning required.



**Figure 4.3: Grid connection process: Section 5 of the New Generation Regulations**



**Figure 4.4: Grid connection process: Section 7 of the New Generation Regulations**

#### **4.5 Power Purchase Agreement**

According to NERSA<sup>4</sup>, “the Renewable Energy Purchasing Agency (REPA) will be obliged to purchase the energy delivered by the renewable energy projects licensed by NERSA under REFIT Phase I and II”. The implication of this approach is that the primary regulatory step for a renewable energy generator is securing a generation license from NERSA, following which it will be obligatory for the REPA (currently the Single Buyer Office in Eskom) to enter into a PPA.

There is no formal process flow for securing the PPA itself. A draft PPA for renewable energy under the REFIT has been published by NERSA<sup>5</sup> and according to NERSA will be finalised during the last quarter of 2009. The main complexity related to the process for securing a PPA is the relationship between a generation license and a PPA. A generation license will only be provided to a generator if NERSA has a reasonable expectation that the generator has an off-taker for the power produced (in the case of renewable energy this would be the REPA with the REFIT tariffs). However, in the case of the REFIT, the license itself is the main regulatory step which unlocks the PPA under the REFIT process by obligating the REPA to purchase the power. Therefore, it is expected that NERSA may provide some leeway in the licensing process around the requirement for having a secured off-take agreement in the form of a PPA as this agreement will follow (and not precede) the licensing decision.

It appears, however, that Eskom may have a somewhat different view of the process and will expect that only those projects that are pre-qualified and then short-listed for purchase under the REFIT will enter into PPA negotiations and that only a sub-set of these will secure PPAs and then go on to apply for generation licenses. This alternative approach is reflected in figure 4.4 above.

Given the uncertainty, and the relationship between the PPA, generation license and grid connection for a particular project, it is expected that in practice there will be some form of iterative process between these three steps. In other words the developer may be expected to engage simultaneously with Eskom with regards to the PPA and grid access (albeit different departments in Eskom) and with the Regulator with regards to securing a generation license.

Although there is a degree of uncertainty about the process at the moment it is important to note that under the Electricity Regulation Act (Act 4 of 2006) NERSA is granted the power under s.4(b) to “mediate disputes between generators, transmitters, distributors, customers or end users”. This gives NERSA the authority to engage with the various parties in a flexible manner if disagreement does arise around the procedure to enter into a PPA.

At this stage it is probably prudent for project developers to approach the Single Buyer Office of Eskom (in their capacity as the REPA) relatively early in their development process to discuss the potential for entering into an off-take agreement, the specific requirements of the Single Buyer Office, and the likely structure and terms of the PPA. Even in the case where the REPA is obligated to enter into a PPA the REPA may wish to include some specific PPA conditions or related financial provisions that the renewable energy generator should be aware of.

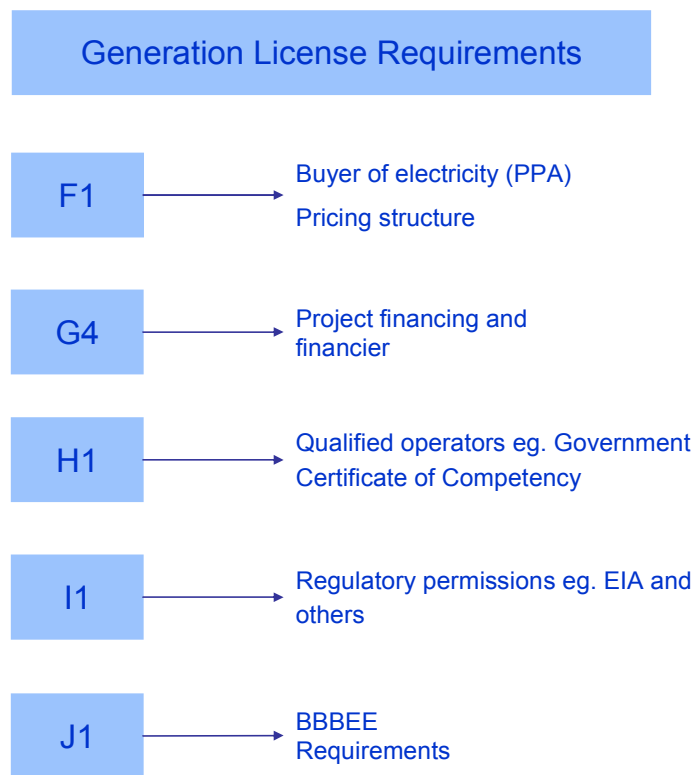
<sup>4</sup> National Energy Regulator of South Africa, 2009: Renewable Energy Feed-in-Tariff Phase 2, July 2009, NERSA, Consultation Paper, Pretoria.

<sup>5</sup> As above

## 4.6 Generation License

The procedure for applying for a generation license from NERSA is outlined in the Electricity Regulation Act. The procedure starts with an application to NERSA. This application must include a set of information required for the Regulator to make an informed decision. These information requirements are shown in figure 4.5:

The information requirements are numbered by relevant section of the NERSA license application form.



**Figure 4.5: NERSA Generation License Information Requirements**

Following the receipt of the application NERSA has the prerogative to publish the license application for public comment for a period defined by NERSA. In such a case before considering an application for a licence the Regulator must then furnish the applicant with all substantiated objections to the project (if any) in order to allow the applicant to respond to them.

The Regulator must then make a decision on the application within 120 days after the expiration of the public comment period. If no objections have been received within 120 days after receiving the response from the applicant, the Regulator must provide the applicant with a copy of its decision as well as the reasons for the decision.

## 4.7 Key Process Constraints

A number of constraints to the introduction of renewable energy have been identified in the process map discussions below. The most important of these are:

- The requirements to apply for an environmental authorisation prior to applying for required sub-divisions of land. This potentially introduces significant additional delays in the development process.
- The current uncertainty over the specific process to be followed in procuring new generation capacity, i.e. whether a structured request for prequalification and request for proposals process will be followed or whether renewable generators can simply apply for generation licenses in the expectation that the REPA will be obliged to purchase renewable energy from licensed generators.
- The difficulty that Eskom, as the system operator, has in grid planning given uncertainty about the amount and type of renewable energy to be licensed. This makes it difficult for Eskom to provide developers with firm commitments around grid access and around the infrastructure costs of such access.

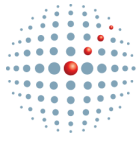
## 4.8 Key Contact and Links

Table 4.2 provides a list of key institutions and relevant links.

**Table 4.2: Key institutions**

Institution	Role	Link
Western Cape Province (including Department of Environmental Affairs and Development Planning)	Strategic Environmental Assessment/ Land use planning/ Heritage impact	<a href="http://www.capecgateway.gov.za">www.capecgateway.gov.za</a>
Department of Environmental Affairs (DEA)	Environmental Impact Assessment	<a href="http://www.deat.gov.za">www.deat.gov.za</a>
Endangered Wildlife Trust	EIA toolkit	<a href="http://www.eiatoolkit.ewt.org.za">www.eiatoolkit.ewt.org.za</a>
Western Cape Department of Agriculture and Rural Development	Land subdivision outside municipal area	<a href="http://www.capecgateway.gov.za/">www.capecgateway.gov.za/</a> <a href="http://www.elsenburg.com">www.elsenburg.com</a>
Department of Agriculture, Forestry and Fisheries	Land subdivision outside municipal area	<a href="http://www.daff.gov.za">www.daff.gov.za</a>
South African Heritage Resources Agency	Heritage impact	<a href="http://www.sahra.org.za">www.sahra.org.za</a>
Department of Rural Development and Land Reform (Regional Land Commissioner/ Registrar of Deeds)	Land claims/ Registration of servitudes and deeds	<a href="http://www.dla.gov.za">www.dla.gov.za</a>
Department of Water Affairs	Water use licences	<a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>
National Treasury (PPP Unit)	Public private partnership info	<a href="http://www.ppp.gov.za">www.ppp.gov.za</a>

NERSA	Generation licence	<a href="http://www.nersa.org.za">www.nersa.org.za</a>
Department of Energy	National energy planning	<a href="http://www.dme.gov.za">www.dme.gov.za</a>
Eskom	Single Buyer Office/ Grid codes	<a href="http://www.eskom.co.za">www.eskom.co.za</a>



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**Carbon Asset Management Company (PTY) Limited trading as Camco Advisory Services South Africa**

PO Box 70 Woodlands Office Park, Western Service Road, Woodmead 2080

t +27 11 253 3400 f +27 11 804 1038

Registered office address as above