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Executive Summary

Proposed Dobbin 75 MW Photovoltaic Solar Facility, Cradock, Eastern Cape

Final Scoping Report

1. Introduction

AF-Rom Energy (Pty) Ltd proposes to develop a 75 MW Solar Facility in the Inxuba Yethemba Local Municipality, in the Eastern Cape. The proposed development will be located on Portion 1 of Farm Het Fortuin No. 66, approximately 30 km north-west of Cradock, adjacent to the exiting Dobbin substation (see Figure 2).

SRK Consulting has been appointed by AF-Rom Energy (Pty) Ltd, as the independent consultants to assess the environmental impacts in terms of NEMA, as amended, and the EIA Regulations, 2010, for the proposed 75 MW Dobbin Solar Facility.

In terms of the National Environmental Management Act 107 of 1998 (NEMA), as amended, and the Environmental Impact Assessment (EIA) Regulations, 2010, an environmental assessment process must be undertaken for certain listed activities. The main activity associated with the Facility is listed under GNR 545 of 18 June 2010 and as such requires a full Scoping and Environmental Impact Assessment (S&EIA).

Notwithstanding this, an application was submitted, in terms of Section 20(4) of Government Gazette No. 543, to conduct a Basic Assessment process instead of a S&EIA, and a Draft Basic Assessment Report was distributed for public comment. DEA has subsequently turned down the application for downscaling to a Basic Assessment process, and hence the prescribed Scoping and EIA process is being followed.

The Scoping Study includes a Public Participation Process (PPP), aimed at identifying issues and concerns of Interested and Affected Parties (IAPs). The objective of the Scoping Study is to identify those issues and concerns that must be investigated in more detail, and which will be reported in a subsequent Environmental Impact Report (EIR). The Final Scoping Report (FSR) presents the findings of the Scoping Study, and offers an opportunity for

key stakeholders and IAPs to review the issues identified, and to make any further comments.

2. Approach to the Study

The proposed development is subject to environmental authorisation from the Department of Environmental Affairs (DEA) in terms of the National Environmental Management Act of 1998. As such, an EIA is required and this Final Scoping Report (FSR) presents an important milestone in the EIA process.

The first step of the EIA process (see Figure 1) is the Scoping Study. The Scoping process is aimed at identifying the issues and/or impacts that may result from the proposed activities, including the concerns of Interested and Affected Parties (IAP's), in order to inform the Impact Assessment phase of the EIA process. The Final Scoping Report (FSR) will form the basis of the terms of reference for specialist studies, and it is therefore important that all issues and potential impacts that may be associated with the proposed development be identified and recorded.

IAP's are encouraged to review the Final Scoping Report (FSR) to ensure that their comments have been accurately recorded and understood.

The activities that have been conducted to date as part of this Scoping Study are as follows:

- Advertising of the EIA process in The Cradock Courant on 16 February 2012 and Die Burger on 21 February 2012;
- Placement of on-site posters - one at the entrance to the site and one on the boundary fence of the site;
- Distribution of the Background Information Document (BID) to potential and registered Interested and Affected Parties (IAPs) and stakeholders. A list of registered IAPs is given in Table 2 below;

- Recording of all issues raised in response to the BID (See summary of issues raised and responses to these in Table 3);
- Original correspondence from IAPs in the Draft Scoping Report;
- Preparation of a Draft Scoping Report;
- Distribution of the Draft Scoping Report to public venues for review by IAPs;
- Distribution of an Executive Summary to all IAPs registered for this project;
- Compilation of issues raised in response to the Draft Scoping Report and integration of these comments into the Final Scoping Report (See summary of issues raised and responses to these in Table 4); and
- Submission of the Final Scoping Report (FSR) and the Plan of Study for the EIA to DEA for consideration and approval. Once approved, the EIA process can proceed to the detailed Impact Assessment phase.

3. Motivation for the Proposed Development

Electricity Generation

Two of the main rationales for the proposed solar facility are the need for additional energy generation as a result of increasing energy demand, as well as the contribution to the establishment of South Africa's renewable energy sector.

The White Paper of Renewable Energy (November 2003) recognises that South Africa's energy generation is predominately supported by coal-based energy generation (as a result of our large amount of coal resources) and has an extremely low market share of renewable energy generation. However, it is also recognised that the emissions of greenhouse gases, such as carbon dioxide, from the use of fossil fuels has led to increasing concerns about global climate change. The advancement of renewable energy resources is therefore recognised as a major contributor in countering climate change, protecting our natural resources, the biophysical environment as well as providing a range of environmental, economic and social benefits that will contribute towards long-term sustainability.

As reflected in the White Paper, the diversification of supply is an important element of improved energy security. South Africa is also well endowed with renewable energy resources, that can be sustainable alternatives to fossil fuels, but so far these have remained largely untapped.

The proposed solar facility would therefore contribute to energy security, both in terms of generating capacity, and in terms of diversified supply.

As the proposed development will also provide employment for some of the local community members, it

is anticipated that the proposed development will provide some level of economic and social upliftment to surrounding local communities.

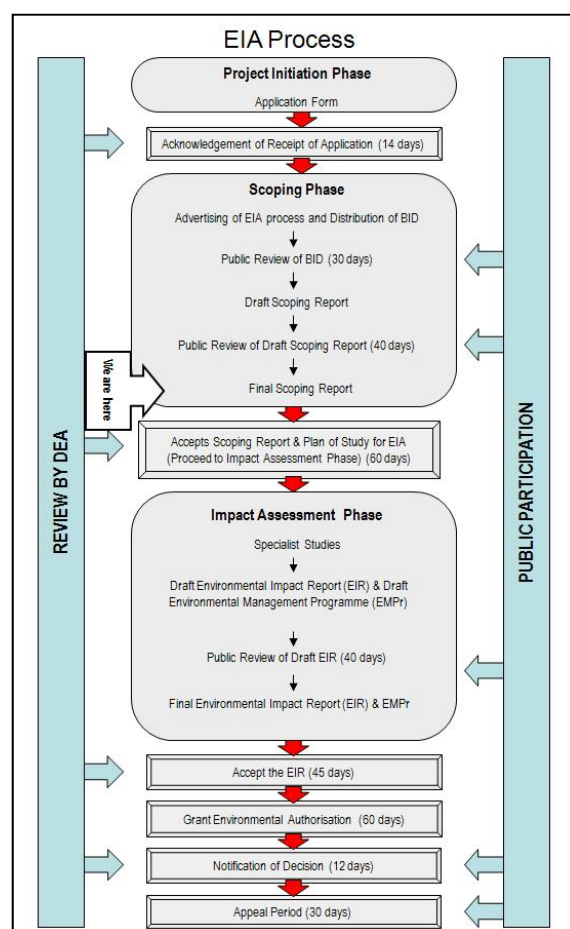


Figure 1: EIA Process

Economic Development

Although not the primary motivation for the proposed development, in terms of the bidding rules for the REFIT programme, the project will also contribute to economic development.

Under the guideline of the Integrated Resource Plan 2010-2030, the RFP 3/11/2010 (Request for Proposal DOE/001/2011/2012) and REFIT program, successful bidders for renewable energy projects are obligated to develop a comprehensive Economic Development Plan. The Economic Development Plan will include the following seven dimensions:

1. Local Content;
2. Job creation;
3. Ownership;
4. Management Control;
5. Preferential Procurement;
6. Enterprise Development; and
7. Social Economic Development.

Minimum requirements include the following qualification criteria:

1. 40% South African Ownership;
2. Minimum BBBEE Level 5 status contributions from South African partners;
3. Local Community Ownership through a community trust; and
4. Minimum requirements in Local content, Job Creation, Ownership and Social Economic Development.

These measures have been put in place to ensure that the projects contribute towards both the growth and the transformation of the South African Economy. These contributions will vary from project to project, a typical project would contribute between 1.5 and 2.5% of the project turnover to community upliftment, and between 5 and 15% of the project equity to a community trust.

AF-ROM is committed to ensuring that their bid not only meets both the Department of Energy and NERSA's Economic Development requirements but also contributes towards the achievement of their goals and subsequently that of government.

In the case of AF-ROM Energy's Dobbin project, such contributions could amount to between R5 m and R15 m per annum for socio- economic development.

Employment opportunities

It is expected that maintenance activities during the operational phase will include inter alia, replacement and washing of the PV panels (potentially using water obtained from existing facility boreholes or reservoirs).

Approximately 400 workers will be required for the construction phase and approximately 45 permanent staff will be employed for the operational phase.

Labourers will be from local communities and as such will have their own, existing, accommodation. Skilled labour (30-35 labourers) will be housed in local guesthouses and/or rental accommodation. Semi-skilled labour will need temporary housing (20 labourers) would be housed either in local accommodation, or the construction company would negotiate temporary facilities with the local municipality for construction of a construction camp, usually prefabricated housing.

4. Development Proposal

Photovoltaic (PV) electrical power is generated by converting solar radiation into direct current electricity using semi-conductors which convert light energy into electrical energy. Solar panels are made up of a number of solar cells containing semi-conductors. A number of types of semi-conductors are commercially available, of which Copper Indium Gallium Selenide/ Sulphide (CIS) panels, and/or Silicon panels are proposed for this development. Solar panel may either be conventional or thin film technology.

The main components of a solar energy facility are listed as follows:

- Solar panels, mounted in arrays/modules);

- Arrays/modules of solar panels arranged in clusters;
- Underground low voltage cables linking solar panels within a cluster to an inverter;
- Underground power lines (of a medium voltage) will be installed from inverter substations to a central collector/ step-up substation;
- The step-up substation will be an outdoor substation with transformers to step up the medium voltage (either 22 kV or 33 kV) to High Voltage (HV) 132 kV;
- A new 132 kV overhead line (less than 1 km in length) will be constructed and will run from the step-up substation to the Dobbin Eskom Substation (attached to the existing Beaufort West to De Aar electric rail line.) which connects into the Eskom grid;
- Roads (Internal roads and access);
- Buildings (office, a control room for operation and maintenance personnel and equipment storage, ablution facilities for); and
- Security fencing (3 m high mesh fencing and security lighting (motion detecting spotlights) to be placed around the boundary of the site.

Project Phases and associated physical activities

The construction phase is expected to start within one year of successful application for preferred bidder status in the Department of Energy's REFIT programme, and take one year to complete. The operational phase is expected to have a lifespan of approximately 25 years after which the facility would either be decommissioned or refurbished for an additional 25 year operating period.

The main physical activities that will take place during each of the phases of the development are summarised below.

Construction phase (10 -12 months)

The following activities will take place during the construction phase:

- Conducting of surveys prior to construction (typically a geotechnical survey, a site topographical survey etc.);
- Clearing of vegetation in selected areas (e.g. for roads and substations) and possible removal of topsoil that will be stock piled and backfilled/ spread on site after construction;
- Construction of internal access roads as well as rehabilitation/upgrading of access road from the nearest provincial road;
- Transportation of equipment – most of the equipment could be transported in modules and would not need special arrangements except for the transformers may be classified as abnormal loads;
- Construction of camp and temporary equipment lay down areas – equipment will be temporarily stored in the lay down area before installation;

- Installation of PV panels, which entails the drilling of holes into the ground in order to install round galvanised steel posts upon which modular frames (with the solar photovoltaic panels) are to be attached to;
- Installation of a security fence around the boundary of the site. The area to be fenced is expected to be between 150 and 250 ha;
- Construction of inverter substations;
- Construction of a step-up substation. The substation will have transformers to step up the medium voltage (either 22 kV or 33 kV) to high voltage (HV) 132 kV. Switchgear and metering equipment will also be established in the substation;
- Installation of internal medium voltage (MV) underground power lines from the inverter substations to a central collector/ step-up substation;
- Construction of a 132 kV overhead power line. An overhead power line of approximately 1 km (length to be confirmed) will run from the step-up substation to the Eskom Substation (attached to the Beaufort West to De Aar electric rail line);
- Construction of Control room for the operation, maintenance personnel and equipment storage; and
- Site rehabilitation.

Operation and Maintenance Phase (± 25 years)

The following activities will take place during the operation and maintenance phase:

- Cleaning of panels – Staff will be on site to clean PV panels four times a year (in 90 day cycles);
- Security staff will be permanently on site; and
- Control/ maintenance staff will be on site as required.

Decommissioning Phase

The following activities will take place during the decommissioning phase:

- Site preparation – a laydown area will be required when disassembling the equipment. Suitability of all roads should be assessed; and
- Disassembling and removal of equipment.

Project Alternatives

Site Alternatives

An area of 400 hectares has been leased by Af-Rom Energy (see Figure 1) although the actual footprint of the development is anticipated to be less than 250 hectares.

No site alternatives are proposed as part of this application and consequently no site alternatives are assessed. The Dobbin site was identified based on its favourable climatic conditions for a solar facility, close proximity to the existing Dobbin 132 kV substation for connection to the Eskom grid, existing transport access onto the site, availability of

water, and secure conditions (no casual traffic around the site).

Activity alternatives

Af-Rom Energy is specifically aimed at Photo-Voltaic Solar Facilities, and as such no activity alternatives are proposed.

Layout alternatives

The precise layout of the facility is dependent on the environmental and technical factors associated with the site. The input of a variety of specialists has been utilised in defining preferred setback lines from environmentally sensitive areas (water courses, sensitive plants/species, heritage features, etc.), and considerations of visibility and agricultural potential. This base layer has been used to generate two layout alternatives derived from the different sun tracking technology alternatives.

Alternative 1: Fixed Panels: This layout alternative is determined by the fixed panel mounting system, as described in Figure 2.1 and Figure 2.2 of the DSR. Under this alternative, modules of solar panels are supported on round galvanised steel frames. The proposed solar facility will be constructed in clusters, with a certain number of rows of solar panels per cluster (Figure 2.3 of the DSR), each row ± 4 m apart. Clusters will be connected by underground cables to inverter substations, and separated from each other by a ± 4 m wide road.

The arrangement of fixed panels, involving two rows of panels on an array for each 4 m separation between arrays, results in a smaller (and denser) development footprint (Figure 2.4 of the DSR). On the other hand, the yield from each fixed panel is less than that obtained by means of tracking panels (tracking panels have a 20% higher yield). Fixed panels are advantageous in the extent of land required, but are not preferred economically.

In this arrangement, panels are orientated along an east / west axis, facing to the north.

Alternative 2: Tracking Panels: This layout alternative is also determined by the space and orientation requirements for the tracking system. Under this alternative, panels are arranged in continuous lines on a north-south axis and rotate around this axis to maintain a constant angle of incidence with solar radiation.

The general arrangement of tracking frames is shown in Figure 2.5 and Figure 2.6 of the DSR respectively. Clusters will be connected by underground cables to inverter substations, and separated from each other by a ± 5 m wide road. This arrangement leads to layout alternative 2 (Figure 2.7 of the DSR).

This layout alternative has the following consequences:

- Higher yield from panels (approximately 20% higher);
- Less shade under the panels, i.e. for any point of the surface, the amount of time that such a point is in the shadow of a panel is less than for fixed panels; and
- Less possibility of reflections to nearby receptors.

Technology alternatives

Semi-conductor technology: Technology alternatives have been considered in the selection of PV semi-conductor technology. Solar panels are made up of a number of solar cells containing semi-conductors. A number of types of semi-conductors are commercially available, of which Copper Indium Gallium Selenide/ Sulphide (CIS) panels, and/or Silicon panels are preferred for this development. Solar panels may either be conventional or thin film technology.

Cadmium Telluride panels are a technically viable alternative, but have been excluded from further assessment due to potential concerns expressed regarding these PV panels on other EIA's, and in particular that they contain hazardous chemicals. The potential for leaching of these chemicals into the environment during normal operation is exceptionally low, and as these chemicals have a high value the recovery of these from used panels would be commercially attractive (hence reducing the risk of incorrectly disposed panels). Notwithstanding this, due to the potential concerns from Interested and Affected Parties, Cadmium Telluride panels are not proposed for this facility.

Overhead vs Underground 132 kV power line: Generated electricity is collected via a system of underground medium voltage cables, and then transformed into high (132 kV) voltage and reticulated to the existing 132 kV Dobbin substation. The length of the 132 kV line depends on the final layout, and the position of the internal substation, which is most energy efficient if in the centre of the PV panels. The length of the 132 kV line is expected to be in the order of 1 km or less. The following alternatives are considered for this 132 kV line:

Above ground transmission (preferred technical alternative): The most economical; and technically preferred alternative is a 30 m high lattice mast similar to the generic design reproduced here. This design is similar to the existing Eskom lines to the Dobbin substation. Above ground transmission is preferred due to initial cost, ease of maintenance, and ability to span environmentally sensitive areas and the Transnet railway line. On the other hand, above ground lines are visible, and can have a negative impact on birds.

Below ground lines are technically feasible and would be implemented in the event that environmental above ground lines are environmentally unsuitable.

Operational alternatives

Cleaning of the panels (to optimise their operation) would be necessary from time to time (depending on the amount of dust in the air). This could either be done using water, or waterless cleaning (which the applicant is proposing when possible, so that less water is required during operation).

It is assumed that panels will be washed with water, including small amount of biodegradable detergent, four times a year (90 day cycles). Approximately 9,500 litres of water per day will be required to achieve this. It is anticipated that existing boreholes within close proximity to

the facility be used as the primary water source. Alternatively, municipal water can be obtained by tankers from Cradock; however this will have implications on carbon emissions. A third technical option is by dry means.

No-go option

The no-go alternative would see the current land use of the site continue. Not implementing the activity would have the following socio-economic and environmental implications:

Comparatively low value agricultural activity would continue;

No production in energy would result in less energy security at a national level;

The potential for job creation associated with the project would be lost; and

Additional social benefit schemes (such as job training and skills programs), linked to the development would not materialise

Associated infrastructure

In addition to the main components of the development proposal as listed above, various related infrastructure is required.

Roads (access and internal)

Access to the site will be via an existing gravel road that turns off the N10, which may need to be rehabilitated/upgraded. Internal roads will need to be constructed on the site to access all parts of the development for the whole duration of the development. These roads could be gravel or paved.

Water supply

Water is required on site for ablutions and for washing of panels. During the construction phase water may also be needed for dust suppression and building requirements.

Water supply to the site is likely to be from boreholes, either existing or new. In the event that groundwater supply is not environmentally sustainable, then water would need to be delivered by road tanker from the nearest water services provider.

The anticipated water demand during operation is estimated to be 9,500 L/day.

Wastewater

Small quantities of sanitary wastewater would be generated from staff facilities on the site. It is anticipated that this waste stream would be directed to a septic tank and soak away. In the event that this is not technically feasible, then conservancy tank(s) would need to be installed.

Solid Waste Management

A number of waste streams are anticipated. These include:

- Considerable amounts of solid waste (mainly packaging material) during the construction phase. This waste stream, and the storage thereof, would be temporary and inert;
- Small quantities of domestic waste associated with the staff facilities during the construction and operational phases;
- Occasional scrapped equipment during the operation of the site (e.g. defective panels, tracking systems, etc.); and
- Occasional transformer oils from routine maintenance activity.

It is anticipated that these, and other waste streams can be readily managed, including any temporary on site storage, and transportation for off-site disposal. A considerable amount of the waste generated would be recyclable, and some of this would have high economic value.

5. Findings and Recommendations

In order to apply for authorisation for the proposed development and associated activities, a scoping study is currently being conducted in terms of the EIA regulations promulgated under Section 24(5) of the National Environmental Management Act (Act no.107 of 1998). The objectives of the study were to:

- To develop a common understanding of the proposed project with the authorities and IAP's;
- Identify stakeholders and notify them of the proposed activity, alternatives and process;
- Provide stakeholders with the opportunity to participate in the process and identify issues and concerns associated with the proposed activity;
- Identify potential environmental impacts that require further study in the impact assessment phase of the EIA process; and
- Develop terms of reference for the specialist studies that will be conducted in the impact assessment phase.

The identification of potential impacts of the proposed activity is based on the following factors:

- The legal requirements;
- The nature of the proposed activity;
- The nature of the receiving environment; and
- Issues raised during the public participation process.

Considering these factors, the following environmental impacts were identified which could potentially result from the proposed solar facility:

- Archaeological and historical sites;
- Palaeontological sites;
- Ecological impacts;

- Avifauna impacts;
- Visual impacts;
- Agricultural impacts;
- Socio-economic impacts;
- Surface water impacts; and
- Construction related impacts including waste management and traffic.

Specialist Studies

A number of specialist studies are proposed in the Impact Assessment phase in order to investigate the potential environmental impacts associated with the proposed development. These are:

- Wetland Impact Assessment;
- Ecological Impact Assessment;
- Avifauna Impact Assessment; and
- Visual Impact Assessment.

The following impacts will be addressed by SRK in consultation with the project engineers:

- Traffic impacts;
- Surface and stormwater impacts;
- Waste related impacts; and
- Construction related impacts.

The following specialist input has already been obtained and no further input will be sought in the impact assessment phase (it is noted that further input may be required in the event of the project being authorised):

- Heritage Impact Assessment;
- Palaeontological Impact Assessment;
- Socio-economic Impact Assessment; and
- Agricultural Impact Assessment.

Terms of Reference for Specialist Studies

The proposed Terms of Reference for each of the identified specialist studies are provided in this section.

Ecological Impact Assessment

The ToR for the specialist Ecological Specialist Study is to evaluate the two layout alternatives and the no-go option, in terms of:

- Impact on vegetation types and habitat;
- Habitat loss due to physical disturbance;
- The impact of increased shade and (marginal) increased water on vegetation type, species diversity and habitats; and
- Comment on the acceptability of the two layout alternatives and no-go option.

Avi-Fauna Impact Assessment

The ToR for the specialist Avi-Fauna Specialist Study is to evaluate the two layout alternatives and the no-go option, in terms of:

- The cumulative effect of the proposed overhead power line avi-fauna;
- The cumulative effect of habitat loss on avi-fauna; and
- Comment on the acceptability of the two layout alternatives and no-go option.

Visual Impact Assessment

The ToR for the specialist Visual Impact Assessment is to evaluate the two layout alternatives and the no-go option, in terms of:

- The potential for, and significance of, reflections on train drivers;
- Refine viewshed and associated significance rating, for each of the layout options; and
- Comment on the acceptability of the two layout alternatives and no-go option.

Wetland Impact Assessment

The ToR for the specialist Wetland Impact Assessment is to evaluate the two layout alternatives and the no-go option, in terms of:

- The impact on wetlands and other watercourses due to infrastructure (e.g. trenches carrying voltage cables) crossing these features;
- Delineate wetlands on site and compile a technical report reflecting wetland studies (Present Ecological State, Ecological Importance & Sensitivity Risk Assessment, Method Statement, Impact Assessment and Wetland Eco-services);
- Describe the affected watercourses as well as assess the potential impacts of the proposed development and mitigation measures thereof; and
- Compile a layout plan indicating the location of the projects activities in relation to the 1:100 year floodline of affected watercourses, wetlands and 500 m radius mapped around wetlands.

Table 1: Activities and Timetable

Stage / Activity	Target Dates
Close of comment period on Draft Scoping Report (this report)	6 June 2012
Submission of Final Scoping Report and Plan of Study for EIA to DEA	7 June 2012
DEA approval of Plan of Study for EIA	7 August 2012
Conduct Specialist Studies and Compile Draft EIR	21 June 2012 to 21 August 2012
Issue Draft EIR for Public Comment	21 August 2012
Public Comment Period for Draft EIR	21 August 2012 to 30 September 2012
Prepare Final EIR	01 September to 12 September
Submit Final EIR to DEA for a decision	12 September 2012

6. The Way Forward

The Final Scoping Report (FSR), including the Plan of Study for EIA (POSE), has been submitted to DEA for approval. DEA will evaluate the FSR, including comments from IAP's, and either approve the POSE, or specify changes that need to be addressed in the EIR. After this, a Draft Environmental Impact Report (EIR) will be produced for further comment by IAP's.

The specialist study findings will be incorporated into the Draft EIR that will be open for public comment.

The Executive Summary of this Final Scoping Report has been distributed to all registered IAPs. Printed copies of this report are available for public review at the following location:

- Cradock Public Library.

SRK believes that the Final Scoping Report provides an accurate reflection of the public participation process and the issues identified. However, comments on the Final Scoping Report can still be sent to SRK, who will endeavour to consider these during the impact assessment phase of the study. Comments can be forwarded to:

Wanda Marais at SRK Consulting

PO Box 21842, Port Elizabeth, 6000

Email: portelizabeth@srk.co.za

Fax: (041) 509 4850

Table 2: Registered and Identified Interested and Affected Parties

Name & Surname	Organisation	Registered / Notified
Mncedisi Makosonke	Chris Hani Department of Economic Development , Environmental Affairs & Tourism	Registered
Ashley Starkey	Eastern Cape Department of Water Affairs	Registered
Carriot Kameni	Eastern Cape Department of Water Affairs	Registered
Ilse Viljoen	Eastern Cape Department of Water Affairs	Registered
Marisa Bloem	Eastern Cape Department of Water Affairs	Registered
Langa Zita	National Department of Agriculture, Forestry and Fisheries	Registered

Name & Surname	Organisation	Registered / Notified
Glen Thomas	Eastern Cape Department of Agriculture	Registered
Samuel van den Berg	Eastern Cape Department of Mineral Resources	Registered
L Cloete	Eastern Cape Department of Mineral Energy	Notified
Janneke Abels	Shell Exploration and production B.V.	Notified
Phumla Ngesi	Petroleum Agency	Registered
Makagiso Moreeng	Petroleum Agency	Registered
Lennox Zote	Eastern Cape Provincial Heritage Authority	Registered
Mariagrazia Galimberti	South African Heritage Resources Agency	Registered
Mpilo Mbambisa	Chris Hani District Municipality	Registered
Noxolo Nontyi	Inxuba Yethemba Local Municipality	Registered
Mzwandile Tantsi	Inxuba Yethemba Local Municipality	Registered
Erasmus	Inxuba Yethemba Local Municipality	Registered
Derek Seaborne	Telkom	Registered
Johann Coetzee	Telkom	Registered
Leonard Shaw	Telkom	Registered
Anton Rautenbach	Telkom-Eastern Cape	Registered
Henry Dumont	Transnet	Registered
Dawid Theron	Transnet	Registered
Gilbert Notifiedrtier	Transnet Freight Rail	Notified
Richard Frank	Eskom	Registered
Tom Smith	Eskom	Registered
John Webber	Cradock Tourism	Notified
Lesley-AnnMeyer	Mountain Zebra National Park	Registered
Johan Van der Nest	Commando Drift Nature Reserve	Notified
Richard & Marion Holmes	Cat Conservation Trust	Registered
Trompie Vanrensburg	Central Karoo Agricultural Union	Notified
Petrus van Straaten	Fish River Farmers Union	Notified
Bradley Gibbons	African Crane Conservation Programme, Endangered Wildlife Trust	Registered
Fillipus Marais	Surrounding landowner (24/66) and (14/66, 15/66)	Notified
William Walker	Surrounding landowner (12/66) and Trustee of surrounding landowner Burnsides Trust (RE 592)	Notified
Johannes Le Roux	Surrounding landowner (18/66, 25/66, 38/66)	Registered
Hilton Collett Jnr	Trustee of surrounding landowner Retreat Trust (1/16)	Notified
Mr Andre Marais	Solar Facility Landowner (Portion 6 of Farm 66)	Notified
Mr Derek Seaborne	Telkom	Registered
Mr Dawid Theron	Area manager for Transnet Properties (27/66, 28/66, 29/66)	Registered

Table 3: Comments from Interested and Affected Parties in response to the BID

Commentator	Issues raised	Response
Mr Samuel van den Berg (Department of Mineral Resources)	A cursory check of our records did not show any mining or prospecting rights situated on the Dobbin site. For technical co-operation- and other rights and permits involving petroleum, you are advised to consult the Petroleum Agency in Cape Town.	SRK – comment noted. SRK has notified to Shell Exploration Company B.V. No response has been received.
Mr Samuel van den Berg (Department of Mineral Resources)	Please note that an application in terms of section 53 of the Mineral and Petroleum Resources Development Act, 28 of 2002 is required for Ministerial consent where land usage	SRK - Noted

Commentator	Issues raised	Response
Resources)	may be contrary to the objects of the Act. (A solar facility falls within such a usage).	
Mr Johan Coetzee (Telkom Operational Manager)	Requirements to provide services (e.g. Telkom lines) to the development would need to be assessed if the project is approved. If authorisation is granted, specifications to install Telkom infrastructure will be provided and Telkom would need to make provision for lines.	SRK - Noted
Mr Leonard Shaw (Telkom)	The follow comments regarding an exclusion zone of 100m around the Burnside microwave site. We have done an analysis of the proposed energy facility on our networks. Radio link run through the proposed area. It was not stated on the proposal where panels will be located, so it is assumed to be anywhere in the demarcated area. This demarcation was traced by hand from the poor quality print received. If a more accurate assessment is to be done an electronic file of the boundary is required (e.g. SHP or KML files). There must be an exclusion zone around the mast at BSD known as the near field zone. This is for any electromagnetic interfering equipment like solar panels or substations. The size of the zone is determined by the size of the antennas and the frequencies they operate at. Currently the zone is 100m for the existing links. However if other system are to be installed later this zone may need to be increased. Another very small risk arises. If the panel orientation happens to create an incident angle for interfering signals, the facility may reflect sufficient noise to degrade the links performance. This can be calculated if the size and orientation of all panels are known.	SRK – Noted. The co-ordinates of the broader area of the proposed facility have been sent to Telkom. It is anticipated that the actual solar facility footprint may be located approximately 600 m away from the Telkom Burnside Microwave Site.
Mr and Mrs Richard Marion Holmes (Cat Conservation Trust)	Enquired whether the solar facility boundary would be fenced, and if so, would like to know the details of the area to be fenced as well as the height of the fence and what would be done to safeguard animals that venture in the solar facility area and are not able to get out.	SRK – A security fence will be installed around the boundary of the farm. The security fence will be diamond mesh, to a height of 3 m. The design of the fence is aimed at preventing access (including to animals) entering the site, and consequently, trapping of animals within the fenced area is considered unlikely. During the construction, measures to ensure animals aren't trapped will be implemented (fencing & construction activities from one side, providing opportunity for animals to escape).
Mr and Mrs Richard Marion Holmes (Cat Conservation Trust)	Enquired how power generated from the solar facility would be fed into the existing Eskom grid.	SRK – Underground power lines (of a medium voltage) will be installed from inverter substations to a central collector/ step-up substation. The step-up substation will be an outdoor substation with transformers to step up the medium voltage (either 22kV or 33kV) to High Voltage (HV) 132kV. A new 132kV overhead line (less than 1km in length) will be constructed and will run from the step-up substation to the Dobbin Eskom Substation which connects into the Eskom grid.
Mr and Mrs Richard Marion Holmes (Cat Conservation Trust)	Would like to know who would benefit from the additional power generated by the solar facility.	SRK - The solar facility will provide electricity to the existing Eskom grid, thereby improving security of energy supply which would benefit the whole of South Africa. Benefits to the local community include job creation in the construction (300-400 workers) and operation phases (± 45 workers) of the development. Additional local community social benefit schemes (such as Job training and skills programs), linked to the development are also proposed.
Mr and Mrs Richard Marion Holmes (Cat Conservation Trust)	Would like clarity on the location and direction of the overhead power line and enquired whether this would affect the flight path of any birds.	SRK – The location and direction of the proposed overhead power line is not yet known but will be determined in the EIA phase. An Avi-fauna Specialist has been appointed to assess the impact

Commentator	Issues raised	Response
		that the power line may have on birds
Mr and Mrs Richard Marion Holmes (Cat Conservation Trust)	Asked whether Af-Rom Energy is a South African company or a foreign company.	Af-Rom Energy is a registered South African company.
Mr and Mrs Richard Marion Holmes (Cat Conservation Trust)	Would like clarification on the planned time span for the construction of this facility and details of where will these workers will be sourced from.	SRK – These details are provided in the project description.
Mr and Mrs Richard Marion Holmes (Cat Conservation Trust)	Would like to know what the process of decommissioning the solar facility entails.	SRK – Infrastructure and equipment will be disassembled. All used or damaged solar panels will be returned to the manufacturer or recycled. All waste material will be removed entirely from the development area and disposed of at a registered landfill site.
CLlr Noxolo Nontyi (Inxuba Yethemba Local Municipality – Ward 6)	Is concerned about: <ul style="list-style-type: none"> Potential air pollution impacts resulting from the proposed development; Potential water pollution impacts resulting from the proposed development; and Potential impact the proposed solar facility may have on surrounding facility land. 	SRK – Air and water pollution preventative measures as well as measures related to impacts associated with surrounding land will be included in the Draft Environmental Impact Report and Environmental Management Programme.
Mr and Mrs Richard Marion Holmes (Cat Conservation Trust)	Is concerned about the presence of rare or endangered endemic species on the proposed site and would like to know whether any survey of such species has been done.	SRK – The potential impact that the development may have on ecology of the study area, including the potential impact on rare, endangered or endemic plant species will be determined in the EIA phase. An Ecological Specialist Assessment was undertaken to assist with the assessment of potential ecological impacts.
Mr and Mrs Richard Marion Holmes (Cat Conservation Trust)	Would like to know whether methods employed to keep the area clean of vegetation after completion would have an impact on any species (i.e. flora and fauna) or underground water systems.	SRK – Mitigation measures to prevent contamination of underground water and destruction of flora and fauna species will be determined in the EIA phase.
Makagiso Moreeng (Petroleum Agency)	The proposed solar facility is situated inside an area allocated to Shell Exploration Company B.V (12-3-221) Exploration Right Application.	SRK – comment noted. SRK has notified to Shell Exploration Company B.V. No response has been received.
Mr and Mrs Richard Marion Holmes (Cat Conservation Trust)	What chemicals will be used during the washing of the solar panels and how will this water be disposed of?	SRK – It is proposed that panels will be washed with water, including small amount of biodegradable detergent. The process is much like cleaning a window with a sponge. The balance of the water (after evaporation) will fall to the ground.
Mr and Mrs Richard Marion Holmes (Cat Conservation Trust)	It is mentioned that the water from the local aquifer will be used. Given that most of the water in this area have high levels of limestone and high EC, will this water be suitable for washing the solar panels without leaving residues or damaging them?	SRK – The quality of water from the local aquifer will be assessed by the hydro-geologist specialist in the EIA phase.
Marisa Bloem (Department of Water Affairs)	DWA expressed concern regarding the proximity of the solar facility watercourses on site and the impact on wetlands and other watercourses due to infrastructure (e.g. trenches carrying voltage cables) crossing these features. The Department advised that water use authorisation in terms of Section 21 (c) & (i) of the National Water Act (No. 36 of 1998) will be required if development occurs within the extent of any water courses. The Department requested the following additional information: <ul style="list-style-type: none"> A wetland delineation and technical report reflecting wetland studies (Present Ecological State, Ecological Importance & Sensitivity Risk Assessment, Method Statement, Impact Assessment and Wetland Eco-services); Description of the affected watercourses as well as 	SRK – Noted

Commentator	Issues raised	Response
	<p>assessment of the potential impacts of the proposed development and mitigation measures thereof; and</p> <ul style="list-style-type: none"> A layout plan indicating the location of the projects activities in relation to the 1:100 year floodline of affected watercourses, wetlands and 500 m radius mapped around wetlands. 	
Marisa Bloem (Department of Water Affairs)	Septic tanks have a significant impact on the quality of groundwater and they should therefore be assessed and investigated as part of the EIA process.	SRK – SRK will assess the impact of septic tanks on ground water in the EIA phase.

Table 4: Comments from Interested and Affected Parties in response to the DSR

Commentator	Comment / Issue Raised	Response
Petrus van Straaten (Chairman of the Fish River Farmers Association)	The members of the Fish River Farmers Association are 100% in favour of the project and would like to recommend the implementation and completion of it as soon as possible.	SRK – Comment noted
Bradley Gibbons	Is concerned about the impacts that the proposed power line (from the site to the substation) may have on cranes and recommended that the power line be marked with bird flight diverters or flappers.	SRK – Comment noted. The potential impacts that the power line may have on birds will be assessed in the EIA phase. An Avi-fauna Specialist Assessment was furthermore undertaken to assist with the assessment of potential avi-fauna impacts.

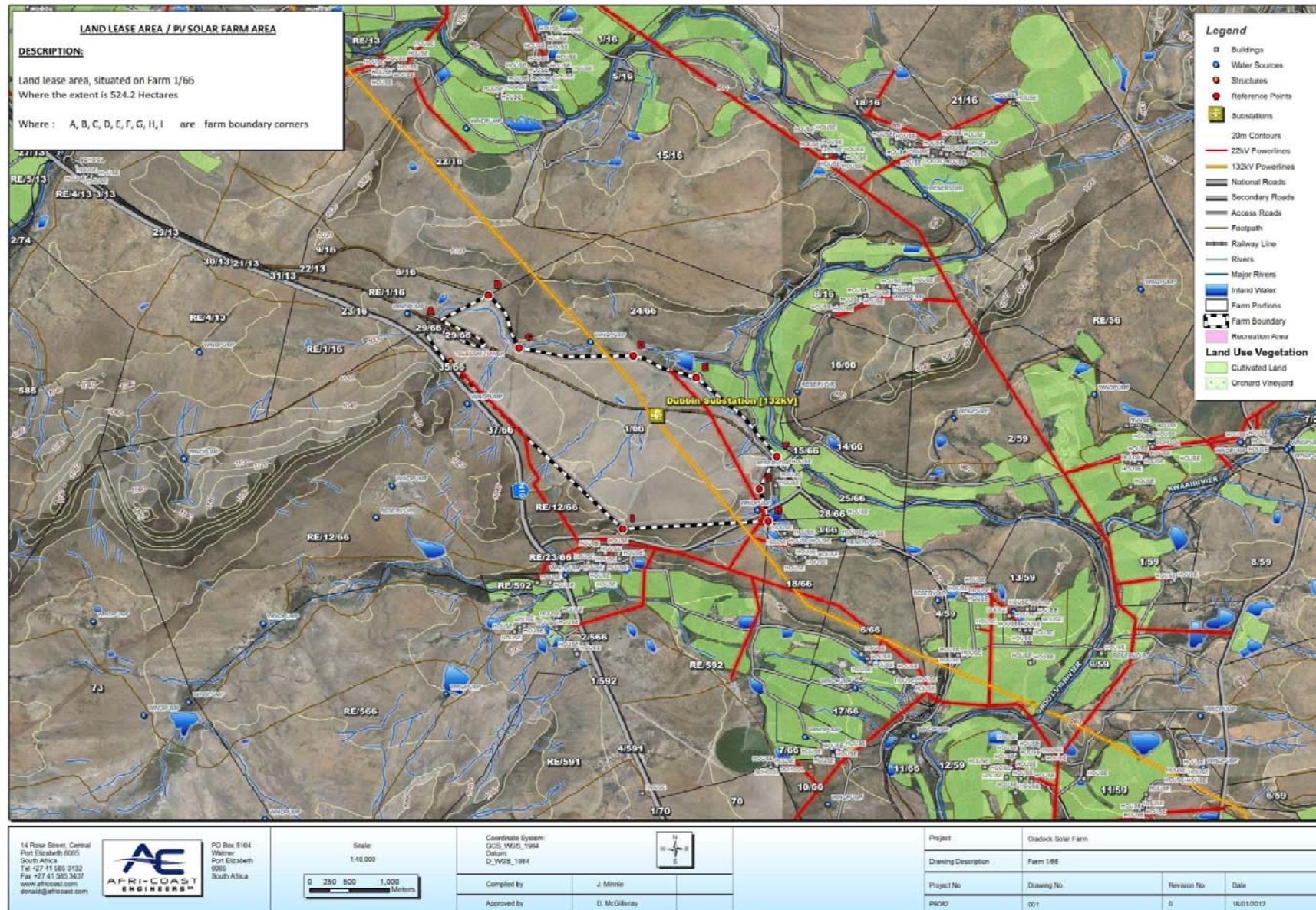


Figure 2: Site Locality map