Social Impact Assessment for the Proposed Blanco-Droërivier 400kV Transmission Line

Report Prepared for Eskom

Report Prepared by Amina Ismail
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Disclaimer

This project information in this report is based on information supplied by Eskom and Envirolution, during the time that the social baseline was being prepared. The baseline was prepared using social information obtainable within the time frame of preparing this report.

List of Abbreviations

Afrik	Afrikaans
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
Eng	English
IDP	Integrated Development Plan
IRPA	International Radiation Protection Association
I&AP	Interested and Affected Party
KPI	Key Performance Indicators
kV/m	Kilo Volts per metre
LM	Local Municipality
LV	Low Voltage
m	Metre
mT	Millitesla
MV	Medium Voltage
NEMA	National Environmental Management Act
NPC	National Planning Commission
PGDS	Provincial Growth and Development Strategy
PM	Particulate Matter
SIA	Social Impact Assessment
SIP	Strategic Integrated Projects
Tesla	Tesla
TSA	Technical Service Area
WHO	World Health Organisation
µm	Micrometres
µT	Microtesla

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1 Details of Social Impact Assessment (SIA) Specialist

1.1 Contact details of SIA Specialist

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1.2 Expertise of Specialist to Compile SIA

Amina Ismail has 20 years of experience working in sustainable development, including 11 years as a senior consultant to government, industry and non-government organisations, and 7 years as a government official in environment and development functions.

She has a Masters degree in Management from the University of the Witwatersrand. Her degree focused on management in the Public and Development sectors. She also has an Honours degree in Medical Sciences from the University of Durban-Westville (now University of Kwa-Zulu Natal) and a Postgraduate Diploma in Science (in Environmental Studies) from the University of the Witwatersrand. In 1997- 1998 she focused a one year Fellowship at Harvard University, United States, on Sustainable Development and Public Policy, and Health Research and Policy. She has also completed numerous short courses including in State of the Environment Reporting, Sustainable Environmental Impact Assessment for Local Urban Authorities, Logical Framework Approach to Project Preparation. She has a Certificate of Competence in Results-Based Monitoring and Evaluation in the Public and Development Sectors, from the World Bank Regional Center for Learning on Evaluation and Results (CLEAR) at the University of the Witwatersrand.

She has worked on Environmental Impact Assessments (EIAs) and has prepared at least 12 Social Impact Assessments (SIAs), including management measures for mining and infrastructure development projects. She has led and participated in many environment and development projects of national strategic importance. She was South African Country Manager of the United Kingdom funded “Partners for Water and Sanitation”, building water and sanitation technical and management capacity in national, provincial and local spheres of government. She was lead researcher for a discussion paper identifying good municipal practices for sustainable energy and water conservation nationally. She led and managed a national survey to identify municipal good practices in labour intensive waste management for addressing the national goals of poverty alleviation, job creation and good environmental management. She has co-authored a number of published papers and presentations, and a book chapter, covering various aspects of social and sustainable development.

Her *curriculum vitae is* attached as Appendix A.

1.3 Declaration of Independence

The declaration form as required by the Competent Authority has been signed by the SIA specialist and submitted to Envirolution, for submission to the Department of Environmental Affairs (DEA). Please refer to Appendix B of this report for a signed declaration form.

2 Background and Scope of Report

Eskom is planning to build a 250 km 400kv transmission line from Gourikwa power station in Mossel Bay, to the Blanco substation in George. A further 60km 400kv power line is proposed from the Blanco substation to the Droërivier substation in Beaufort West. The power station and both substations will be upgraded. This report is concerned with the power infrastructure from the Blanco substation to the Droërivier substation. The proposed power line and its alternatives are planned to pass through the Western Cape local municipalities of George, Beaufort- West, Prince Albert and Oudtshoorn. An alternative alignment may pass through the Baviaans Local Municipality in the Eastern Cape.

The National Environmental Management Act (NEMA) (Act 107 of 1998) and the EIA Regulations (2014) require Environmental Impact Assessments (EIAs) to be undertaken, to enable the competent authorities to consider authorisation for the developments to take place. Envirolution has been appointed as the independent Environmental Assessment Practitioner (EAP) to undertake the compilation and submission of an EIA and Environmental Management Plan (EMP) for the planned development, to the Department of Environmental Affairs (DEA). Envirolution is also facilitating the public participation as part of the EIA process.

A number of specialist assessments are being undertaken as part of the EIA and EMP. The Social Impact Assessment (SIA) is one specialist study. The purpose of the SIA is to determine what social impacts the project will potentially have on the social environment, and recommend management measures to enhance potential positive impacts and mitigate potential negative impacts.

The purpose of the Scoping Report of the SIA is aligned with the purpose of the Scoping Report for the EIA. The purpose is to determine the main issues and potential impacts of the proposed project during the scoping phase at a desktop level based on existing information as follows:

- Identify potential sensitive environments and receptors that may be impacted on by the proposed facility and the types of impacts (i.e. direct, indirect and cumulative) that are most likely to occur.
- Determine the nature and extent of potential impacts during the construction and operational phases.
- Identify ‘No-Go’ areas, where applicable.
- Summarise the potential impacts that will be considered further in the EIA Phase through specialist assessments.

The scope of the Scoping Report is guided by the Terms of Reference received from Envirolution (Appendix C) and Appendix 6 of the EIA Regulations describing the requirements of Specialists Reports.

Envirolution’s Terms of Reference requires that the Scoping Report include:

- a description of the environment that may be affected by the activity and the manner in which the environment may be affected by the proposed project
- a description and evaluation of environmental issues and potential impacts (including direct, indirect, cumulative impacts and residual risks) that have been identified

- Direct, indirect, cumulative impacts and residual risks of the identified issues must be evaluated within the Scoping Report in terms of the following criteria:
    - the nature, which shall include a description of what causes the effect, what will be affected and how it will be affected, for each impact anticipated; and
    - the extent, wherein it will be indicated whether the impact will be local (limited to the immediate area or site of development), regional, national or international.
- a statement regarding the potential significance of the identified issues based on the evaluation of the issues/impacts
- a comparative evaluation of the identified feasible alternatives, and nomination of a preferred alternative for consideration in the EIA phase
- Identification of potentially significant impacts to be assessed within the EIA phase and details of the methodology to be adopted in assessing these impacts. This should be detailed enough to include within the Plan of Study for EIA and must include a description of the proposed method of assessing the potential environmental impacts associated with the project. This must also include any gaps in knowledge at this point of the study and further recommendations for the EIA Phase. Consideration of areas that would constitute “acceptable and defendable loss” should be included in this discussion.

3 Description of the SIA methodology

3.1 Objectives

The objectives of the social assessment report are:

- To provide the legal framework for assessing the social impact of the planned project;
- To present the social baseline against which the potential social impacts of the project will be assessed;
- To identify and assess potential social impacts associated with the planned project; and
- To prepare management measures for enhancing potential positive social impacts and mitigating potential negative social impacts associated with the project.

3.2 Approach

The SIA is being undertaken by:

- Using desktop sources including Census 2011 to describe the social *status quo* of the potentially impacted communities.
- Using information from the project description and *status quo* baseline to identify potential social impacts during construction and operations of the project. Measures will also identified for promoting potential positive impacts and avoiding or mitigating possible negative impacts assessed to be significant.
- Comments received from public participation are being integrated into the *status quo* and impact assessment, as relevant.
- Site visits will also be undertaken to ascertain possible impacts to the potentially impacted communities. Farms and tourist locations will be visited. The dates of

For the purposes of this study, a primary impacted area refers to the areas directly occupied by the project physical infrastructure. This includes the 55 metre Eskom servitude required for the project. The secondary impacted areas are those not physically impacted on, but influenced through social activities of the proposed development. Construction activities, for example, will endeavour to employ workers from the local communities. Secondary impacted areas will then include but will not be limited to geographical areas adjacent to the proposed project site and its associated infrastructure. The social study adopts the continuous boundary as delineated by George, Oudtshoorn, Prince Albert, Beaufort West and Baviaans Local Municipalities (LMs) as the outer limit of the secondary area. Where there is significant impact on communities beyond this delineation, the status and impact of these geographical areas have been included in the impact assessment.

3.2.1 Social Baseline

A desktop social baseline of the zones of influence was prepared for the project using the Census 2011 data. The Integrated Development Plans (IDPs) of the five local municipalities provided additional information for building the social profile for the affected municipal areas.

3.2.2 Impact Evaluation

Activities within the framework of the proposed development and their respective construction and operational phases, give rise to certain impacts. For the purpose of assessing these

impacts, the project has been divided into these two phases from which potential impacts can be identified, namely:

a) Construction phase

All the construction and construction related activities on site, until the contractor leaves the site.

b) Operational phase

All activities, including the operation and maintenance of the proposed development are included in this phase.

3.2.3 Impact Tables in the Scoping Phase

Envirolution's Terms of Reference requires that impact tables for the Scoping Report be prepared as illustrated in the example below.

Table Number: Table Heading

Impacts

[Description of the expected impacts. Areas anticipated to be affected.]

Desktop Sensitivity Analysis of the Site:

Sensitivity analysis in terms of the impacts expected. Discuss areas of high concern. Recommend areas for development. Discuss any "acceptable loss" areas/impacts.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
i.e. Disturbance to and loss of indigenous natural vegetation	Discussion of the consequences of the construction of the facility to the issue/impact considered in column 1.	i.e. Local/Regional/ National	No-Go areas would include the larger drainage lines, and …..etc.

Gaps in knowledge & recommendations for further study

Outline areas of limitations in the study. Any areas that require further study.

Plan of Study for the EIA Phase

Identification of potentially significant impacts **to be assessed** within the EIA phase and details of the methodology to be adopted in assessing these impacts. This should be detailed enough to include within the **Plan of Study for EIA** and must include a **description of the proposed method** of assessing the potential environmental impacts associated with the project.

Detailed description of what is planned to be undertaken during the EIA including but not limited to:

- Methodology
- Field studies planned

3.2.4 Methodology for the assessment of impacts in the EIA Phase

Direct, indirect and cumulative impacts of the issues identified through the scoping study, as well as all other issues identified in the EIA phase are required to be assessed in terms of the following criteria:

- The nature, which shall include a description of what causes the effect, what will be affected and how it will be affected.
- The extent, wherein it will be indicated whether the impact will be local (limited to the immediate area or site of development) or regional, and a value between 1 and 5 will be assigned as appropriate (with 1 being low and 5 being high):
- The duration, wherein it will be indicated whether:

- the lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
- the lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
- medium-term (5–15 years) – assigned a score of 3;
- long term (> 15 years) - assigned a score of 4; or
- permanent - assigned a score of 5;

- The consequences (magnitude), quantified on a scale from 0-10, where 0 is small and will have no effect on the environment, 2 is minor and will not result in an impact on processes, 4 is low and will cause a slight impact on processes, 6 is moderate and will result in processes continuing but in a modified way, 8 is high (processes are altered to the extent that they temporarily cease), and 10 is very high and results in complete destruction of patterns and permanent cessation of processes.
- The probability of occurrence, which shall describe the likelihood of the impact actually occurring. Probability will be estimated on a scale of 1–5, where 1 is very improbable (probably will not happen), 2 is improbable (some possibility, but low likelihood), 3 is probable (distinct possibility), 4 is highly probable (most likely) and 5 is definite (impact will occur regardless of any prevention measures).
- the significance, which shall be determined through a synthesis of the characteristics described above and can be assessed as low, medium or high; and
- the status, which will be described as either positive, negative or neutral.
- the degree to which the impact can be reversed.
- the degree to which the impact may cause irreplaceable loss of resources.
- the degree to which the impact can be mitigated.

The **significance** is calculated by combining the criteria in the following formula:

S= (E+D+M)P

S = Significance weighting

E = Extent

D = Duration

M = Magnitude

P = Probability

The **significance weightings** for each potential impact are as follows:

- < 30 points: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),

- 30-60 points: Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- > 60 points: High (i.e. where the impact must have an influence on the decision process to develop in the area).

Assessment of impacts is to be summarised in the following table format. The rating values as per the above criteria will also be included. A table will be completed and associated ratings for **each** impact identified during the assessment.

Impact Tables for EIA Report

Table Number: Table Heading

Nature: [Outline and describe fully the impact anticipated as per the assessment undertaken]		
	Without mitigation	**With mitigation**
CONSTRUCTION PHASE		
Probability	Definite (5)	Highly probable (4)
Duration	Medium-term (3)	Medium-term (3)
Extent	Limited to Local Area (2)	Limited to Local Area (2)
Magnitude	High (8)	Moderate (6)
Significance	**65 (high)**	**44 (moderate)**
Status (positive or negative)	Negative	Negative
OPERATIONAL PHASE		
Probability	Highly probable (4)	Probable (30)
Duration	Permanent (5)	Permanent (5)
Extent	Limited to Local Area (2)	Limited to the Site (1)
Magnitude	High (8)	Low (4)
Significance	**60 (high)**	**30 (moderate)**
Status (positive or negative)	Negative	Negative

Reversibility	Low	Moderate
Irreplaceable loss of resources?	Moderate	Low
Can impacts be mitigated?	Yes/No	

Mitigation:

"Mitigation", means to anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible.

- Provide a description of how these mitigation measures will be undertaken keeping the above definition in mind.

Cumulative impacts: "Cumulative Impact", in relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to existing and reasonably foreseeable impacts eventuating from similar or diverse activities[1].

Residual Risks: "Residual Risk", means the risk that will remain after all the recommended measures have been undertaken to mitigate the impact associated with the activity (Green Leaves III, 2014).

It must be noted that the methodology used for assessing environmental impacts will be applied for assessing the social impacts. Environmental impacts are by and large characterised as negative and the methodology has been designed to assess negative impacts. Social impacts can be either negative or positive. Where there needs to be some modification of the methodology to assess a particular social aspect more appropriately, this adjustment will be detailed and discussed with the EIA project manager before being adopted for the assessment of the positive impact.

3.2.5 Environmental Management Plan Table format

Measures for inclusion in the draft Environmental Management Programme must be laid out as detailed below:

OBJECTIVE: Description of the objective, which is necessary in order to meet the overall goals; these take into account the findings of the environmental impact assessment specialist studies.

Project component/s	List of project components affecting the objective
Potential Impact	Brief description of potential environmental impact if objective is not met

[1] Unless otherwise stated, all definitions are from the 2014 EIA Regulations, GNR 982

Activity/risk source	Description of activities which could impact on achieving objective		
Mitigation: Target/Objective	Description of the target; include quantitative measures and/or dates of completion		
Mitigation: Action/control		**Responsibility**	**Timeframe**
List specific action(s) required to meet the mitigation target/objective described above		Who is responsible for the measures	Time periods for implementation of measures
Performance Indicator	Description of key indicator(s) that track progress/indicate the effectiveness of the management plan.		
Monitoring	Mechanisms for monitoring compliance; the key monitoring actions required to check whether the objectives are being achieved, taking into consideration responsibility, frequency, methods and reporting		

3.2.6 Methodology used in assessing alternatives

The specialist understands that the line alignment alternatives were determined by Eskom using its criteria. The alternatives, however, will be subjected to assessment of their relative impacts through the specialist studies and the EIA process.

Alternatives will be assessed according to the impact of the specific alignment on the surrounding environment. Since the impacts of all alignments will be the same in generic surroundings, the environment on which these will impact will be the variable which will govern the decision of a recommended alignment, that is, the sensitive areas through which each route alignment passes.

3.2.7 Site investigations

As the length of the development is extensive, site investigations will be guided by consulting with the public participation specialist and comments received through the public participation. These two sources of information will guide the specialist to identify sensitive sites on the alignment that will require further examination for on-site assessment.

Further, many of the impacts are related to farming and tourism activities. Crop production and the tourism industry typically experience greater activity during the warmer months. Site investigations, however, are expected to be conducted in April/ May 2016, so that additional information is obtained for integration timeously into the EIA.

3.3 Overall Limitations and Assumptions of the SIA study

A number of limitations and assumptions are noted for this social study. Some information that was requested from the client was not available at the time of the study, and assumptions had to be made.

The assumptions and limitations for this SIA are:

- A desktop assessment of the sensitive receptors on the route will be undertaken by examining the Transmission line mapped onto Google Earth. Findings will be verified by consulting the public participation specialist who visited the properties affected. Selected site visits will also be conducted to verify desktop findings.
- The generic Eskom policy for employment that the SIA specialist and Envirolution were familiar with was used to determine the approach that Eskom will adopt when employing local and other workers. It was assumed that Eskom will encourage its contractor/s working on the project to employ local labour as far as possible.
- Similarly, generic knowledge about Eskom procurement policies obtained from experience with similar Eskom projects was used. It is assumed goods and services will be procured locally by Eskom, that is, within the five local municipalities, as far as possible.
- The length of the development is extensive and conditions on every property cannot be examined during on-site investigations. Site investigations will therefore be guided by consulting with the public participation specialist who had visited the properties to inform landowners of the proposed development, as well as comments received through the public participation. A Google Earth survey will also be used to guide the identification of sites for further investigation.
- Many of the impacts are related to farming and tourism activities. Crop production and the tourism industry typically experience greater activity during the warmer months. Site investigations, however, are expected to be conducted in April/ May 2016, so that additional information is obtained timeously for integration into the EIA.
- Maps of social sensitivities, including areas to be avoided such as buffers, cannot be generated unless site investigations are conducted to confirm the existence and position of socially sensitive infrastructure and activities. Maps therefore could not be generated in the Scoping Report from the available desktop information.
- There was insufficient qualitative on-site data to assess the alternatives to determine a preferred alignment at this stage in the SIA.
- Social and economic impacts are linked. There are therefore areas of overlaps between the two specialist reports. In order to minimise duplication, the social specialist will consult with socio-economic specialist to come to an agreement on how each specialist will deal with impacts such as loss of livelihoods that are of have both social and economic consequences.

4 Governance Framework for Social Impact Assessment of the Proposed Electricity Transmission Project

This section discusses the legal and policy framework relevant for preparing the SIA for the proposed electricity transmission project.

4.1 Legislative Framework for Social Impact Assessment

The social impact assessment will be prepared taking into consideration environmental rights in South Africa's Bill of Rights, as well the requirements as set out in the National Environmental Management Act.

4.1.1 The Constitution of South Africa (Act 108 of 1996)

Section 24 of the Constitution of South Africa (Act 108 of 1996) (the Constitution) in its Bill of Rights confers environmental rights to people in South Africa, that is:

a) to an environment that is not harmful to their health or well-being; and

b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-

i. prevent pollution and ecological degradation;

ii. promote conservation; and

iii. *secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.*

4.1.2 The National Environmental Management Act (No. 107 of 1998)

Before the proposed project goes ahead, authorisation needs to be obtained in terms of the National Environmental Management Act (No. 107 of 1998) (NEMA). The proposed development triggers an Environmental Impact Assessment under the NEMA Environmental Impact Assessment (EIA) Regulations, 2014.

The NEMA requires that sustainable development serve as the general framework for environmental management and implementation plans to be formulated. "Sustainable development" is defined in the act as "*the integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations*". It requires that Environmental Impact Assessment consider, assess and evaluate the social, economic and environmental impacts of activities, for consideration by the decision-making authority.

The social baseline and impact assessment is part of the EIA compiled for applying for environmental authorisation. The SIA will be prepared in compliance with the requirements in NEMA and the Environmental Impact Assessment Regulations, 2014.

4.2 National Plan for Delivery of Electricity

The National Development Plan 2030 (NDP 2030) recognises that South Africa needs to strengthen its economic infrastructure for providing basic services such as electricity, and meeting industrial, commercial and household needs (National Planning Commission, 2015). This objective will be measured through the **Presidential Outcomes Based Monitoring and Evaluation System (OBM&E)** (The Presidency, 2015). Outcome 6 is to deliver an *"efficient,*

competitive and responsive economic infrastructure network", which will be achieved through **Strategic Integrated Projects (SIPs)**.

The SIP 9 is to generate electricity to support socioeconomic development, and SIP 10 will provide electricity transmission and distribution for all. Strategic Integrated Projects 9 and 10 will be attained by expanding the transmission and distribution network in order to provide access to electricity for all and to support economic development.

Eskom, as the public enterprise responsible for generating electricity has, since 2005, also embarked on a **New Build Programme** to expand its generation and transmission capacity. The Blanco-Droërivier 400kV Transmission Line has been designed to secure increased capacity from the Gourikwa power station, and to expand the electricity transmission in the Western Cape region. This project is therefore aligned with the NDP's 2030 vision for South Africa.

5 Project description

The ability to meet demand in the Western Cape is strongly influenced by the availability of the Transmission network and the status of generation at Koeberg Nuclear Power Station (KNPS). A healthy Transmission system and local generation capacity in the Western Cape ensures that the regional demand is met, especially and most importantly during a unit outage at KNPS. As the base load reserve drops or local network conditions deteriorate, the need to use local gas generation increases. Careful management of local Western Cape generation is very important to limit the risk of supply interruptions and the use of gas generation (at Ankerlig, Gourikwa, Acacia and Port Rex power stations) during this period. The gas turbines are utilised in generating mode when the national grid experiences a shortage of generation capacity.

Eskom is planning to increase the power output at the existing Gourikwa Power Station generating facility at Mossel Bay in the Western Cape. This will increase the output at Gourikwa by 375 MW, increasing the total output at the power station to an expected 1125 MW by 2018. An increase in power output will require strengthening of the existing Transmission network, in order to evacuate the additional power generated.

Various combinations of 400 kV and 765 kV Transmission lines were assessed for the loading scenarios at Gourika. Results showed that loading will result in islanding of the Gourikwa power station in one scenario, and the islanding of the power station together with the Blanco and Proteus Transmission Substations in the second scenario. This means that if the project does not go ahead, then increased power generation at Gourikwa will overload the grid and cut off power supply from the power station. Therefore, in order to ensure that Gourikwa is Grid Code compliant, a third line needs to be built out of the facility. Three options for the line were considered.

When all three options were technically evaluated, the line into Droërivier Substation via Blanco Substation was preferred based on the natural path for the power to flow. This can be attributed to the future generation in the Cape Peninsula and surrounding area. This option is also in alignment with the proposed second Droërivier – Proteus 400 kV line as per the Technical Development Plan. For the Gourikwa-Blanco option, a 400 kV Transmission line from Gourikwa to Blanco (which is the next closest load centre) will have to be established, and a second 400 kV line from Blanco to Droërivier will also have to be put in place. Also, the series capacitor between Blanco and Droërivier will have to be bypassed.

Servitudes for the Transmission lines will need to be acquired. The EIA is being undertaken to assess the impact of the introduction of the Transmission lines between George and Beaufort-West. Figure 1 illustrates two options for the Transmission line route between George and Beaufort-West. Impacts associated with the physical infrastructure of the power line and its 55m servitude (27.5m on either side of the centre of the line) will be assessed for the study. In addition, impacts associated with a distance of 1 km alongside each side of the line will also be assessed.

If the project is authorised and routes secured, it is expected that the construction phase of the project will over a period of up to 2 years, subject to confirmation by Eskom. The lines are expected to operate over a period of 40 to 50 years.

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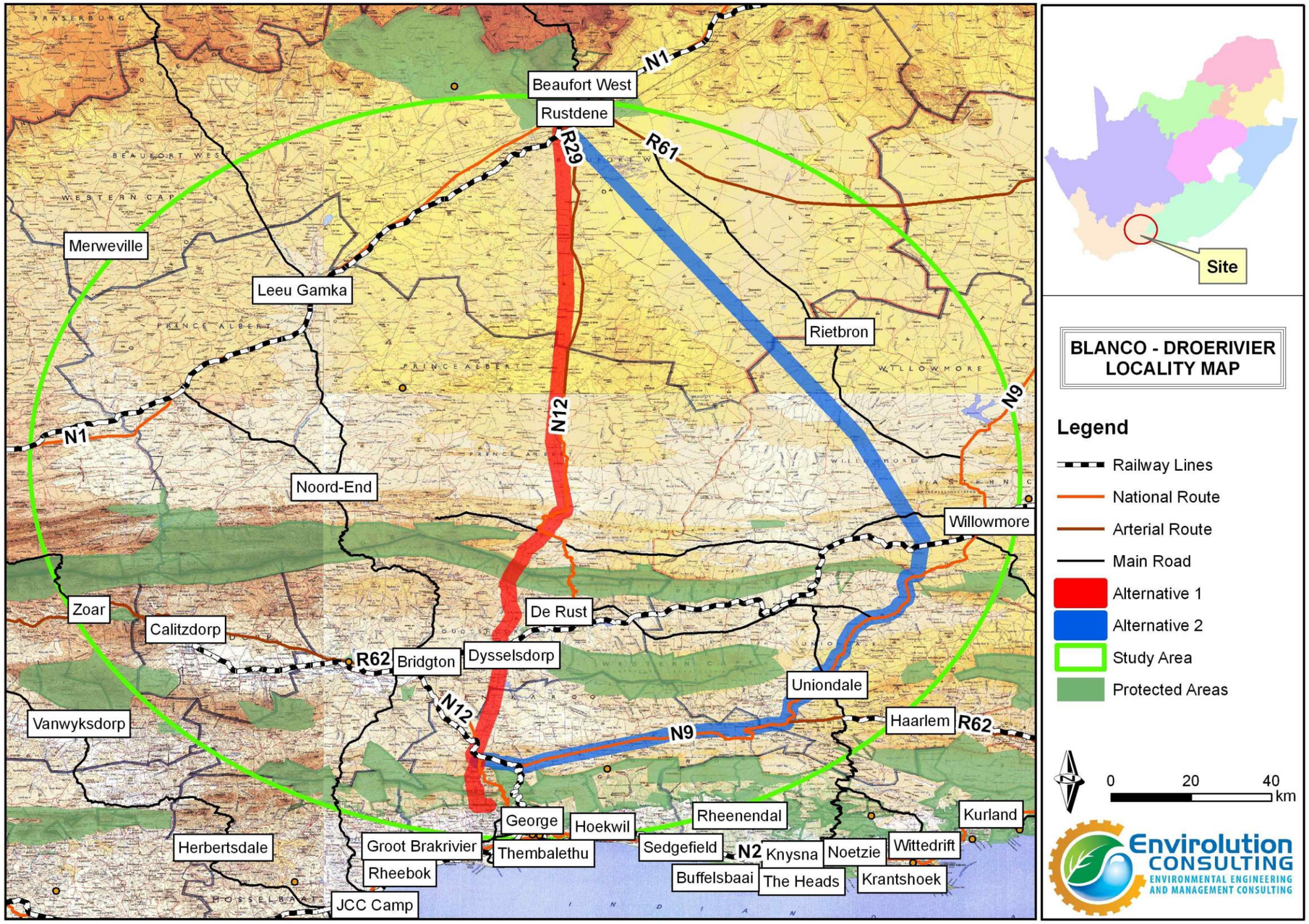

Figure 1: Two alternative routes for the Transmission line from Blanco Substation in George to the Droërivier Substation in Beaufort-West

6 Social aspects of the proposed energy project

Social aspects of the project are discussed in this section to understand the potential social benefits and disadvantages associated with the proposed project. A project of this nature is associated with an improved power supply, work and procurement opportunities, physical and economic displacement, and community health and safety issues. Power supply can improve safety in some ways, and introduce safety hazards in other ways. These social aspects are discussed as they pertain to the Blanco-Droërivier power upgrading development.

6.1 Improved Power Supply

The largest potential benefit will accrue to residential and business communities that will secure improved services from the infrastructure development. Upgrading the power infrastructure will improve the reliability of power supply to residential homes in the municipalities. Residents will be able to continue domestic activities reliant on energy for cooking, lighting and heating. Residents and businesses will also benefit where electricity supply is strengthened to social and economic infrastructure, such as schools, clinics and businesses in these areas.

An improved power supply is therefore essential to meet current and future needs in this part of the country. The introduction of the additional Transmission lines will prevent overloading of the current infrastructure from the increased output at the Gourikwa power station. It will also essentially facilitate an improved transmission of power in the Western Cape.

6.2 Work Opportunities and Procurement

The Eskom contract will be advertised as an open tender. Further, in line with Eskom policy contractors will be encouraged to employ local people on the project. Eskom procurement policy also requires that goods and services be sourced locally where possible. The municipalities' residents and businesses therefore can potentially benefit from work opportunities and expenditure related to the project. However, contractors appointed by Eskom may not necessarily come from these areas. Also, contractors usually have skilled personnel to work on the project. It is possible that where labour may be sourced from local communities, it will be to perform unskilled work such as land clearing and erecting of fences.

6.3 Workers' Accommodation

The entire construction workforce for the Eskom project is likely to be accommodated at various 'construction camps' that will be situated at various points along the route. The location is selected by the contractor who will take into account aspects as such access to the construction site, access to services and access to materials. The contractor will enter into an agreement with a landowner for the establishment of the construction camp.

The various teams will travel from the camp to the construction site each day. The site moves continuously with the progression of the line, so the teams will probably travel a different distance to the site each time. At any one time some or all of the different

teams may be working at different points along the line. There may be days of no activity in the process. There are some 35 active days of construction at any point, though this may take place over a period of two years.

As a rule of thumb, there is usually one construction camp per 100km of transmission line. It is therefore anticipated that there will be two or three construction camps along the route. Accommodation is for singles only.

6.4 Physical and Economic displacement

Land may have to be secured for the proposed power infrastructure footprint, which includes its servitude. Where the proposed route is currently occupied by social or economic infrastructure, a process of negotiation will be initiated by Eskom, to facilitate agreement between the current owner and/ or occupant, and Eskom. Where the land that is required for the Eskom infrastructure and servitude is currently being used for economic activities, a process of negotiation will also be initiated, with a view to reaching agreement between the parties.

Negotiations are typically undertaken after the environmental authorisation of the EIA is obtained. The EIA process will include a record of concerns, including objections, from Interested and Affected Parties. The securing the servitude or title of the portions of land required for the proposed project will be undertaken with the following activities:

- The legal boundaries are identified for each property affected by the project;
- The legal ownership of each property is identified;
- An independent property evaluator is appointed; and
- Negotiations are conducted by Transmission negotiators with each legal landowner, statutory bodies and mineral right holders.

Where land and rights to it are successfully acquired for the power infrastructure, these are registered as Eskom servitudes in the Deeds Office. Topographical surveys are then undertaken, and a procurement process is followed to identify a suitable construction contractor. Following the establishment of the power infrastructure, the affected properties damaged during construction are rehabilitated to their original status. Farming activities such as crop production and cattle grazing are allowed in the area of the servitude, and will therefore resume following construction.

6.5 Community Safety and Health

A number of community safety and health aspects have been identified and are discussed here. Safety and security, respiratory health, electrical hazards, electric and magnetic fields, and HIV/AIDS are potential safety and health issues considered in the SIA study.

6.5.1 Safety and Security

Improving energy reliability will increase its reliability for street, residential, business and institutional lighting. This will lead to safer streets and internal environments for residents, businesses and government institutions.

6.5.2 Respiratory Health

Communities that use electricity will be less reliant on unhealthy sources of fuel such as coal and wood in indoor household environments (DEAT, 2006). Particulate matter (PM), for instance, is a pollutant emitted from burning fossil fuels. It consists of a mixture of chemicals such as sulfates, nitrates, ammonium, other inorganic ions such as ions of sodium, potassium, calcium, magnesium and chloride, organic and elemental carbon, crustal material, particle-bound water, and metals particles (WHO, 2013).

Particulates with a diameter of less than 10 micrometres (µm) are referred to as PM10 and particles with a diameter of less than 2.5 µm are referred to as PM2.5. Both particles can be inhaled and can enter the lung bronchi. Short term exposure to PM10 has been associated with an increase in morbidity (illness) such as aggravation of asthma and respiratory distress. Mortality (death) related to respiratory and cardiovascular conditions have been associated with long term exposure to PM2.5. Children, the elderly and people with lung or heart disease are particularly vulnerable to the effects of PMs. Households with improved access to electricity as opposed to fossil fuels will therefore benefit from better health.

6.5.3 Electrical hazards

Cable and electricity theft, and vandalism of power infrastructure is a concern in South Africa. Apart from costing the Eskom several millions of Rands of loss every year, these activities also bear serious risks for the perpetrators. They are often hazardous and can be fatal (Kwevoel, 2015). Eskom has a toll free number to report theft and vandalism anonymously (Eskom 2015b).

6.5.4 Electric and magnetic fields

Another potential social concern is the health impacts from electric and magnetic fields. Electric fields are generated by electric charges, and measured in volts per metre (V/m). Magnetic fields arise from the movement of electric charges in a current. Magnetic fields are measured in tesla (T), or millitesla (mT), or microtesla (µT). Electric fields are shielded by common materials, such as wood and metal, whilst magnetic fields are not. Both fields are strongest at the source and reduce with distance away from the source (WHO, 2015).

According to Eskom (Eskom, 2015a), the electric field at the boundary of the servitude for its highest voltage transmission line (of 765 kV) is 3kV/m, which is lower than the maximum limit of 5kV/m continuous general public exposure recommended by the International Radiation Protection Association (IRPA) of the World Health Organisation (WHO). The 400kV power line in this project therefore is not expected to cause any health effects where communities are located at the boundary or outside the Eskom servitude.

In 2005, a World Health Organisation (WHO) Task Group of scientific experts concluded that magnetic fields were "possibly carcinogenic to humans" (WHO, 2015). This classification was based on epidemiological studies showing a doubled increase in childhood leukaemia where residents were exposed to magnetic fields greater than 0.3 to 0.4 µT. However, the WHO recognised that the epidemiological study lacked methodological soundness and the evidence could not be accepted. The IRPA concluded that there was no evidence for adverse effects of exposure to magnetic

fields up to 8 T. It advised that there was limited information in this range on minor effects like hand-eye coordination and visual contrast. Eskom (Eskom, 2015a) measured a magnetic field of 3μT at the end of the servitude of its highest voltage line of 765 kV. It also found that magnetic field levels at the perimeter of various substations were less than 1 T. From the information obtained from the IRPA and Eskom there is insufficient evidence that electric or magnetic fields are detrimental to communities living outside the servitudes of the 400kV Transmission lines.

6.5.5 HIV/AIDS

Another potential health issue is the spread of HIV/AIDS. Contractors spending long periods away from home in single accommodation camps may have temporary sexual relations with local people. It is also possible that prostitutes may see an opportunity and move into the project area. Unprotected sex with multiple partners increases the risk for contracting HIV/AIDS.

6.6 Influx of work seekers

Unemployed people may be attracted to areas where there is development of new infrastructure, in the hope of finding work. However, as the work on the power lines will be constantly moving, it is not expected that work seekers moving into the area will be able to establish informal settlements for long. It is expected that it will be difficult for job seekers to consistently invest time and resources over a period of many months if they follow the path of the construction work and the worker camp.

6.7 Social issues identified during the public participation process

The public participation process for the EIA commenced in April 2015, when landowners were informed about the proposed development. Inputs received from Interested and Affected Parties (A&APs) during this period included comments and concerns about potential social impacts. These are captured in Table 1:

Table 1: Comments and concerns received when landowners were informed about the proposed development

Change in social aspect	Nature of impact
Visual	Visual changes will result in changes in the character of properties. This will have a negative economic impact. Property values and prices will drop. There will be reduced interest in tourism as the nature of the landscape will be affected from a reduction in the quality of the landscape for photography, birding and nature hikes. Where the planned line will pass in front of some holiday homes and caravan parks, it could disrupt the view, and possibly lead to a reduction in property value.

Farming activities disturbed	Farming activities will be disturbed. Irrigation farmers are specifically worried about areas under centre pivot irrigation, with many channels, roads and irrigation lines that will be disrupted or cease to function. Some of these areas under pivot irrigation are intensively farmed with many crops. Where significant portions of the land under agriculture are affected, this can result in a loss of livelihoods for farmers and possibly farmworkers. If farmworkers are laid off work, this will mean a loss of livelihood for them, and possibly loss of residential status on the farm.
Development Plans disturbed	Future development planning for, for example, housing estates, roads, helicopter pads, holiday resorts, industries, wind and solar plants planned for the area housing estate will have to be modified
Poor project management for construction, environmental management and compensation	Employees were poorly skilled and management was poor as well. Eskom has no record of environmental management. No attempt was made to rehabilitate or re-imburse owners for damage suffered. We can only hope that the project is given to a suitably qualified and competent private enterprise firm to construct
Security	Eskom does not remove vegetation from its servitudes. This presents unsightly areas where illegal squatters tend to live, posing a security risk to residents.
Noise	Existing power line are noisy
Radiation	Radiation from lines is a concern.
No Eskom project, the “No Go” alternative	Social impacts from limited supply of electricity if the line is not constructed

Interested and Affected Parties were formally invited to submit comments when the Draft Scoping Report was available for public comment. Comments received during this review period are summarised in Table 2. All comments have been retained, for consideration of any linkages between social aspects and other specialist issues. Loss of biodiversity, for example, can negatively impact on tourism. Consequently, the social and economic development of an area can decline.

Table 2: Summary of the comments received during the review period for the Blanco to Droerivier Draft Scoping Report:

Comment/Concern	Area
These properties and game farming will be impacted upon by the proposed line. Game fences are located on the farms and more than 17 species of antelope and Zebra are kept. Klipfontein might be divided in two portions by the line. Economic impact will be too high to allow the	Willowmore (Alternative 2) Volstruispoort Bekkersvlei Klipfontein (IJ, JC van Heerden)

power line on these properties (unless if placed on the **eastern boundary of Klipfontein thus not subdividing the farm**.) Planning of the *Die Rebosch Rand Wild-en Jagreservaat* will be hampered, resulting in a decline in international hunters and tourist visiting the facilities. Helicopters are used to manage the game and power lines pose a serious risk. Gwarrie-veld is scarce and endangered and has high agri-economical value. Visual impacts will be negative.	
The line will impact negatively on the farm where two other Eskom lines are already located. Because of the humidity, the load "jumps down" to the structures below. The farm is fully utilised for fruit orchards and a new line will mean a loss in production and income. There are 3 dams close to the proposed line with bird life that has already been impacted upon by the existing lines. More lines will exacerbate the situation. As an alternative to the proposed alignment, **Eskom could consider the land on the west of the existing line** where farming is less intensive.	Waboomskraal Alternative 1 (Johan Kotze, Du Toit- Agri)
Concerns about the cumulative impacts - the impact of an activity may in itself not be significant, but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area. Existing power lines already have an impact on priority species. The impact is substantial and this project/development poses a serious risk of killing many priority species. Options that are deemed to be "not feasible or cost effective" must be decided by the decision of the competent authority.	Alternative 1 and 2 Karoo News Group – Karoo Nuus Groep - KNG
There should be an ecological study to synthesise all the biological information so the ecosystem can be understood.	Alternative 2 Eastern Cape DEDEAT
What will Agricultural Land be Rezoned to? Why does such a wide strip have to be cleared? Are Eskom's Internal Guidelines and Standards acceptable form an environmental impact point of view? A focus group meeting to be held with DEDEAT as part of Public Participation Has a WULA been submitted? Was a NID submitted to ECHRA	Alternative 2 Eastern Cape DEDEAT
EIAs are not mechanisms to expropriate land, more than expected, when applications are submitted to DEA. Any efforts by environmental consultants, acting in their clients' interests, and not being neutral, and is against the meaning of the applicable law applications. Any land ownership negatively affected must be made clear in unambiguous terms to landowners If land units become unviable, due to subdivisions, it must be canvassed, what the economic impact thereof are – that is, DAFF has a say in this aspect Same holds for accommodation establishments. like	Alternative 1 and 2 Gisela Weinmann

ourselves, where the lodge will become un operational Cumulative impacts, of different lines, (previous and new combined) with their correct widths, must be established, now, to determine the impact on planning phases and costs to SOEs, before EIA gets go ahead, else the terms of conditions, are forced onto landowners. No one is against the creation of wider electricity networks. All on board must just recognise the fact, that if business is affected, someone must come with monetary / alternative solutions	
Farming at a large scale with, inter alia, onions, butternut, sheep and hops plant. At this stage our Client cannot meaningfully comment on the DSR because the proposed powerline corridor stretches 2 km (kilometres) wide whereas the end result would, according to the DSR, compose of a mere 55 m (meters) servitude instead. We have the right to submit more detailed comments at a later stage once we can determine the exact location of the proposed powerline with more certainty. Currently it seems as if the 2 kilometre wide proposed powerline covers a substantial part of our Client's properties, which would obviously have catastrophic results on our Client's farming activities. Our Client therefor requires and requests an appropriately scaled layout plan of the proposed powerline in order to supplement his comments.	Alternative 1 Waboomskraal, Kouwdouw farms Izak Gerhardus Barnard
CapeNature is aware that a main transmission "backbone" is required to accommodate current and future demands for electricity. This proposal is in support of the Customer Load Networks (CLNs) for part of the Western Grid, namely the West and Southern Cape CLNs. The existing transmission powerline network traverses sections of the Protected Area network, by traversing the Swartberg Nature Reserve Complex, which is the proposed alignment for Alternative 1 whereas Alternative 2 is proposed to avoid the Swartberg Nature Reserve Complex by routing a new powerline via Uniondale to the Eastern Cape and northwest towards Beaufort West where no servitude exists for the greater part of the area traversing the Great Karoo. Both route alternatives traverse designated sensitive areas, inter alia, such as Critical Biodiversity Areas and / or Freshwater Ecosystem Priority Areas which should be avoided as far as is practically possible. A restricted form of infrastructural development is permissible within the Critical Biodiversity Areas network (Western Cape Biodiversity Framework); whereas it is advisable to avoid sensitive wetlands and related features by placing Tower Points outside of rivers and associated floodplains (i.e. spanning the width of watercourses by placement of Tower points outside of the riverbanks). CapeNature requires a comparative assessment of the sensitivity of the areas proposed for both route	Alternative 1 and 2 Cape Nature

alternatives; and specifically an assessment of the sensitivity of the mountainous crossings. As the Swartberg Nature Reserve Complex is now a proclaimed World Heritage Site (WHS) an unbiased motivation would be needed for traversing it as Alternative 1 (notwithstanding that an existing servitude traverses the WHS). Similarly it must be shown how this would detract or not from the WHS status and overall connectivity of the Western Cape Biodiversity Framework if implemented. The proposed Alternative 2 is shown to cross another mountain range which is presumed to be free of powerline servitudes and thus a baseline assessment of this area is required to adequately compare the impacts of both alternatives. Similarly detailed baseline assessments of watercourses, wetlands and associated features are required for consideration; as are assessments of the archaeological, palaeontological and heritage features within the study domain.	

**Note: Comments received in Afrikaans were translated into English.*

7 Social baseline

Social and economic characteristics of the potentially impacted communities are described in this section to understand the current baseline in the primary and secondary zones of influence. Baseline characteristics will have to be considered with the corresponding social aspects of the project, to understand:

- Social baseline characteristics of the potential project beneficiaries and receptors; and
- How the project social characteristics will potentially change the current social aspects.

The social baseline focuses on describing the *status quo* on the site and in the six municipalities, and includes regional contexts where relevant. Statistics South Africa Census 2011 and the municipalities' IDPs for 2014/ 2015 were the main sources of data used for preparing the social baseline.

7.1 Geographical location of the project

The project, including its alternatives, is located largely within the Western Cape province. The Transmission lines are proposed to pass through the George and Oudtshoorn local municipalities in the Eden District Municipality geographical area. The lines are also planned to pass through the Prince Alfred and Beaufort-West in the Central Karoo District Municipality area. Both district municipalities are located in the Western Cape.

In addition, an alternative Transmission line is proposed to pass through the Baviaans Local Municipality located within the Cacadu District Municipality area. These two municipalities are located in the Eastern Cape province. The location of the five municipalities is illustrated in Figure 2.

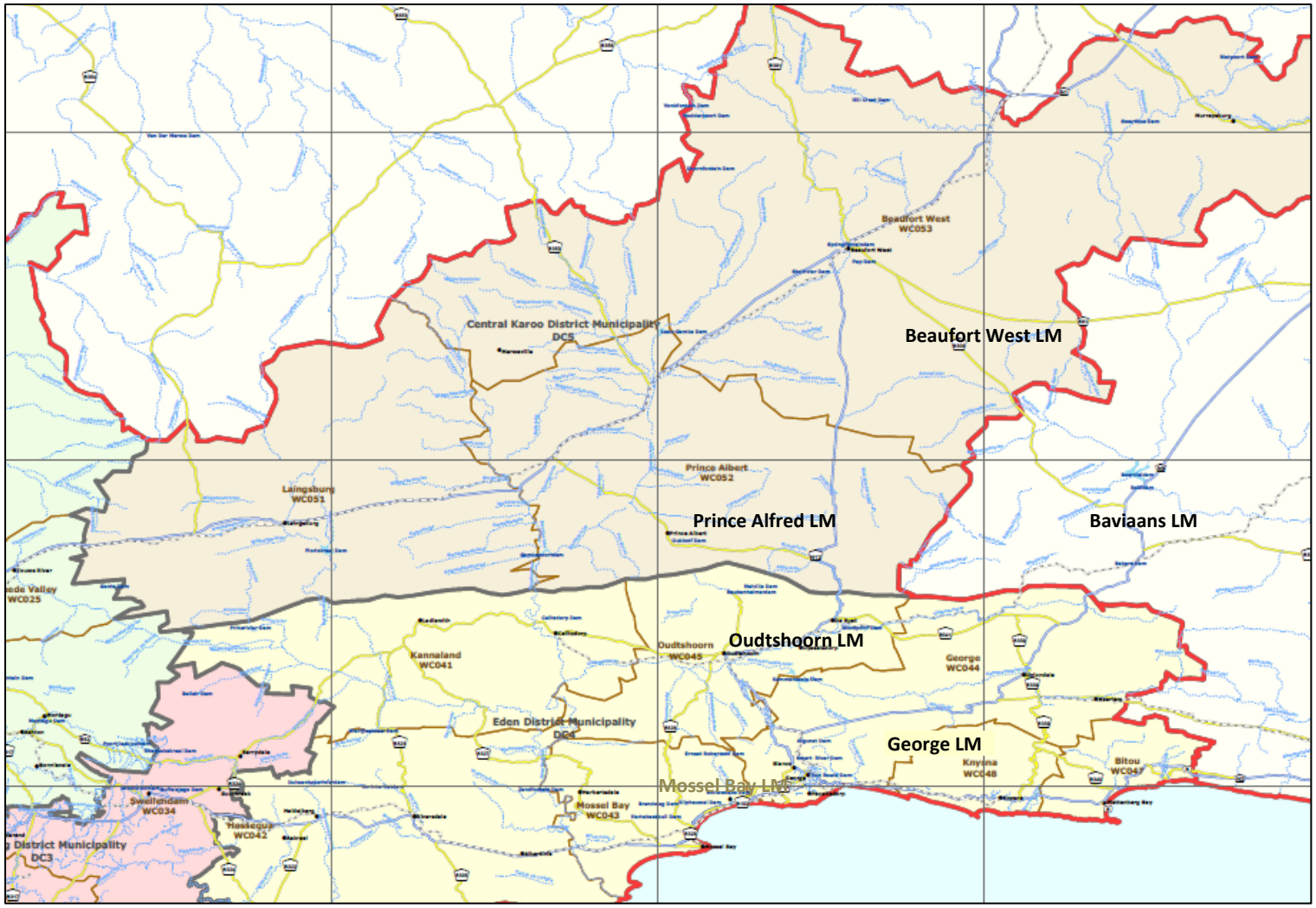

Figure 2: The location of the George, Oudtshoorn, Prince Albert and Beaufort-West Local Municipalities in the Western Cape province, and the Baviaans Local Municipality in the Eastern Cape (Adapted from Municipal Demarcation Board, 2015).

7.2 Economy and Livelihoods

This section provides an overview of some key economic factors in the Western Cape and Eastern Cape provinces. Provincial priorities for economic development are also described. The economic activities in each of the five municipalities in the study area are also discussed.

7.2.1 Western Cape province

The Western Cape's Gross Value Added (GVA) has grown at an average rate of 2.8% a year between 2005 and 2013 (Western Cape Government Economic Development and Tourism, 2015). Formal jobs however had only increased by 0.5% a year. Labour intensive sectors such as agricultural production had been growing slower than others. Moreover, formal jobs had reduced even in sectors showing higher growth (Western Cape Government, Economic Development and Tourism, 2015).

High levels of in-migration from other provinces into the Western Cape have contributed towards a high population growth rate of 1.98% a year. The province has seen overall unemployment rates increase from 17% in 2005 to 23% in 2013. Youth unemployment, that is, of people under the age of 35, was at 36% in 2013.

A Provincial Strategic Plan (PSP) was developed in 2014, providing strategies and plans for the province for years 2015 to 2019. The 5 Strategic Goals in the PSP are:

• Strategic Goal 1: Create opportunities for growth and jobs

• Strategic Goal 2: Improve education outcomes and opportunities for youth development

• Strategic Goal 3: Increase wellness, safety and tackle social ills

• Strategic Goal 4: Build a quality living environment, resilient to climate change

• Strategic Goal 5: Embed good governance and integrated service delivery through partnerships and spatial alignment.

Three sectors were selected for progressing towards the first goal in the first 3 to 5 years. These are Oil & Gas, Tourism, and Agri-processing. Energy has been identified as an enabler for all priority economic productivity sectors. Electricity supply constraints and rolling blackouts constitute significant risk and negatively affect investment in the resource and manufacturing sectors. The latter two sectors are acknowledged as important for job creation.

7.2.2 Eastern Cape province

The Provincial Growth and Development Strategy (PGDS) of the Eastern Cape for 2004 to 2014 is based on three foundation objectives (Eastern Cape Provincial Government, 2015), namely:

- Infrastructure development;
- Human resource development; and
- Public sector and institutional transformation.

This base supports three objectives of the PGDS, which are:

- Systematic eradication of poverty through a holistic, integrated and multi-dimensional approach to pro-poor programming;
- Agrarian transformation and strengthening of household food security; and

- Consolidation, development and diversification of the manufacturing base and tourism potential.

Both the Western Cape and Eastern Cape provinces emphasise support to the agricultural and tourism sectors for growing the provincial economies. Both strategies also recognise that improvements in infrastructure, including electricity grid infrastructure, will attract investment.

illustrates employment in the formal economic sectors in South Africa, the Western Cape and Eastern Cape. Community and Social services is the largest employer in the Eastern Cape, as is the case in South Africa as a whole. The Trade sector employs slightly more people in the Western Cape than Community and Social services. Manufacturing is the second largest employer in the Eastern Cape.

Table 3: Number of people employed in South Africa, the Western Cape and Eastern Cape in key formal sectors for October to December 2014. Source: Statistics South Africa (2015a)

Economic sector	Western Cape (in thousands)	Eastern Cape (in thousands)	South Africa (in thousands)
Agriculture	131	88	742
Mining	3	1	427
Manufacturing	287	135	1749
Utilities	9	8	104
Construction	190	131	1334
Trade	466	131	3247
Transport	133	68	952
Finance	362	107	2039
Community and social services	465	392	3501
Private households	123	116	1219

7.2.3 Local Municipalities in the Study Area

George LM's economy is varied. It includes the primary sector (agriculture and forestry), manufacturing (agro-processing, building material), construction and real-estate services, trade, tourism, catering and professional as well as social services (education, health and old-age care) and public administration (George Municipality, 2015).

The economic base in Oudtshoorn is agriculture (fruit, tobacco, seed production and ostrich farming), but diversification of the economy has resulted in agriculture now employing 18.8% of the workforce (Oudtshoorn Municipality, 2015). The municipality has the world's largest ostrich population. Oudtshoorn in addition to being a centre of agriculture in the region, is also for its cultural, sport and art activities. The Cango Caves draws people to the region and the national Klein Karoo Arts Festival has been held in Oudtshoorn since 1994.There has been a rapid increase in accommodation facilities in the Klein Karoo in recent years.

Prince Albert LM is located in the Central Karoo, at the gateway to the Large Karoo. In the period 2000 to 2010 the greatest growth in the municipality was in the finance, insurance, real estate and business services (13.8%) and construction (13.3%) (Prince Albert Municipality, 2015). The transport, storage and communication sector contracted by 3%, and the agriculture, forestry and fishing sector by 1.8%.

Agriculture forms the basis of the economy in the Beaufort West LM (Beaufort West Municipality, 2015). The sector comprises of the production of fresh and processed meats (e.g. Karoo lamb and biltong), fruits and vegetables (e.g. chutneys and herbs), and processed animal by-products (e.g. wool and mohair), as well as the manufacture and servicing of animal traps. The transportation sector is well developed in Beaufort West, and accounts for 86.4% of the total Gross Geographical Product (GGP) for this sector. Historical, cultural and natural attractions such as the Karoo National Park attract tourists to the municipal area.

Agriculture is also the dominant economic sector in the Baviaans Local Municipality located in the Eastern Cape (Baviaans Municipality, 2015). Agriculture, Community services and Finance, including real estate, contributed the most towards Gross Value Added (GVA) in the municipality. The agricultural sector in Baviaans accounted for 34 % of jobs in 2012, and is viewed favourably as a sector for potential growth. Tourism related to its natural attractions is considered as another growth opportunity in the municipality.

7.3 Demography

Census 2011 data was used to construct demographic profiles of the five municipalities through which the proposed transmission line will pass (Table 4).

George's population growth of 2.59% recorded between 2001 and 2011 was the 26th largest in a local municipality nationally. A population growth of 2.24% in Prince Albert over the same period was ranked 36th nationally. There has been in-migration into the George municipality as people look to secure work and improve their lives (George Local Municipality, 2015). The population growth in George in the period 2001 to 2011 is higher than the average for South Africa of below 2% annually.

The country's average population density was estimated at 42 in 2011 (World Bank, 2015). In the study area population densities in George and Oudtshoorn are much higher (37 and 27 people per square kilometre respectively) than the other three local municipalities (2 people per km^2). Beaufort-West Local Municipality (LM) which has the highest proportion of young people 14 years and below (31.5%) also has the smallest proportion of elderly people aged 65 and over (5.9%). The proportion of people of working age (that is, aged 15 to 64) ranges from 62.4% in Baviaans LM to 67.3% in George LM.

The Human Development Index (HDI) reflects life expectancy, literacy and income in a population. Mossel Bay LM has the highest HDI (0.75) in the Eden District Municipality, thus therefore a indicating the highest level of development in the district. The HDIs of George and Oudtshoorn LMs in comparison are 0.68 and 0.62 respectively.

Dependency ratios[2] were higher in Baviaans and Beaufort West municipalities (60.2% and 59.7% respectively), and lower in George LM (48.6%). The dominant race group in all municipalities under study was Coloured. There is a large White population in George municipality (19.7% respectively).The largest Black African population is also in George (28.2%). The dominant home language in all municipalities under study was Afrikaans (Afrik). The second most spoken home language was isiXhosa; however, in Prince Albert, the second most spoken first language is English (3.5%). In Prince Albert, 0.8% of households spoke isiXhosa.

[2] The proportion of the population aged below 15 years and those aged 60 years and older divided by those between ages 15 and 64 (Statistics South Africa, Census 2011).

Table 4: Demographics of the George, Oudtshoorn, Prince Albert. Beaufort-West and Baviaans Local Municipalities (Source: Census 2011 (Statistics South Africa, 2015b).

	George LM	Oudtshoorn LM	Prince Albert LM	Beaufort-West LM	Baviaans LM
Population	193.672	95.933	13.136	49.586	17.761
Population growth rate (2001 to 2011)	2.59%	1.25%	2.23%	1.36%	0.5%
Population density (persons/km^2)	37	27	2	2	2
Percentage of Population that is Young (0-14)	26.3%	28.7%	29.6%	31.5%	31.1%
Percentage of Population of Working Age (15-64)	67.3%	64.2%	64%	62.6%	62.4%
Percentage of Population that is Elderly (65+)	6.4%	7.2%	6.4%	5.9%	6.5%
Dominant race groups	Coloured 50.4%; Black African 28.2%; White 19.7%	Coloured 77.3%; White12.5%; Black African 9.1%;	Coloured 84.5%; White11.8%; Black African 2.8%	Coloured 73.5%; Black African16.3%; White 9.2%.	Coloured 80.3%; BlackAfrican12%; White 7%.
Dominant languages	Afrik 65.7%;IsiXhosa 21.2%.English 7.9%	Afrik 88.9%;IsiXhosa 4.7%; Eng 2.2%	Afrik 92%;Eng 3.5%; IsiXhosa 0.8%	Afrik 81.7%;IsiXhosa 10.4%; Eng 2.4%	Afrik 89.3%; IsiXhosa 5.7%; Eng 1.7%
Dependency ratio	48.6%	55.8%	56.2%	59.7%	60.2%

7.4 Education and Unemployment

George, Oudtshoorn and Beaufort-West municipalities fared the best with the proportion of over 20 year olds with matriculation (Table 5). Census 2011 recorded proportion of 20 year olds and over with matriculation in these municipalities as 29,1%, 25,1% and 23.6 respectively. George and Prince Albert also had the highest percentages of people over 20 years old with a higher education. The proportion of the population aged 20 and over with no schooling was the highest in Beaufort West (10.1%), followed by Prince Albert (9.1%) and then Baviaans (8%).

Overall unemployment rates ranged from 19.4% (in Prince Albert LM) and 20.7% (in George LM), to higher rates of 25.3%, 25.5% and 29.4% in Oudtshoorn, Beaufort-West and Baviaans LMs respectively. This represents the economically active people (employed or unemployed but looking for work) who are unemployed. Youth unemployment, that is, unemployment in the economically active 15 to 35 year old age group, was higher in all five municipalities than overall employment rates. The highest youth unemployment rates were recorded in Baviaans (37.9%), Oudtshoorn (35.9%) and Beaufort-West (34.5%) municipalities.

Table 5: Formal education and unemployment rates of people in the George, Oudtshoorn, Prince Albert, Beaufort-West and Baviaans Local Municipalities. Source: Census 2011 (Statistics South Africa, 2015b).

	George LM	Oudtshoorn LM	Prince Albert LM	Beaufort-West LM	Baviaans LM
Matric aged 20+	29.1%	25.1%	16.9%	23.6%	16.4%
Higher education aged 20+	11.6%	6.7%	8.5%	6.5%	4.7%
No schooling aged 20+	3.9%	4.5%	9.1%	10.1%	8%
Unemployment rate	20.7%	25.3%	19.4%	25.5%	29.4%
Youth unemployment rate	27.6%	35.9%	25.4%	34.5%	37.9%

7.5 Employment and household incomes

The highest proportion (17.4%) of households without an income was recorded in George LM (12.1%) (Table 6). At least 7.8% of households in the remaining four municipalities had no income.

There were larger proportions of households in Prince Albert, Beaufort West and Baviaans LMs in the income categories from R1 to R19,600, than in the other municipalities. The former three municipalities and Oudtshoorn LM had higher proportions of households in the R19,601 to R38,200 category.

Larger percentages of households with an income of R76 401 to more than R2,457,601 were registered in the George LM that in the other four municipalities. It is therefore concluded that a larger proportion of households in the former municipality had higher incomes, and Prince Albert, Beaufort West and Baviaans had a larger proportion of lower income households.

Table 6: Household Incomes in the George, Oudtshoorn, Prince Albert, Beaufort-West and Baviaans Local Municipalities. Source: Census 2011 (Statistics South Africa, 2015b).

	George LM	Oudtshoorn LM	Prince Albert LM	Beaufort-West LM	Baviaans LM
None income	12.1%	9%	6.3%	9.5%	7.8%
R1 - R4,800	2.6%	2.3%	3.3%	3.3%	3.7%
R4,801 - R9,600	4.4%	4.5%	6.1%	5.8%	6.8%
R9,601 - R19,600	13.2%	16.3%	19.6%	21.7%	24.5%
R19,601 - R38,200	19.4%	23.7%	26.7%	23.8%	28.4%
R38,201 - R76,400	17.3%	18.9%	17.1%	15.3%	14%
R76,401 - R153,800	12.7%	11.5%	9.4%	9.5%	7.4%
R153,801 - R307,600	9.8%	8.4%	6.5%	6.9%	4.2%
R307,601 - R614,400	6%	4.2%	3.6%	3.2%	2.3%
R614,001 - R1,228,800	1.7%	0.8%	0.6%	0.7%	0.6%
R1,228,801 - R2,457,600	0.5%	0.3%	0.3%	0.2%	0.2%
R2,457,601+	0.3%	0.2%	0.3%	0.2%	0.1%

7.6 Residential status

There was no tribal land in any of the five municipalities (Table 7). Land in all municipalities was predominantly urban in character, with George LM having the largest proportion of urban land. All municipalities had farm land, ranging from the smallest proportion in George (11.3%) to higher proportions of 21.1% and 27.5% in Prince Albert and Baviaans LMs. The percentage of agricultural households also follow the same pattern, with the smallest proportion (7.6%) registered in George LM and the largest in Prince Albert (16.5%) and Baviaans (20.6%) LMs. More than 33% of households in all municipalities were headed by women. In Prince Albert, 44.9% of households had women in this position.

George and Oudtshoorn LMs had the largest proportion of informal housing (16. 1% and 11.5% respectively). Beaufort-West and Baviaans LMs had less than 0.7% informal households within their local municipal jurisdictions.

Table 7: Residential status in the George, Oudtshoorn, Prince Albert, Beaufort-West and Baviaans Local Municipalities Source: Census 2011 (Statistics South Africa, 2015).

	George LM	Oudtshoorn LM	Prince Albert LM	Beaufort-West LM	Baviaans LM
Urban	88.7%	81.6%	78.9%	85.6%	72.5%
Tribal/Traditional	0%	0%	0%	0%	0%
Farm	11.3%	18.4%	21.1%	14.4%	27.5%
Number of Agricultural households	7.6%	10.2%	16.5%	12.2%	20.6%
Female headed households	33.2%	36.2%	44.9%	37.7%	35.8%
Formal dwellings	83.9%	88.5%	93.9%	97.9%	97.4%

7.7 Energy use

Energy use for Cooking (C); Heating (H) and Lighting (H) in the six municipalities is indicated in Table 8. Most households in all municipalities used electricity for cooking, heating and lighting.

The proportion of households that used electricity for cooking ranged from around 84% (in George and Beaufort West LMs) to approximately 76.5% (Oudtshoorn and Prince Albert LMs). Gas and wood were the main alternative energy sources for cooking. Gas was more commonly used in George, and Prince Albert LMs. It was found that that between 9% and 15% of households in Oudtshoorn, Prince Albert, Beaufort-West and Baviaans LMs were using wood. Some households (0.2% to 0.4%) in all municipalities except Prince Albert did not have access to any energy for cooking.

A higher proportion of households are using electricity for lighting than for cooking. Between 89% and 93% of households in George, Beaufort-West and Baviaans LMs were using electricity for lighting. Approximately 15% of households in Oudtshoorn and Prince Albert were not using electricity as an energy source for lighting. The most widely used alternative for lighting in all municipalities was candles. In Oudtshoorn, Prince Albert and Baviaans, 13.2%, 8.9% and 7.6% of households respectively were using candles. Between 0.2% and 0.4% of households in all municipalities did not use any source of energy for lighting.

Large proportions of households in all municipalities did not use electricity for heating their homes. Census 2011 found that 43.3% of households (in Baviaans LM) to 67.1% of households (in Beaufort-West LM) were relying on electricity for heating. Large proportions of households (19.2%, 16.3% and 10.1% in George, Oudtshoorn and Baviaans LMs respectively) were not using any form of fuel for heating. Large proportions of households (37.9%, 26.5%, 18.8% and 17.3% respectively in Baviaans, Prince Albert, Beaufort-West and Oudtshoorn) were relying on wood for heating their homes. Gas and paraffin were other commonly used fuel sources for heating homes in all municipalities.

Table 8: Energy use for Cooking (C); Heating (H) and Lighting (H) in the George, Oudtshoorn, Prince Albert, Beaufort-West and Baviaans Local Municipalities. Source: Census 2011 (Statistics South Africa, 2015b).

Energy Source	George LM			Oudtshoorn LM			Prince Albert LM			Beaufort-West LM			Baviaans LM		
	% C	% H	% L	% C	% H	% L	% C	% H	% L	% C	% H	% L	% C	% H	% L
Electricity	83.8	56.9	91	77.8	61.6	85.2	76.1	62.6	86.4	84.7	67.1	92	81	43.3	89.2
Gas	7	3.6	0.2	7.8	1.7	0.1	8.4	2.5	0	3.7	1.5	0.3	4.6	1.3	0
Paraffin	5.1	10.4	3.8	3.1	2.3	0.8	0	0.2	0.3	1.5	3.9	0.4	1	2.4	2.4
Solar	0.1%	0.3	0.4	0.1	0.2	0.2	0.4	0.5	4.2	0.2	0.4	1.6	0.1	2.6	0.7
Candles	0	0	4.1	0	0	13.2	0	0	8.9	0	0	5.4	0	0	7.6
Wood	3.4	9.4	0	10.6	17.3	0	15	26.5	0	9.4	18.8	0	13	37.9	0
Coal	0.1	0.1	0	0.2	0.6	0	0	0.1	0	0.2	0.5	0	0.2	2.5	0
Animal Dung	0	0.1	0	0	0,1	0	0	0	0	0	0	0	0	0	0
Other	0.1	0	0	0	0	0	0	0	0	0,1	0	0	0	0	0
None33	0.3	19.2	0.4	0.4	16.3	0.4	0	7.5	0.3	0.3	7.8	0.4	0.2	10.1	0.2

7.8 Health Status

Respiratory health and HIV status were deemed to be important health characteristics to take into account for the Social Impact Assessment. It is expected that the project has the potential to prevent negative effects on the respiratory health of the population in the study area. There is also a potential for possible deterioration in HIV status. Baseline information for these two health aspects are therefore provided here.

7.8.1 Respiratory Health

Respiratory diseases were amongst the ten leading causes of death in the last 3 years in South Africa. Tuberculosis, Influenza and pneumonia were ranked as the leading causes of death in 2011, 2012 and 2013. In addition, chronic lower respiratory disease was ranked tenth for the three years. Tuberculosis and chronic lower respiratory disease were amongst the ten leading causes of death in the Western Cape and Eastern Cape provinces in 2013. People suffering with Tuberculosis, influenza, pneumonia and lower respiratory disease are therefore at higher risk. Conditions that contribute towards the development of these conditions will also contribute towards increasing the risk.

7.8.2 HIV/AIDS

The 2012 population-based survey of HIV prevalence (Shisana, O, Rehle, T, Simbayi LC, Zuma, K, Jooste, S, Zungu N, Labadarios, D,Onoya, D et al., 2014) estimated that the HIV prevalence amongst South Africans was12.2%. This meant that 6.4 million persons were HIV Positive. This represents an increase from the 2008 estimate of 10.6%. However, when children younger than 2 years were excluded in the 2012 figures, as was the case in 2008, the 2012 prevalence is 12.6%. HIV prevalence therefore has therefore increased in South Africa.

The study also identified some high risk groups. For instance, it was found that overall, females had a higher HIV prevalence than males. Also, the prevalence of HIV was highest among females aged 30–34 and among males aged 35–49. Amongst teenagers aged 15–19 years, the estimated HIV prevalence among females was 8 times that of males. Also, there was a significantly higher HIV prevalence amongst rural informal area residents than in urban formal area residents.

The survey also established that the Western Cape was the province with the lowest HIV prevalence (5.0%). Within the Western Cape province, the Eden District had an estimated 4% to 5%. The study sample was insufficient to determine an estimate for the Central Karoo District, which is also in the Western Cape. The Cacadu District in the Eastern Cape province had an estimated 6% to 9% HIV prevalence rate.

HIV/AIDS accounted for 5.1 percent of deaths in South Africa in 2012, and was the recognised as the third most common cause of death for that year (Statistics South Africa, 2014).

8 Social Impact Assessment

The energy infrastructure project can deliver many benefits in the long term for communities in the Western Cape and Eastern Cape. Potential negative impacts are also anticipated in the short term, which can be reduced or avoided with management measures.

The potential social impacts are identified and assessed for the scoping report in this section. The impacts will be assessed in detail in the EIA phase. Management measures will also be recommended in the EIA phase to mitigate potential negative impacts or enhance positive impacts.

It is anticipated that the project has the potential to realise the following positive social impacts:

- Improved quality of life, through
  - Creation of jobs;
  - Increased procurement opportunities;
  - Increased reliability of energy services; and
  - Improved community health from the introduction and maintenance of safer sources of energy

The project can possibly also introduce negative social impacts, including:

- Loss of assets and disruption in people's lives because of physical displacement, which can arise if residences are located in the same path as the power infrastructure.

- Loss of livelihood from economic displacement, which can arise when:
  - Agricultural or other commercial activities are disrupted in the short or long term;
  - Tourist or holiday facilities become less appealing because of visual intrusion from the power infrastructure; and
  - Loss of economic value of properties such as private residential estates because of visual intrusion.

- Increased community safety risks from increased direct exposure to electrical hazards, if there is tampering with power infrastructure.

- Increased community health risks if workers' camps do not have access to basic services such as sanitation and waste removal.

- Increased community health risks from increased exposure to electric and magnetic fields.

- Increased community health risks from possible increased exposure to HIV/AIDS.

There is also a perception that the electromagnetic fields from power lines will have a negative impact on the health of children. The potential of this impact is also discussed.

Each of the impacts is assessed in the tables below for the scoping report. All potential positive and negative impacts will be assessed in greater detail in the impact assessment phase.

8.1 Impact Assessment Tables for Scoping

Table 9: Improved quality of life, through creation of jobs

Impact: Improved quality of life, through creation of jobs in the local area but also through contract labour brought in from region or national areas. This is a direct but temporary impact**.**

Desktop Sensitivity Analysis of the Site:

It is expected that jobs will be created. Unemployment rates are higher in the Oudsthoorn, Beaufort West and Baviaans Local Municipalities, when compared with Prince Albert and George Local Municipalities. However, it also noted that there has been an in migration of people looking for jobs in George. Employment therefore will be welcomed in all municipalities. It will be of significance in areas such as Baviaans and Beaufort West LMs as dependency ratios are high. Where semiskilled and skilled workers cannot be sourced from the affected local municipal areas, it is acceptable that they be sourced from outside these areas.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
Improve livelihoods	Job creation during construction and operations. It is expected that locals will benefit as far as possible.	Local, Regional and National	This is a positive impact. As far as possible, it should benefit local communities affected by construction and operations activities.

Gaps in knowledge & recommendations for further study

More information is required from Eskom to understand its employment policy and therefore the extent of the impact. It will be valuable to understand what skills need to be brought into the area by contractors and what skills can be sourced locally.

Table 10: Improved quality of life, through increased procurement opportunities

Impacts

Improved quality of life, through increased procurement opportunities in local, regional and national areas. This is a direct and temporary impact.

Desktop Sensitivity Analysis of the Site:

As far as possible, goods and services must be procured locally. It is acceptable if some goods and services need to be procured from outside the area due to quality and safety requirements.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
Improve livelihoods	Procurement of goods and services during construction and operations.	Local, Regional and National	This is a positive impact. As far as possible, it should benefit local

			communities affected by construction and operations activities.

Gaps in knowledge & recommendations for further study

More information is required from Eskom to understand what services and goods it requires, and its procurement policy. This will indicate the degree to which goods and services can be procured locally, regionally and nationally, that is, the extent of the impact. Information of expected expenditures will provide an indication of the available procurement opportunity. It will also be useful to understand which goods and services can be procured at a local and regional level, and which has to be sourced nationally and internationally.

Table 11: Improved quality of life from increased reliability of energy services

Impacts

Improved quality of life from increased reliability of energy services in the Western Cape region. This is a direct impact that will persist in the long term.

Desktop Sensitivity Analysis of the Site:

This impact should support all development activities. It was noted that 19.2% and 16.3% of households in George and Oudtshoorn were not using any energy source for heating their homes. In Oudtshoorn and Prince Albert, 13.2% and 8.9% of households were using candles for lighting. Extending the energy supply will bring greater benefit to those who do not have this basic service. It must be delivered, however, at the least social, economic and environmental cost as possible to those who are negatively impacted by the proposed development.

Currently, South Africa is not meeting its electricity demand to support economic growth rates it would like to see. Security of energy supply will therefore positively contribute towards stabilizing and perhaps also stimulating the economic activities in the Western Cape. This can improve livelihoods through sustaining and possibly increasing the number of jobs available.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
Improved quality of life	There will be an Increased reliability of energy services for households in the Western Cape. Between 85% and 92% of households in the George, Oudtshoorn and Beaufort West LMs are on the electricity grid. Electricity supports a vibrant economy in the region. It is therefore important that electrical supply be sustained to continue to support social and economic development in the area.	Regional	This is a positive impact and should benefit as many households, businesses and other development units in the area.

Gaps in knowledge & recommendations for further study

The client will have to advise which parts of the Western Cape, and therefore which communities, are likely to benefit from the energy security from the proposed development.

Table 12: Improved quality of life, through improved community health from the introduction and maintenance of safer sources of energy

Impacts

Improved quality of life, through improved community health from the introduction and maintenance of safer sources of energy for the communities in the Western Cape. This is an indirect impact that is expected to persist in the long term.

Desktop Sensitivity Analysis of the Site:

Communities that currently use less safe sources of energy such as candles and wood in internal environments will benefit more from the provision of electricity. These communities should therefore be targeted as beneficiaries of an improved supply as far as possible.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
Improved quality of life	Safer sources of energy can improve community health from the provision of safer source of energy than the community is currently using. Candles can be a safety hazard, and inhalation over a protracted period of time of some particulates emitted by burning wood can contribute towards respiratory illnesses.	Regional	This is a positive impact and should benefit as many households, using unsafe energy sources as possible.

Gaps in knowledge & recommendations for further study

It is unclear what criteria are used to determine which households or development activities benefit from additional supply of electricity. The client will have to advise how beneficiaries are prioritized in the Western Cape region to benefit from the proposed development.

Table 13: Loss of assets and disruption in people's lives because of physical displacement

Impacts

Loss of assets and disruption in people's lives because of physical displacement within the project footprint, including its servitude. This is a direct impact that can have residual risks if not managed appropriately.

Desktop Sensitivity Analysis of the Site:

This impact will only materialize if specific residences are located in the path of the power infrastructure, or too near it. This impact can also occur if economic activities such as farming fall within the area of the power infrastructure. This can then lead to a reduction in the workforce if the impact is significant enough, and may mean that farmworkers will have to be laid off work. If they are residents on the farm, they may be required to leave the farm and find alternative accommodation. This impact can be highly disruptive in people's lives and must be minimized as far as possible. Where it is absolutely unavoidable, compensation measures will have to be negotiated with those who are physically displaced.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
Loss of assets and disruption of people's lives.	Physical displacement of households as a result of being located too close to the footprint of the proposed development. Any activity of the development that indirectly leads to people losing fixed assets such as their land, or access to the use of fixed assets such as buildings.	Local	This impact can be highly disruptive in people's lives and the impact must be minimized as far as possible.
Gaps in knowledge & recommendations for further study			
Where Interested and Affected Parties have drawn attention to possible physical displacement, these sites will be examined to verify the information. Where physical infrastructure is affected, more information will be requested from owners to determine the social activities associated with the infrastructure, as an indication of how people's lives will be impacted on.			

Table 14: Loss of livelihood from economic displacement, which can arise when economic activities are disrupted in the short or long terms

Impacts

Loss in livelihood from economic displacement, due to disruption of economic activities in the vicinity of the proposed infrastructure. This is a direct impact that can have residual risks if not managed appropriately.

Desktop Sensitivity Analysis of the Site:

The impact can be experienced if:

- Agricultural or other commercial activities are disrupted in the short or long term;
- Tourist or holiday facilities become less appealing because of visual intrusion from the power infrastructure; or
- If there is loss of economic value of properties such as private residential buildings because of visual intrusion.

Some Interested and Affected Parties have registered concerns about economic displacement. Economic activities on the potentially affected land will have to be examined to determine the degree of economic loss. Economic losses from economic displacement should be minimized as far as possible. Where it is impossible to avoid, compensation will have to be negotiated with the affected person.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
Loss in livelihood	If the development disrupts economic activities in the short or long terms, this can lead to loss of income.	Local economy	No no-go areas have been determined with the information available at this time.
Gaps in knowledge & recommendations for further study			

As this is an economic impact, the impact will be discussed with the Economics specialist, so that there is a common understanding of the impact, and the impact assessment is consistent. All comments received from Interested and Affected Parties relating to economic displacement will examined using Google Earth and if necessary with a site visit, to determine the extent of the economic displacement. Additional information may be required about the economic activity to assess the impact.

Table 15: Increased community safety risks from increased direct exposure to electrical hazards, if there is tampering with power infrastructure

Impacts

Increased community safety risks from increased direct exposure to electrical hazards, if there is tampering with power infrastructure including sub stations. This is a direct impact with potential immediate and long term impacts.

Desktop Sensitivity Analysis of the Site:

Tampering with power infrastructure can lead to serious bodily harm, and even death. Where there is a risk of tampering, access to infrastructure will have to be controlled. Infrastructure will also have to be monitored and maintained especially in populated areas so that people (or animals) are not exposed to hazardous conditions. As exposure to damaged infrastructure can be fatal, there is no acceptable level of loss impact.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
Increased community safety risks	Tampering with power infrastructure can damage it and expose people to a serious safety hazard.	Local	No-go areas are not applicable for this impact.

Gaps in knowledge & recommendations for further study

The client must provide the details of how it limits access and monitors the condition of its energy infrastructure, to reduce the risk of harm to people and animals.

Table 16: Increased community health risks if workers' camps do not have access to basic services such as sanitation and waste removal

Impacts

Increased community health risks if workers' camps do not have access to basic services such as sanitation and waste removal. This potential impact could be realized along the route of the line. This is a direct impact for workers and an indirect impact for the community. It can have an immediate impact on the workers, and longer term impacts for workers and the community if not managed appropriately.

Desktop Sensitivity Analysis of the Site:

Sensitivity analysis in terms of the impacts expected. Discuss areas of high concern. Recommend areas for development. Discuss any "acceptable loss" areas/impacts.

Issue	Nature of Impact	Extent of Impact	No-Go Areas

Increased community health risks vegetation	If workers' camps do not have access to basic services such as water, sanitation and waste removal, there is a likelihood that they will introduce health hazards into the environment. This will affect their own health and any community members exposed to the hazards.	Local	No-go areas are not applicable for this impact.
Gaps in knowledge & recommendations for further study Eskom must provide information on the mechanisms it uses to ensure that worker camps have the necessary access to basic services.			

Table 17: Increased community health risks from increased exposure to electric and magnetic fields

Impacts

There was a concern from Interested and Affected Parties that there are increased community health risks from increased exposure to electric and magnetic fields in the vicinity of the line. A preliminary assessment of line is provided here. This is viewed by stakeholders as a direct risk.

Desktop Sensitivity Analysis of the Site:

From the information obtained from the IRPA and Eskom there is insufficient evidence that electric or magnetic fields are detrimental to communities living outside the servitudes of the 400kV Transmission lines.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
Increased community health risks	There is insufficient evidence from the IRPA to show that electric or magnetic fields outside the servitudes of the 400kV transmission lines are detrimental to human health.	Local	No-go areas are not applicable for this impact.

Gaps in knowledge & recommendations for further study

This impact cannot be assessed with evidence based information as the epidemiological data does not show that that electric and magnetic fields outside the servitudes of 400kV transmission lines constitute a health hazard. There is however a perception that the line will adversely affect human health and the impact assessment in the EIA phase will address this.

Table 18: Increased community health risks from possible increased exposure to HIV/AIDS

Impacts

Increased community health risks from possible increased exposure to HIV/AIDS. This is a direct impact caused by transmission of the disease.

Desktop Sensitivity Analysis of the Site:

The Western Cape is the province with the lowest has the lowest rate of HIV/ AIDS. Although there may be a low probability of this impact materializing, the impacts are life threatening. This impact has been included to ensure that management measures are in place. There is no “acceptable loss” for this impact as the consequences can be serious.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
Increased community health risks	If workers from outside the area temporarily associate with locals and have unprotected sexual relations with them, there is an increased risk of spreading HIV/AIDs if one of them is HIV positive. Unprotected sex with multiple partners increases the risk of HIV/AIDs.	Local	No-go areas are not applicable for this impact.

Gaps in knowledge & recommendations for further study

Eskom will have to provide information on its current measures to manage the risk of HIV/AIDS amongst its temporary workforce working away from home.

8.2 Findings and Implications for Plan of Study for the EIA Phase

- All potential impacts described in the scoping tables in this report will be assessed in the EIA phase. The following steps will be taken to assess the impacts:
- Data gaps identified in the scoping assessment tables will addressed. A list of questions will be sent to Eskom, requesting the information to be provided for the EIA assessment phase.
- Google Earth mapped with the alternative line routes will be examined to determine potential impacts generally and on specific properties, to address the comments received from Interested and Affected Parties.
- A meeting will be held with the Public Participation specialist, to obtain additional information of the potential impacts described by the Interested and Affected Parties. Another outcome of this meeting will be the determination of which sites to investigate further, in order to gather information on potential impacts identified on Google Earth and as follow-ups to the comments received from the Interested and Affected Parties. Where no-go areas, including buffers, are determined these will be mapped out for illustration.
- Site investigations will be undertaken to address gaps in the information.
- There may be overlaps between the social and other specialist reports such as those assessing economic and visual impacts. Any overlaps will be discussed with the relevant specialists, to determine whether it should also be included in the social report.
- The information obtained will be used to assess the impacts. The method of assessing the impacts in the EIA phase is detailed in Section 3 of this report. Qualitative data obtained using Google Earth and site investigations, where they were undertaken, will be used to assess the alternative line alignments to recommend a preferred alignment.

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10 Report prepared by:

Signature: _____ Date: 14 March 2016

Amina O. Ismail

Social Impact Assessment (SIA) specialist

APPENDIX A: Curriculum vitae of SIA Specialist

Amina Omar Ismail

Curriculum Vitae

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Summary

Introduction

I have 20 years of experience working in sustainable development, including 11 years as a senior consultant to government, industry and non-government organisations, and 7 years as a government official in environment and development functions. I have worked in all nine provinces in South Africa, and have international experience from elsewhere in Africa and in Europe, North America and South America. I consider natural sciences technical knowledge, together with goals for good governance and socio-economic development, when identifying environment and development challenges and solutions. My work experience and education reflect an appreciation of the need to integrate diverse fields of knowledge for sustainable solutions.

My Skills

My skills include environmental and social research and reporting, and sustainable development project and programme conceptualisation, strategy development, implementation and management. I have undertaken governance analysis, preparation of implementation plans, indicator development and monitoring and evaluation. I have also conducted environmental health risk assessments, which I commonly integrate into social and environmental impact assessments. I have also employed extensive stakeholder engagement in my projects, with representatives of government, business and civil society. I have co-authored a number of published papers and presentations, and a book chapter, covering various aspects of social and sustainable development.

Selected Projects

I led and participated in many environment and development projects of national strategic importance. I was South African Country Manager of the United Kingdom (UK) funded “Partners for Water and Sanitation” international programme building technical and management capacity to support the development of legislation, policy, strategies, regulations, systems and human resources in national, provincial and local spheres of government. I was lead researcher for a discussion paper identifying best practices for sustainable energy and water conservation nationally. I led and managed a national survey of best practices in labour intensive waste management practices to address the national goals of poverty alleviation and good environmental management. As a City of Johannesburg official I was responsible for managing consultants’ technical inputs for the development of the city’s sustainable housing strategy, and its Geographic Information System (GIS) based State of the Environment Report.

As a consultant I have worked on Environmental Impact Assessments (EIAs) and have prepared numerous Social Impact Assessments (SIAs) and management measures for mining and infrastructure development projects. I have undertaken resettlement action planning and implementation in Zambia and stakeholder engagement in the Democratic Republic of Congo, guided by the International Finance Corporation (IFC) Performance Standards requirements. I have also audited companies’ social commitments in Environmental Management Plans and Social and Labour Plans.

My Education

I have a Masters in Management (Public and Development) from the University of the Witwatersrand’s School of Governance. I also have an Honours Degree in Medical Sciences, as well as a Postgraduate Diploma in Science, in Environmental Studies. In 1997, I was awarded a fellowship to Harvard University where I focused my year of studies in two areas, sustainable development public policy, and public health research and governance. I obtained a Certificate of Competence in Results-Based Monitoring and Evaluation in the Public and Development Sectors from the World Bank’s Center for Learning on Evaluation and Results (CLEAR). I have also completed numerous short courses including State of the Environment Reporting, Sustainable Environmental Impact Assessment for Local Urban Authorities, and the Logical Framework Approach (LFA) to Project Preparation.

Amina Omar Ismail

Education

- Masters in Management (Public and Development), University of the Witwatersrand, Johannesburg, School of Governance, 2012 to 2015. Courses passed:
  - Governance, Leadership and Public Value
  - Development
  - Economics for Public Managers
  - Public Finance
  - Public Policy
  - Strategic Public Management
  - Scenario Planning
  - Analytical Methods
  - Qualitative Research Methods
  - Quantitative research Methods
  - Directed Readings in Public Management
  - Masters research report: Sustainable development governance in Environmental Impact Assessment (EIA) practice.

- Bachelor of Medical Science (Honours), University of Durban-Westville (now University of Kwa-Zulu Natal), Durban, 1985. Courses passed:
  - Chemistry I
  - Physics I
  - Botany I
  - Zoology I
  - Biochemistry I
  - Microbiology I
  - Physiology I & II
  - Pharmacology I, II & III (Honours)
  - Anatomy I, II & III (Honours)

- Microbiology Major, University of South Africa, 1986.

- Environmental Science course, College of Wye, University of London, United Kingdom, 1995, Masters Level pass.

- Postgraduate Diploma in Science (Environmental Studies), University of the Witwatersrand, Johannesburg, 2011. Masters level courses passed:
  - Environmental Management
  - Environmental Law
  - Environmental Education
  - Climate Change and Society

- Fellowship, Harvard University, Cambridge, Massachusetts, United States of America, 1997 – 1998. Courses passed:
  - Ecology and Land-use Planning (*School of Design*)
  - Sustainable Development and Public Policy (*John F Kennedy School of Government*)
  - Topics in Environmental Ethics (*School of Divinity*)

  at Masters level:
  - Politics and Strategies for Change in Health Policy (*School of Public Health*)
  - Introduction to Epidemiology (*School of Public Health*)
  - Principles of Biostatistics (*School of Public Health*)
  - Health Risk Management and Communication (*School of Public Health*)

Selected relevant training

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- Certificate of Competence in "Results Based Management in the Public and Development Sectors", University of the Witwatersrand School of Public and Development Management and World Bank Regional Centers for Learning on Evaluation and Results (CLEAR), 2012.
- State of the Environment Report Training, Department of Environment and Tourism (DEAT) and Council of Scientific and Industrial Research (CSIR), 2002.
- Sustainable Environmental Impact Assessment for Local Urban Authorities Development International Council for Local Environmental Initiatives (ICLEI), 1997.
- Logical Framework Approach (LFA) to Project Preparation. Danish Agency for Environment and Development (DANCED), 2001.
- Research Methods course, Centre for Epidemiological Research, Medical Research Council, Pretoria, 1996.
- Risk Assessment for Environmental Health Decision Making, Council for Scientific and Industrial Research (CSIR) South Africa, and School of Public Health, Harvard University, Boston, United States of America., 1996.

Registrations/Affiliations

- Member, International Association for Impact Assessment (South Africa) (IAIA$_{SA}$)
- Member, Water Institute of Southern Africa (WISA)

Awards

Harvard-South Africa Fellowship, 1997

Publications and Papers

1. "The state of our environment: Safeguarding the foundation for development." *Donald Gibson, Amina Ismail, Darryll Kilian and Maia Matshikiza* in State of the Nation: South Africa 2008. Kagwanja, P. & Kondlo, K. (eds) (2009) Cape Town: HSRC Press

2. "Implementing the Partners for Water and Sanitation model of capacity building in South Africa" A.O. Ismail and R. E. Scott. Presented at the Water, Engineering and Development Centre (WEDC) International Conference, Addis Ababa 18-22 May 2009.

3. "Environmental Health in the West Coast: The Decentralisation Quandary". R. Cameron and A.O. Ismail. Journal of Public Administration Vol 41 No 2 June 2006.

4. "A survey of blood lead levels among young Johannesburg school children". A. Mathee, Y. E. R. von Schirnding, J. Levin, A. Ismail, R. Huntley and A. Cantrell. Environmental Research Volume 90, Issue 3, November 2002, Pages 181-184.

5. "Eco-efficiency in the building sector – Legislative and Institutional frameworks" prepared for the Danish Agency for Environment and Development. 2001.

6. "Waste Disposal Practices in Urban Communities - Use of the 'BASNEF' (Beliefs, Attitudes, Subjective Norms and Enabling Factors) Model to Address Illegal Dumping". Poster presented at the Poverty and Inequity Conference of the Epidemiological Society of Southern Africa (ESSA). February 2000 East London, South Africa.

7. "The Application of 'Hazard Analysis Critical Control Point' (HACCP) systems for safe street food in South Africa" presented at the 'National Workshop on Street Food' hosted by Department of Health, Pretoria 1997.

8. "Survey of blood lead burdens among school children and newborns in Greater Johannesburg". Angela Mathee, Yasmin von Schirnding, Amina Ismail and Renaire Huntley. Urbanization and Health Newsletter June- September 1996.

Languages

English – read, write, speak: excellent
Afrikaans – read, write, speak: satisfactory
Zulu- Speak and read: basic
Urdu- read, write and speak: basic

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Employment

2015	Independent Consultant, Sustainable Development and Social Impact Assessment
2012 -2014	SRK Consulting (Pty) Ltd, Contractor, Senior Consultant, Johannesburg
2006 – 2011	SRK Consulting (Pty) Ltd, Senior Environmental Scientist, Johannesburg
2005 – 2006	SRK Consulting (Pty) Ltd, Contractor, Senior Consultant, Johannesburg
2003 – 2005	Wendy Ovens and Associates, Senior Consultant, Johannesburg
2002 – 2003	University of the Witwatersrand, Sustainable Urban Development Research Co-ordinator, Johannesburg
2002	Specialist: Environmental Planning and Management
2001 – 2002	City of Johannesburg, Senior Professional Officer, Environmental Planning and Management Policy and Co-ordination
2000 – 2001	City of Johannesburg, Operations Manager, Environmental Planning, Southern Metropolitan Local Council
1997 – 1999	City of Johannesburg, Operations Manager, Environmental Health Research, Information and Public Awareness
1994 – 1997	City of Johannesburg, Environmental Health Risk Evaluation Officer
1990 – 1993	L.M.S. Secondary School, Teacher, Mathematics and Science, Lenasia, Johannesburg
1988 – 1989	Novo-Nordisk Pharmaceuticals, Microbiologist and Chemist, Johannesburg
1988	South African Institute for Medical Research, Laboratory Assistant, Public Health Laboratory, Johannesburg
1986	Medunsa University, Demonstrator and Tutor in Anatomy, Anatomy Department, Ga-Rankuwa, South Africa

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Chronological List of Projects:

Type of Project:	**Social Impact Assessment**
Location:	Four Petra Diamonds Operations in Free State, Northern Cape and Gauteng provinces in South Africa
Project duration & year:	August 2015 to current
Client:	Petra Diamonds
Name of Project:	Petra Global Reporting Initiative (GRI) G4 Reporting
Project Description:	Undertaking Social Impact Assessments for Petra Diamonds, for its Cullinan, Kimberley, Finsch and Koffiefontein operations, in preparation for Petra's Global Reporting Initiative (GRI) G4 Reporting
Job Title and Duties:	Social Impact Assessment (SIA) Practitioner. Preparation of *status quo* and assessment of significant impacts and risks for four Petra operations in South Africa. The SIA must be undertaken to meet the GRI G4 reporting requirements. Desktop research and stakeholder engagements are being undertaken and integrated into assessment reports.

Type of Project:	**Environmental Impact Assessment**
Location:	Johannesburg, Gauteng province
Project duration & year:	June 2015 to current
Client:	Johannesburg Roads Agency
Name of Project:	Basic Assessment for Storm Water Infrastructure in Soweto, Johannesburg
Project Description:	Basic Assessment for establishing extensive storm water infrastructure networks in 9 Priority Areas in Soweto, Johannesburg
Job Title and Duties:	Environmental Assessment Practitioner. Preparation of *status quo* and impact assessment components of report, including desktop research and integration of specialist and stakeholder inputs.

Type of Project:	**Social Impact Assessment**
Location:	Western Cape, South Africa
Project duration & year:	April 2015 to current
Client:	Eskom
Name of Project:	Gouwrikwa- Blanco Social Impact Assessment
Project Description:	Social Baseline Study and Impact Assessment for Proposed Gouwrikwa- Blanco 400kV Transmission Line.
Job Title and Duties:	Social Impact Assessment specialist. Desktop research, engagement with other specialists on issues requiring co-ordinated environment and development response, stakeholder engagement, preparation of socio-economic *status quo*, assessing socio-economic impacts and preparing management measures to promote benefits and mitigate negative impacts of project.

Type of Project:	**Social Impact Assessment**
Location:	Western Cape, South Africa
Project duration & year:	April 2015 to current
Client:	Eskom
Name of Project:	Blanco-Droerivier Social Impact Assessment
Project Description:	Social Baseline Study and Impact Assessment for Proposed Blanco-Droërivier 400kV Transmission Line.
Job Title and Duties:	Social Impact Assessment specialist. Desktop research, engagement with other specialists on issues requiring co-ordinated environment and development response, stakeholder engagement, preparation of socio-economic *status quo*, assessing socio-economic impacts and preparing management measures to promote benefits and mitigate negative impacts of project..

Type of Project:	**Social Impact Assessment**
Location:	Johannesburg, Gauteng province
Project duration & year:	February 2015 to March 2015

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Client:	Eskom
Name of Project:	Plaatjies Social Impact Assessment
Project Description:	Social Baseline Study and Impact Assessment for Proposed Plaatjies 132 kV Substation and Rebuilding of Plaatjies 88kV Power line in Braamfischerville, Technical Service Area.
Job Title and Duties:	Social Impact Assessment specialist. Research, preparation of socio-economic *status quo*, assessing socio-economic impacts, and preparing management measures to promote benefits and mitigate negative impacts of project.
Type of Project:	**Social Impact Assessment**
Location:	Burgersfort, Limpopo province
Project duration & year:	August 2014 to November 2014
Client:	Anglo Platinum
Name of Project:	Social Impact Assessment for Modikwa mine
Project Description:	Social Impact Assessment for the Amendment of the Modikwa mine Environmental Management Plan.
Job Title and Duties:	Social Impact Assessment specialist. Research, Report writing, engagement with other specialists on issues requiring co-ordinated environment and development response, stakeholder engagement, joint preparation of socio-economic status quo, assessing socio-economic impacts and preparing management measures to promote benefits and mitigate negative impacts of project. I adopted an integrated approach that examines the socio-economic impacts from potential changes in environmental states.
Type of Project:	**Social Impact Assessment**
Location:	Rustenburg, North West province
Project duration & year:	April 2014 to November 2014
Client:	Rustenburg Local Municipality
Name of Project:	Social Impact Assessment of Bokamoso Extension 1 Housing project
Project Description:	Baseline study and Social Impact Assessment of Bokamoso Extension 1 4 000 units low cost housing project
Job Title and Duties:	Project Manager and Lead Researcher. Prepare baseline and assess positive and negative socio-economic impacts of housing project in relation to changes in socio-economic and environmental conditions. Recommend measures to progress potential benefits and mitigate negative impacts. I adopted an integrated approach that examined the socio-economic impacts from current state and potential changes in environmental factors.
Type of Project:	**Social Impact Assessment and Management Arrangements**
Location:	North West and Limpopo provinces
Project duration & year:	June 2013 to current
Client:	Anglo Platinum
Name of Project:	SEAT 3 Review
Project Description:	Review of socio-economic baselines and management plans for 4 AngloPlat operations using Anglo American's Socio-Economic Assessment Toolbox (SEAT) Version 3. The project innovation strengthened the management dimension in the current SEAT approach.
Job Title and Duties:	Project Co-ordinator. Co-ordinating team inputs, stakeholder engagement, draft preparation of SEAT 3 for Polokwane smelter
Type of Project:	**Amendment of Social Impact Assessment**
Location:	North West province in South Africa
Project duration & year:	March 2014 to November 2014
Client:	Eskom
Name of Project:	Revision of Socio-Economic Impact Assessment (SIA) for proposed alternative power line alignment in Delareyville
Project Description:	Revising status quos of socio-economic environments, undertaking socio-economic impact assessments and preparation of management plans to manage alternative potential socio-economic impacts identified

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Job Title and Duties:	Social Impact Assessment specialist & Project Manager. Desktop research and report writing
Type of Project:	**Waste Management and Job Creation**
Location:	All South African municipalities
Project duration & year:	6 months assignment, September 2012 to March 2013
Client:	Department of Environment Affairs
Name of Project:	Labour intensive municipal waste service delivery models
Project Description:	National research and report on labour intensive municipal waste service delivery good practices internationally and nationally, for replication in South African municipalities
Job Title and Duties:	Lead researcher & Project Manager, researcher, report writing, client liaison
Type of Projects:	**Social Impact Assessments of varying complexities**
Location:	Mpumalanga, Northern Cape and Limpopo provinces in South Africa; Gweru and Harare in Zimbabwe
Project duration & year:	5 separate projects, from 1 month to 6 months in duration, 2009 to 2013
Clients:	Samancor, SATO Solar Power, De Beers, Sasol and Angloplat Zimbabwe
Names of Projects:	Socio-Economic Impact Assessments (SIAs) for proposed new and extensions to existing infrastructure and mining projects for 5 separate projects for Samancor, SATO Solar Power, De Beers, Sasol and Angloplat Zimbabwe
Project Description:	Prepare status quos of socio-economic environments, undertake socio-economic impact assessments and preparation of management plans to manage potential socio-economic impacts
Job Title and Duties:	Social Impact Assessor & Project Manager. Researcher, stakeholder engagement and report writing.
Type of Project:	**Audit social development obligations of mine**
Location:	Northern Cape
Project duration & year:	1 month, 2011
Client:	Confidential (mining operation)
Name of Project:	Audit operations' compliance to socio-economic development obligations in Environmental Management Plans (EMPs) and Social and Labour Plan (SLP)
Project Description:	Site visit, interview staff and verification to ascertain compliance to EMP and SLP obligations
Job Title and Duties:	Auditor, stakeholder engagement and report writing for socio-economic aspects
Type of Project	**Managing international partnerships for building capacity in water sector**
Location:	South Africa and the United Kingdom
Project duration & year:	3 years 2007 to 2010
Client:	United Kingdom Department for International Development (UK DFID) and UK Non-Profit Organisation, Partners for Water and Sanitation (PAWS, later changed to PfWS) based at University of Loughborough's Water and Engineering Development Centre (WEDC).
Name of Project:	Country Manager, United Nations' Partnership for Sustainable Development registered Partners for Water and Sanitation capacity building programme
Project Description:	Building capacity in the South African water and sanitation sector to progress its Millennium Development Goals (MDGs) for water and sanitation. Technical and management capacity was built in relevant spheres of government for improvements in regulation of drinking water and effluent quality, water safety plans, wastewater treatment works operations, water conservation/ water demand management, customer care and asset management.
Job Title and Duties:	South Africa Country Manager. Revised and implemented programme strategy. Consulted government stakeholders in national, provincial and local spheres to identify capacity building needs. Worked with PfWS to identify UK partners to build capacity to improve South African water and sanitation services delivery. Managed capacity building projects and deliverables for South Africa. Liaison and reporting to clients and UK partners including donors.
Type of Project:	**Preparation of Social and Labour Plan, including negotiation with authorities and communities to support an irrigation project and a**

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	community enterprise project
Location:	Limpopo province
Project duration & year:	6 month assignment, 2008 - 2009
Client:	China Minmetals
Name of Project:	Preparation of Social and Labour Plan (SLP)
Project Description:	Prepare Social and Labour Plan as part of China Minmetal's Mining Right Application. Included the preparation of Human Resources Development Plan and Local Economic Development Plan, for the Naboom Chrome Mine
Job Title and Duties:	Project Manager, stakeholder engagements and liaison for identification of impacts and community needs, preparation of SLP report.
Type of Project:	**Study to identify good local government practices to progress energy efficiency and water conservation and water quality**
Location:	National
Project duration & year:	6 months 2006
Client:	National Department: Provincial and Local Government (dplg)
Name of Project:	Discussion paper on the role of local government in the implementation of sustainable development
Project Description:	Prepare a discussion paper for the dplg on local government's role in progressing national and local sustainable development objectives generally, and responding to concerns for energy efficiency and water conservation and water quality in particular
Type of Project:	**Implementation of Resettlement Action Plan for a rural community, including support for establishment of agricultural activities**
Job Title and Duties:	Lead researcher. Research, report-writing, project management
Location:	Mwambashi, Zambia
Project duration & year:	6 months 2008
Client:	Teal Mining and Exploration (Zambia)
Name of Project:	Resettlement Action Plan for the Mwambashi mine site
Project Description:	Project Manager for interim implementation of the Resettlement Action Plan (RAP) for the Mwambashi mine site, guided by International Finance Corporation Performance Standards
Job Title and Duties:	Project Manager, stakeholder engagement, initiate implementation of RAP
Type of Project:	**Stakeholder engagement to International Finance Corporation standards**
Location:	Democratic Republic of Congo (DRC)
Project duration & year:	3 months 2007
Client:	Katanga Mining
Name of Project:	Stakeholder Participation Kamoto Operations Limited
Project Description:	Conducted public disclosure and stakeholder participation component of Kamoto Operations Limited to meet International Finance Corporation Performance Standards
Job Title and Duties:	Stakeholder facilitator; Conducted public disclosure and stakeholder participation component of Kamoto Operations Limited to meet International Finance Corporation standards
Type of Project:	**Preparation of a Resettlement Action Plan for a rural community**
Location:	Mwambashi, Zambia
Project duration & year:	1.5 years 2006 to 2007
Client:	Teal Mining and Exploration (Zambia)
Name of Project:	Preparation of a Resettlement Action Plan for a rural community
Project Description:	Fieldwork co-ordination for inventory of over 130 households, stakeholder engagement, co-ordination of project activities including independent valuation
Job Title and Duties:	Project Co-ordinator; Fieldwork Co-ordinator
Type of Project:	**Audit social development obligations of mine**
Location:	Nkana and Mufulira Mines, Zambia
Project duration & year:	1 month 2006
Client:	Mopani Copper Mine Plc (Zambia)

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Name of Project:	Environmental Management Plans (EMPs) Audit on Nkana and Mufulira Mines
Project Description:	Audit on Nkana and Mufulira Mines against the environmental and socio-economic obligations of their EMPs
Job Title and Duties:	Auditor; Audit Nkana and Mufulira Mines against the socio-economic obligations of their Environmental Management Plans. Co-ordinate inputs from environmental team and edit and finalise report.
Type of Project:	**Governance chapter for National Strategy for Sustainable Development**
Location:	Gauteng
Project duration & year:	6 months 2006
Client:	Department of Environment Affairs and Tourism
Name of Project:	Stakeholder engagement and strategic inputs National Framework for Sustainable Development (NFSD)
Project Description:	Research and strategic inputs including engaging stakeholders and integration of stakeholder inputs into the National Framework for Sustainable Development, which is a national commitment to the UN Agenda 21 and the UN Johannesburg Plan of Implementation
Job Title and Duties:	Researcher, Governance of Sustainable Development. Stakeholder engagement and integration of issues into NFSD's Governance section. Strategic inputs for preparation of NFSD drafts
Type of Project:	**Stakeholder engagement for Social Impact Assessment and Social and Labour Plan**
Location:	Helena, Thorncliffe, Mototolo and Der Brochen Mines, and the Lydenburg Works and Project Lion smelters.
Project duration & year:	3 months 2006
Client:	Xtstrata and Angloplatinum
Name of Project:	Stakeholder engagement for SIA and SLP
Project Description:	Stakeholder engagement and inputs into Social Impact Assessment for Social Labour Plans being developed for Helena, Thorncliffe, Mototolo and Der Brochen Mines, and the Lydenburg Works and Project Lion smelters.
Job Title and Duties:	Social Scientist; Stakeholder engagement and inputs into Social Impact Assessment for Social Labour Plans being developed
Type of Project:	**Capacity Assessment and preparation of Action Plan for implementing Municipal Planning function**
Location:	Lejweleputswa District Municipality, Free State province
Project duration & year:	3 months 2005
Client:	Lejweleputswa District Municipality (DC18)
Name of Project:	Capacity of DC18 for IDP
Project Description:	Capacity analysis of District Municipality DC18 administration for implementing Integrated Development Plan (IDP) and Preparation of Action Plan to align DC18 capacity to implement IDP
Job Title and Duties:	Senior Consultant; Researcher, stakeholder consultation report writing
Type of Project:	**Verification of municipal capacity building needs**
Location:	Western Cape
Project duration & year:	3 months 2005
Client:	Provincial Administration of the Western Cape
Name of Project:	Capacity assessment for Provincial support
Project Description:	Conducted municipality consultations to verify municipal capacity and obtain additional information on capacity building needs for provincial support planning Supported preparation of municipal capacity assessment report for Western Cape province
Job Title and Duties:	Conducted municipality consultations to verify municipal capacity and obtain additional information on capacity building needs for provincial support planning Supported preparation of municipal capacity assessment report for Western Cape province
Type of Project:	**Governance options for municipal Environmental Health function**
Location:	West Coast

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Project duration & year:	6 months 2005
Client:	West Coast District Municipality (DC1)
Name of Project:	Capacity Analysis for Environmental Health Service Delivery
Project Description:	Determined municipal capacity for delivery of environmental health function in all local municipalities located in the West Coast District Municipality (WCDM) area. Prepared status quo report of service delivery of the environmental health function for WCDM. Prepared report on core responsibilities of the municipal environmental health function
Job Title and Duties:	Senior Consultant; Determined municipal capacity for delivery of environmental health function; Prepared status quo report of service delivery; Prepared report on core responsibilities

Type of Project:	**Data analysis to support implementation of national Rural Development Strategy**
Location:	Gauteng
Project duration & year:	6 months 2004
Client:	Independent Development Trust
Name of Project:	"Integrated Sustainable Rural Development Strategy"
Project Description:	Supported data analysis for the identification of the sites for the Presidential project, "Integrated Sustainable Rural Development Strategy
Job Title and Duties:	Senior Consultant; Supported data analysis for the identification of the sites for the Presidential project, "Integrated Sustainable Rural Development Strategy

Type of Project:	**Mid-term reporting on Provincial Strategy**
Location:	Gauteng Province
Project duration & year:	1 month 2004
Client:	Gauteng Province
Name of Project:	Mid-term Report Gauteng Province 2004
Project Description:	Compiled report on mid-term accomplishments of all municipalities and Researched and prepared report on the performance of provincial functions to meet the strategic priorities of the Gauteng Province
Job Title and Duties:	Senior Consultant; Compiled report on mid-term accomplishments of all municipalities; Researched and prepared report on the performance of provincial functions to meet the strategic priorities of the Gauteng Province

Type of Project:	**National assessment of all municipalities to assess their capacity to execute their 38 Constitutional local government functions**
Location:	National South Africa
Project duration & year:	6 months in 2003 and in 6 months in 2004
Client:	Municipal Demarcation Board (MDB)
Name of Project:	National municipality capacity assessment
Project Description:	National municipality capacity assessment for review of allocation of powers and function to municipalities
Job Title and Duties:	Senior Consultant; Evaluated and supported preparation of questionnaire for conducting national assessments of municipal government capacity. Co-ordinated national municipality capacity assessment fieldwork (2003 &2004). Prepared municipal capacity reports for Free State province (2003 & 2004). Evaluated and revised municipal capacity reports for Kwa-Zulu Natal province (2003). Financial administration of 2004 municipal capacity assessment

Type of Project:	**International sustainable urban development research project**
Location:	Johannesburg
Project duration & year:	1 year, 2002 -2003
Employer:	University of the Witwatersrand
Name of Project:	Alliance for Global Sustainability (AGS) "Designing, Implementing and Managing Sustainable Urban Development" (DIMSUD) research project"
Job Title and Duties:	Project Co-ordinator for DIMSUD project; Co-ordinated research efforts of team of five Masters level students working on DIMSUD project investigating institutional processes and capacity to plan and implement sustainable urban development; Conducted research, analysis and preparation of documentation

of research findings; Liaised with local government and international partners, as necessary; Presented project progress to stakeholders at national and international workshops. (Collaborators included University of Botswana; Catholic University of Chile; Swiss Federal Institute of Technology, Zurich; Chalmers University, Sweden; Massachusetts Institute of Technology, U.S.A.)

Positions held: **Specialist: Environmental Planning and Management, City of Johannesburg; Senior Professional Officer in Southern Metropolitan Local Council**

Location: City of Johannesburg (CoJ)

Project duration & year: Housing 1 year; Waste 1 year and State of the Environment Report 3 months. 2001 to 2002

Employer: City of Johannesburg (CoJ)

Job Title and Duties: Development of City of Johannesburg's Sustainable Development Policies, Strategies and Reporting Tool

Project descriptions: Environmental department's project manager of the "Environmentally Sound Low-Cost Housing Strategy" that promoted technical solutions for progressing social and economic sustainability. Joint fundraiser for CoJ's Sustainable Housing Strategy.
Project Manager for revision of the city's internet and Geographic Information Systems based "State of Environment Report".
Member of working group developing Waste Management Strategy for the municipality.

Positions held: **Operations Manager: Environmental Health Research, Information and Awareness in the Southern Metropolitan Local Council; Environmental Health Risk Evaluation Officer, Johannesburg City Council.**

Location: City of Johannesburg (CoJ)

Project duration & year: 1994 to 2000

Employer: Southern Metropolitan Local Council and City of Johannesburg.

Job Title and Duties: Developed, managed and implemented research, information and awareness programmes and projects for Environmental Health Department in Southern Metropolitan Local Council.
Developed, managed, implemented and supported research, information and awareness of environmental health hazards and risks in Greater Johannesburg.

Project Descriptions Lead researcher for the design, implementation, analysis and reporting of research project, "Use of the 'BASNEF' (Beliefs, Attitudes, Subjective Norms and Enabling Factors) Model to Address Illegal Dumping".
Researcher and field co-ordinator in a team investigating blood lead levels amongst children in primary schools in the Greater Johannesburg area.
Nominated to national committee advising Minister of Health on legislation for instituting Hazard Analysis Critical Control Point (HACCP) for food safety.
Environmental Health representative on steering committee developing sanitation policy for the municipality.
Prepared assessments and reports on health risks associated with

- blood lead levels in young children;
- illegal dumping of waste;
- street food preparation;
- fluoridation of drinking water;
- drinking water quality; and
- aflotoxins in food.

Member of the Steering Committee for the 'International Conference on Health and the Environment in Africa' held in Pretoria in September 1997.
Project managed the Southern Metro World Environment Day 2000 event held in Orange Farm, and World Environment Day 1999 held in Kliptown.
Johannesburg municipality representative on provincial Eco-clubs Committee.
Adjudicator, Southern Metro Mayoral Masakhane Clean and Green Community Awards Project

APPENDIX B: Specialist declaration of independence

environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	12/12/20/ or 12/9/11/L
NEAS Reference Number:	DEA/EIA
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-

(1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014; and

(2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

PROJECT TITLE

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE BLANCO (NARINA) TO DROËRIVIER 400KV TRANSMISSION LINE, AND SUBSTATION UPGRADE

Specialist:	Social Impact Assessment		
Contact Person:	Amina Ismail		
Postal address:	Unit 42 Melville Estates, 24 Main Road East, Melville		
Postal code:	2092	Cell:	082 452 9799
Telephone:	011 482 8266	Fax:	
E-mail:	solanum@worldonline.co.za		
Professional affiliation(s) (if any)	Water Institute of Southern Africa		

Project Consultant:	Envirolution Consulting		
Contact person:	Marinda le Roux & Gesan Govender		
Postal address:	PO Box 1898 Sunninghill		
Postal code	2157	Cell:	0614174281
	0861444499	Fax:	0861626266
Telephone	marinda@envirolution.co.za		
E-mail:			

I, Amina Omar Ismail , declare that --

General declaration:

I act as the independent specialist in this application;
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
I declare that there are no circumstances that may compromise my objectivity in performing such work;
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
I will comply with the Act, Regulations and all other applicable legislation;
I have no, and will not engage in, conflicting interests in the undertaking of the activity;
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
all the particulars furnished by me in this form are true and correct; and
I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the specialist:

Not applicable

Name of company (if applicable):

15 March 2016

Date:

APPENDIX C: Envirolution's Terms of Reference for specialists

Scoping Report Requirements

Scoping Report:

The purpose of the Scoping Report is to determine the main issues and potential impacts of the proposed project during the scoping phase at a desktop level based on existing information:

- Identify **potential sensitive environments** and **receptors** that may be impacted on by the proposed facility and the **types of impacts** (i.e. direct, indirect and cumulative[3]) that are most likely to occur.
- Determine the **nature and extent of potential impacts** during the construction and operational phases.
- Identify '**No-Go' areas**, where applicable.
- Summarise the potential impacts that will be **considered further** in the EIA Phase through specialist assessments.

For each phase, the scoping report must include:

- a description of the environment that may be affected by the activity and the manner in which the environment may be affected by the proposed project
- a description and evaluation of environmental issues and potential impacts (including direct, indirect, cumulative impacts and residual risks) that have been identified
- Direct, indirect, cumulative impacts and residual risks of the identified issues must be evaluated within the Scoping Report in terms of the following criteria:
  - the nature, which shall include a description of what causes the effect, what will be affected and how it will be affected, for each impact anticipated;
  - the extent, wherein it will be indicated whether the impact will be local (limited to the immediate area or site of development), regional, national or international. See Table on the next page.
- a statement regarding the potential significance of the identified issues based on the evaluation of the issues/impacts
- a comparative evaluation of the identified feasible alternatives, and **nomination of a preferred alternative** for consideration in the EIA phase

[3] The cumulative impacts are expected to be associated with the scale of the project and any existing impacts affecting the study area. Cumulative effects can only be assessed once the detailed layouts are known. They will then be considered in the detailed specialist studies to be undertaken in the EIA Phase.

» Identification of potentially significant impacts **to be assessed** within the EIA phase and details of the methodology to be adopted in assessing these impacts. This should be detailed enough to include within the **Plan of Study for EIA** and must include a **description of the proposed method** of assessing the potential environmental impacts associated with the project. This must also include any gaps in knowledge at this point of the study and further recommendations for the EIA Phase. Consideration of areas that would constitute "acceptable and defendable loss" should be included in this discussion.

Impact Tables for Scoping Report

Table XX: Table Heading

Impacts

[Description of the expected impacts. Areas anticipated to be affected.]

Desktop Sensitivity Analysis of the Site:

Sensitivity analysis in terms of the impacts expected. Discuss areas of high concern. Recommend areas for development. Discuss any "acceptable loss" areas/impacts.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
i.e. Disturbance to and loss of indigenous natural vegetation	Discussion of the consequences of the construction of the facility to the issue/impact considered in column 1.	i.e. Local/Regional/ National	No-Go areas would include the larger drainage lines, and …..etc.

Gaps in knowledge & recommendations for further study

Outline areas of limitations in the study. Any areas that require further study.

Plan of Study for the EIA Phase

Identification of potentially significant impacts **to be assessed** within the EIA phase and details of the methodology to be adopted in assessing these impacts. This should be detailed enough to include within the **Plan of Study for EIA** and must include a **description of the proposed method** of assessing the potential environmental impacts associated with the project.

Detailed description of what is planned to be undertaken during the EIA including but not limited to:

- Methodology
- Field studies planned

EIA Report Requirements

EIA Report

The purpose of the EIA Report is to elaborate on the issues and potential impacts identified during the scoping phase of the proposed projects. This is achieved by site visits and research in the site-specific study area as well as a comprehensive assessment of the impacts identified during the scoping phase.

For each project, the EIA report must include:

- a description of the environment that may be affected by the activity and the manner in which the environment may be affected by the proposed project
- a description and evaluation of environmental issues and potential impacts (including direct, indirect, cumulative impacts and residual risks) that have been identified
- Direct, indirect, cumulative impacts and residual risks of the identified issues must be evaluated within the EIA Report in terms of the following criteria:
  - the nature, which shall include a description of what causes the effect, what will be affected and how it will be affected;
- a statement regarding the potential significance of the identified issues based on the evaluation of the issues/impacts
- a comparative evaluation of the identified feasible alternatives, and **nomination of a preferred alternative**
- Any aspects which are conditional to the findings of the assessment which are to be included as conditions of the Environmental Authorisation
- This must also include any gaps in knowledge at this point of the study. Consideration of areas that would constitute "acceptable and defendable loss" should be included in this discussion.
- A reasoned opinion as to whether the proposed project should be authorised.
- Summary of the positive and negative impacts and risks of the proposed project and identified alternatives.
- Mitigation measures and management recommendations to be included in the Envrionmental Management Programme to be submitted with the FEIR

Assessment of Impacts

Direct, indirect and cumulative impacts of the issues identified through the scoping study, as well as all other issues identified in the EIA phase must be assessed in terms of the following criteria:

- The **nature**, which shall include a description of what causes the effect, what will be affected and how it will be affected.

- The **extent**, wherein it will be indicated whether the impact will be local (limited to the immediate area or site of development) or regional, and a value between 1 and 5 will be assigned as appropriate (with 1 being low and 5 being high):
- The **duration**, wherein it will be indicated whether:
  - the lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
  - the lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
  - medium-term (5–15 years) – assigned a score of 3;
  - long term (> 15 years) - assigned a score of 4; or
  - permanent - assigned a score of 5;
- The **consequences (magnitude)**, quantified on a scale from 0-10, where 0 is small and will have no effect on the environment, 2 is minor and will not result in an impact on processes, 4 is low and will cause a slight impact on processes, 6 is moderate and will result in processes continuing but in a modified way, 8 is high (processes are altered to the extent that they temporarily cease), and 10 is very high and results in complete destruction of patterns and permanent cessation of processes.
- The **probability** *of occurrence*, which shall describe the likelihood of the impact actually occurring. Probability will be estimated on a scale of 1–5, where 1 is very improbable (probably will not happen), 2 is improbable (some possibility, but low likelihood), 3 is probable (distinct possibility), 4 is highly probable (most likely) and 5 is definite (impact will occur regardless of any prevention measures).
- the **significance**, which shall be determined through a synthesis of the characteristics described above and can be assessed as low, medium or high; and
- the **status**, which will be described as either positive, negative or neutral.
- the degree to which the impact can be reversed.
- the degree to which the impact may cause irreplaceable loss of resources.
- the *degree* to which the impact can be *mitigated*.

The **significance** is calculated by combining the criteria in the following formula:

S=(E+D+M)P

S = Significance weighting

E = Extent

D = Duration

M = Magnitude

P = Probability

The **significance weightings** for each potential impact are as follows:

- < 30 points: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),
- 30-60 points: Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- > 60 points: High (i.e. where the impact must have an influence on the decision process to develop in the area).

Assessment of impacts must be summarised in the following table format. The rating values as per the above criteria must also be included. Complete a table and associated ratings for **each** impact identified during the assessment.

Impact Tables for EIA Report

Table XX: Table Heading

Nature: [Outline and describe fully the impact anticipated as per the assessment undertaken]		
	Without mitigation	**With mitigation**
CONSTRUCTION PHASE		
Probability	Definite (5)	Highly probable (4)
Duration	Medium-term (3)	Medium-term (3)
Extent	Limited to Local Area (2)	Limited to Local Area (2)
Magnitude	High (8)	Moderate (6)
Significance	**65 (high)**	**44 (moderate)**
Status (positive or negative)	Negative	Negative

OPERATIONAL PHASE		
Probability	Highly probable (4)	Probable (30)
Duration	Permanent (5)	Permanent (5)
Extent	Limited to Local Area (2)	Limited to the Site (1)
Magnitude	High (8)	Low (4)
Significance	**60 (high)**	**30 (moderate)**
Status (positive or negative)	Negative	Negative
Reversibility	Low	Moderate
Irreplaceable loss of resources?	Moderate	Low
Can impacts be mitigated?	Yes/No	

Mitigation:

"Mitigation", means to anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible.

- Provide a description of how these mitigation measures will be undertaken keeping the above definition in mind.

Cumulative impacts: "Cumulative Impact", in relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be

significant, but may become significant when added to existing and reasonably foreseeable impacts eventuating from similar or diverse activities[4].
Residual Risks: "Residual Risk", means the risk that will remain after all the recommended measures have been undertaken to mitigate the impact associated with the activity (Green Leaves III, 2014).

Environmental Management Plan Table format:

Measures for inclusion in the draft Environmental Management Programme must be laid out as detailed below:

OBJECTIVE: Description of the objective, which is necessary in order to meet the overall goals; these take into account the findings of the environmental impact assessment specialist studies

Project component/s	List of project components affecting the objective
Potential Impact	Brief description of potential environmental impact if objective is not met
Activity/risk source	Description of activities which could impact on achieving objective
Mitigation: Target/Objective	Description of the target; include quantitative measures and/or dates of completion

Mitigation: Action/control	**Responsibility**	**Timeframe**
List specific action(s) required to meet the mitigation target/objective described above	Who is responsible for the measures	Time periods for implementation of measures

[4] Unless otherwise stated, all definitions are from the 2014 EIA Regulations, GNR 982

Performance Indicator	Description of key indicator(s) that track progress/indicate the effectiveness of the management plan.
Monitoring	Mechanisms for monitoring compliance; the key monitoring actions required to check whether the objectives are being achieved, taking into consideration responsibility, frequency, methods and reporting

Checklist of Specialist Report

Requirements as per the 2014 EIA Regulations

EIA REGULATIONS 2014 GNR 982 Appendix 6 CONTENT OF THE SPECIALIST REPORTS	Required at Scoping/Desk-top Phase	Required at BA/EIA Phase	Cross-reference in this scoping report
(a) details of— the specialist who prepared the report; and the expertise of that specialist to compile a specialist report including a curriculum vitae;	X	X	[i.e. Chapter 2 or Section b etc]
(b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	X	X	
(c) an indication of the scope of, and the purpose for which, the report was prepared	X	X	
(d) the date and season of the site investigation and the relevance of the season to the outcome of the assessment;	X	X	
(e) a description of the methodology adopted in preparing the report or carrying out the specialised process;	X	X	
(f) the specific identified sensitivity of the site related to the activity and its associated structures and infrastructure;	X	X	
(g) an identification of any areas to be avoided,	X	X	

EIA REGULATIONS 2014 GNR 982 Appendix 6 CONTENT OF THE SPECIALIST REPORTS	Required at Scoping/Desk-top Phase	Required at BA/EIA Phase	Cross-reference in this scoping report
including buffers;			
(h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers	X	X	
(i) a description of any assumptions made and any uncertainties or gaps in knowledge;	X	X	
(j) a description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives on the environment;	X	X	
(k) any mitigation measures for inclusion in the EMPr		X	
(l) any conditions for inclusion in the environmental authorisation;		X	
(m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;		X	
(n) a reasoned opinion— i. as to whether the proposed activity or portions thereof should be authorised; and ii. if the opinion is that the		X	

EIA REGULATIONS 2014 GNR 982 Appendix 6 CONTENT OF THE SPECIALIST REPORTS	Required at Scoping/Desk-top Phase	Required at BA/EIA Phase	Cross-reference in this scoping report
proposed activity or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;			
(o) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	X	X	
(p) any other information requested by the competent authority	X	X	