SOCIAL IMPACT ASSESSMENT
EIA REPORT

PROPOSED GAS TO POWER PLANT ON A SITE WITHIN THE RICHARDS BAY INDUSTRIAL DEVELOPMENT ZONE

KWAZULU NATAL PROVINCE

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EXECUTIVE SUMMARY

Richards Bay Gas to Power 2 (Pty) Ltd is proposing the establishment of a gas to power plant and associated infrastructure on a site located within the Richards Bay Industrial Development Zone 1F. The power station will have a capacity of up to 400MW (300MW from the gas turbines, 100MW from the steam turbines) and will be developed in 2 phases to operate with a wide variety of fuels, including diesel and Liquefied Petroleum Gas (LPG) (phase 1 of the proposed development) and ultimately Liquid Natural Gas (LNG) / Natural Gas (NG) (phase 2 of the proposed development). The proposed site is situated within the uMhlathuze Local Municipality (ULM), which is located within the jurisdiction of the uThungulu District Municipality (UDM) in the KwaZulu-Natal (KZN) Province.

The Social Impact Assessment (SIA) was undertaken by Candice Hunter of Savannah Environmental. The purpose of the report is to assess the potential social impacts associated with the proposed development and to recommend management measures to reduce / avoid the negative social impacts and enhance the positive social impacts associated with the proposed Development. This report contains the findings of the SIA for the EIA process for the gas to power plant.

Legislation and Guidelines

The review of the relevant planning and policy documents was undertaken as a part of the SIA process. The key documents reviewed included:

National Policies:

» The Constitution of the Republic of South Africa (Act 108 of 1996)
» The National Environmental Management Act (107 of 1998) (NEMA)
» The National Energy Act (Act No. 34 of 2008)
» National Development Plan 2030
» National Climate Change Response Policy White Paper (2011)
» Integrated Energy Plan (2012)
» Integrated Resource Plan (2010 – 2030)
» White Paper on Energy Policy of South Africa (1998)
» National Integrated Resource Plan for South Africa (2010-2030) (Update report 2013)
» Gas Utilisation Master Plan (GUMP)
» Gas-to- Power programme

Provincial Policies:

» KZN Provincial Growth and Development Strategy (PGDS) 2011-2030 (Version 29.2-September 2013)
» KZN Department of Economic Development and Tourism Strategic Plan 2013/14-2017/18
» KwaZulu-Natal Provincial Spatial Development Framework (PSDF)

» KwaZulu-Natal Climate Change Response and Sustainable Development Plan

District and Local Policies:

» uThungulu District Municipality (UDM) Integrated Development Plan (IDP) (2012/2013-2014/2015)
» uThungulu District Municipality (UDM) Spatial Development Framework (SDF) (2012)
» uMhlathuze Local Municipality (ULM) Integrated Development Plan (IDP) (2012-2017)
» uMhlathuze Spatial Development Framework (2007)
» Environmental Management Framework (EMF) for Richards Bay Port Expansion Area and Industrial Development Zone (IDZ) (2011)

Baseline Description of the Social Environment

The socio-economic profile provided an overview of the study area. The following is a summary of the key baseline findings as a result of the study conducted on the UDM and the ULM in KZN. In summary, the area was found to have the following general characteristics:

» The population of the UDM in 2011 was approximately 907 519 people, of which 33 459 people reside in the ULM.
» The most dominant population group is the Black African population throughout the province, district and local municipality. The Black African population comprises 87.7% of the ULM population and the most spoken language in the ULM is Zulu.
» The female population is slightly more prominent in the UDM, ULM and KZN.
» 67.4% of the ULM population comprise the Economically Active Population (EAP); this implies that there is a larger human resource base for development projects to involve the local population with the ULM. The dependency ratio is high at 48.2% of the ULM population which puts pressure the EAP and local municipalities.
» There is high unemployment rate in the LM (31%) with a large economically active population seeking employment opportunities. Local workers should be utilised as much as possible for the proposed development in order to alleviate local unemployment
» The ULM has a high number of households which falls within a low income category and within the poverty level. Poverty level and the majority of the population falling within the low income level in the ULM is approximately 56.5% which demonstrates the need for job creation; the high demand for employment can be addressed (although marginally) through direct job creation during the construction and operation phase of the proposed development.
» The education levels in the ULM area are generally low. Almost half of the population aged 20 years and older in the municipality have only some secondary education or less (in the ULM this being 46.5% of the population); this indicates that almost half of the local population are semi- skilled or unskilled. This reflects the relatively poor education of the region.

- The skills profile of the area indicates that the availability of local labour for the proposed project which is largely limited to low-skilled construction workers, semi-skilled workers and a small number of skilled workers available
- Majority of the population live in urbanised areas within formal dwellings.
- ULM area is considered to be generally well serviced in terms of the extent and level of infrastructure available in terms of basic services however the ULM has weak/poor quality basic services and infrastructure.
- The economic sectors that have shown a slight increase over the years are financial and mining. The increase in the mining sector has been significant in that this sector is the second largest economic contributor above community services.

The proposed development supports the social and economic development through enabling skills development and training in order to empower individuals and promote employment creation within the local area. The proposed development would mainly focus on economic benefits to the area and contribute towards diversifying the local economy. Negative dimensions of impacts such as influx of jobseekers into the area putting pressure on municipal service facilities have been assessed in the SIA

Social Impact Assessment

The environmental assessment framework for the assessment of impacts and the relevant criteria were applied to evaluate the significance of the potential social impacts. A summary of the potential positive and negative social impacts identified in the SIA for the construction and operation phase of the proposed development are presented in Table 1 and Table 2 below. Table 3 presents the decommissioning phase and Table 4 presents the cumulative impacts associated with the proposed development. No social impacts were identified in the pre-construction / planning phase.

Table 1: Summary of social impacts during construction phase

CONSTRUCTION PHASE		
Impact	**Significance without Mitigation/ enhancement**	**Significance with Mitigation/ enhancement**
Positive Impacts		
Direct employment and skills development	Medium (36)	Medium (44)
Economic multiplier effects	Low (24)	Medium (30)
Negative Impacts		
Influx of jobseekers	Low (24)	Low (18)
Impacts on daily living and movement patterns (Traffic Impacts)	Medium (30)	Low (24)

Safety and security risks	Low (14)	Low (7)
Nuisance impact (noise and dust)	Low (12)	Low (10)

Table 2: Summary of social impacts during operation phase

OPERATION PHASE		
Impact	**Significance without Mitigation/ enhancement**	**Significance with Mitigation/ enhancement**
Positive Impacts		
Direct employment and skills development at Mid-merit	Medium (32)	Medium (40)
Direct employment and skills development at Baseload	Medium (40)	Medium (48)
Economic multiplier effects	Low (24)	Medium (30)
Development of energy infrastructure	Medium (40)	Medium (40)
Negative Impacts		
Impacts on daily living and movement patterns (Traffic Impacts)- Mid-merit	Medium (36)	Low (20)
Impacts on daily living and movement patterns (Traffic Impacts)- Baseload	Medium (42)	Low (24)
Visual Impacts and sense of place impacts	Low (14)	Low (14)

Table 3: Summary of social impacts during decommissioning phase

CONSTRUCTION PHASE		
Impact	**Significance without Mitigation**	**Significance with Mitigation**
Negative Impact		
Social impacts associated with retrenchment including loss of jobs and source of income	Medium (36)	Low (28)

Table 4: Summary of cumulative social impacts

CUMULATIVE IMPACTS

Cumulative Impact	Overall impact of the proposed project considered in isolation	Cumulative impact of the project and other projects in the area
Positive Cumulative Impacts		
Cumulative impacts from employment, skills and business opportunities	Low (27)	Medium (39)
Negative Cumulative Impacts		
Cumulative impacts on daily living and movement patterns (traffic impacts)	Low (24)	Medium (48)
Cumulative impacts with large-scale in-migration of people	Low (18)	Low (27)
Cumulative impacts on the sense of place and landscape	Low (16)	Low (24)

From a social perspective it is concluded that the project is supported, but that mitigation measures should be implemented and adhered to. Positive and negative social impacts have been identified. The assessment of the key issues indicated that there are no negative impacts that can be classified as fatal flaws and which are of such significance that they cannot be successfully mitigated. Positive impacts could be enhanced by implementing appropriate enhancement measures and through careful planning. Based on the social assessment, the following general conclusions and findings have been made:

» The potential negative social impacts are primarily associated with the traffic impacts on daily living and movement patterns during the construction phase and operation phase; and can be reduced with the implementation of the mitigation measures proposed.
» Employment opportunities will be created in the construction and operation phase and the impact is rated as positive even if only a small number of individuals benefit in this regard.
» The proposed project could assist the local economy in creating entrepreneurial development, especially if local business could be involved in the provision of general material and services during the construction and operational phases.
» Capacity building and skills training among employees are critical and would be highly beneficial to those involved, especially if they receive portable skills to enable them to also find work elsewhere and in other sectors.
» The generation of power is needed to ensure the sustainability of existing industry. The demand for electricity in South Africa has grown. The proposed development represents an investment in infrastructure for the generation energy, which represents a positive social benefit for society as a whole.

Recommendations

Based on the social assessment, the following recommendations are made:

» The EPC contractor should appoint a designated staff member to assist with the management of social impacts and to deal with any community issues.
» In terms of employment related impacts, it is important to consider that job opportunities for the unskilled and semi-skilled in the study area could create competition among the local unemployed. Introducing an outside workforce will therefore most likely worsen local endeavours to obtain jobs and provoke discontent as well as put pressure on the local services available. It is imperative that local labour be sourced, wherever possible, to ensure that benefits accrue to the local communities. Efforts should be made to involve local businesses during the construction activities where possible. Local procurement of labour and services/products would greatly benefit the community during the construction and operational phases of the project.
» Local procurement of services and equipment where possible in order to enhance the multiplier effect. This would serve to mitigate other subsequent negative impacts such as those associated with the inflow of outsiders to the area, the increased pressure on the infrastructure and services in the area, as well as the safety and security concerns.
» Involve the community in the process as far as possible (encourage co-operative decision making and partnerships with local entrepreneurs).
» Implement mitigation measures to reduce and avoid negative impacts.
» It is important that the mitigation measures relating to traffic impacts (daily living and movement patterns) are implemented to reduce the negative impacts

Overall Conclusion

The proposed development and associated infrastructure is unlikely to result in permanent damaging social impacts. From a social perspective it is concluded that the project could be developed subject to the implementation of the recommended mitigation measures and management actions contained in the SIA report.

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List of Abbreviations

DEA	Department of Environmental Affairs
DGDS	District Growth and Development Strategy
DM	District Municipality
EAP	Economically Active Population
EIA	Environmental Impact Assessment
EMF	Environmental management Framework
EMPr	Environmental Management Programme
EMZ	Environmental Management Zone
GDP	Gross Domestic Product
HA	Hectares
HD	Historically Disadvantaged
HDSA	Historically Disadvantaged South Africans
IDP	Integrated Development Plan
IDZ	Industrial Development Zone
IPP	Independent Power Producer
KPA	Key Performance Area
kV	Kilovolts
KZN	KwaZulu-Natal
LED	Local Economic Development
LM	Local Municipality
LPG	Liquefied Petroleum Gas
MW	Megawatt
NA	Natural Gas
NEMA	National Environmental Management Act
NSSD	National Strategy for Sustainable Development
PV	Photovoltaic
PSDF	Provincial Spatial Development Framework
PGDS	Provincial Growth and Development Strategy
RBIDZ	Richards Bay Industrial Development Zone
SEMP	Strategic Environmental Management Plan
SDF	Spatial Development Framework
SIA	Social Impact Assessment
SIPs	Strategic Infrastructure Projects
SPV	Special Purpose Vehicle
ULM	uMhlatuze Local Municipality
UDM	uThungulu District Municipality

1. INTRODUCTION

Richards Bay Gas to Power 2 (Pty) Ltd, an Independent Power Producer (IPP), is proposing the establishment of a gas to power plant and associated infrastructure on a site located within the Richards Bay Industrial Development Zone 1F. The power station will have a capacity of up to 400MW (300MW from the gas turbines, 100MW from the steam turbines) and will be developed in 2 phases to operate with a wide variety of fuels, including diesel and Liquefied Petroleum Gas (LPG) (phase 1 of the proposed development) and ultimately Liquid Natural Gas (LNG) / Natural Gas (NG) (phase 2 of the proposed development). The proposed site is situated within the uMhlathuze Local Municipality (ULM), which is located within the jurisdiction of the uThungulu District Municipality (UDM) in the KwaZulu-Natal (KZN) Province.

This Social Impact Assessment (SIA) was undertaken by Candice Hunter of Savannah Environmental as part of the EIA process.

1.1. Social Impact Assessment (SIA)

SIA is described as "the process of assessing or estimating, in advance, the social consequences that are likely to follow from specific policy actions or project developments, particularly in the context of appropriate national, state, or provincial environmental policy legislation" (Becker et al, 2003). By social impacts meaning the consequences to human populations of any public or private actions that alter the ways in which people live, work, play, relate to one another, organise to meet their needs and generally cope as members of society. The term also includes cultural impacts involving changes to the norms, values, and beliefs that guide and rationalise their cognition of themselves and their society (National Maritime Fisheries Service, 1994).

SIA is a methodology or instrument used by social assessment practitioners to determine the social impacts of a project and to provide ways to mitigate and monitor the potential impacts (Vanclay, 2003). The SIA is divided into a number of phases however the public consultation is a crucial step in the preparation of an SIA. SIA is concerned with the human dimensions of the environment, this meaning that;

> *"SIA is the process of analysing (predicting, evaluating and reflecting) and managing the intended and unintended consequences on the human environment of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions so as to bring about a more sustainable and equitable biophysical and human environment (Vanclay, 2003: 2)."*

The National Environmental Management Act (NEMA) (Act 107 of 1998) sets out a number of principles which underpin environmental management in South Africa. A number of these principles relate to the social dimension of sustainable development and public process requirements such as transparency, accountability, democracy and environmental justice. The following principle outlines the basis for a Social Impact Assessment:

> *Environmental management must place people and their needs at the; forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.*

More specifically, the social, economic and environmental impacts of activities must be considered and assessed. SIA is a useful planning tool that can assist the project proponent to conceptualise and implement a project in a manner which would see the identified negative social impacts addressed through avoidance or mitigation and the positive impacts realised and optimised. It also allows the community to anticipate, plan for, and deal with the social changes once they come to effect. In this sense the SIA is an indispensable part of the EIA, the Environmental Management Programme (EMPr) and any participative activity (E.g. Community involvement in mitigation and monitoring during planning and implementation). The purpose of an SIA report is to provide baseline information regarding the social environment and to identify possible social impacts that may come about as a result of a project. The report highlights the most likely associated social impacts to occur from the proposed project and provides methods to aim towards emphasising positive impacts and avoiding, reducing or mitigating negative identified impacts.

1.2. Terms of Reference

The main aim of the SIA report is to assess the potential social impacts that may arise from the proposed Development, and to recommend the most suitable mitigation/enhancements measures from a social perspective. The purpose of the study is:

» To provide baseline information describing the social environment affected by the proposed development
» To identify, describe and assess possible social risks/ fatal flaws and social impacts that may come about as a result of the proposed development (in terms of the pre-construction, construction, operation and decommissioning phases of the project);and
» To suggest ways in which these impacts can be mitigated or enhanced, aiming at maximising opportunities and avoiding and or reducing negative social impacts, including cumulative impacts.

1.3. Specialist Details

The SIA report was prepared by Candice Hunter of Savannah Environmental, a SIA specialist with a Master's degree in Environmental Management and an advanced certificate in SIA from the University of Johannesburg. The SIA report has been reviewed by Dr Neville Bews, an independent external SIA specialist who has consulted in the SIA field for over 10 years and has a Ph.D in Sociology (see Appendix D).

1.4. Declaration of Independence

A signed declaration of independence and CV for Candice Hunter of Savannah Environmental (Pty) Ltd is attached in Appendix C.

1.5. Project Overview

Project background and description:

The gas to power plant and associated infrastructure is proposed to be located on erven 17455, 17443 and 17442 within the Richards Bay Industrial Development Zone (IDZ) Zone 1F. The facility will have a maximum capacity of 400MW, to be developed in two (2) phases to operate with liquid fuel such as diesel and/ or Liquefied Petroleum Gas (LPG)[1] in Phase 1 and ultimately Liquid Natural Gas (LNG) or Natural Gas in Phase 2 of the development. It is anticipated that 300MW will be fuel/ gas generated energy and 100MW will be heat/ steam generated energy.

The main infrastructure associated with the facility includes the following:

» Up to six (6) Gas Turbines (GT)[2]
» 1-2 steam turbines utilising the heat from all the engines for power production in a steam cycle.
» The power plant will comprise multiple engine halls, each of ~50MW. Each engine hall will typically comprise one engine. Stacks associated with engine halls will be up to 20m in height.
» Access roads within project locality boundaries.
» Three (3) fuel tanks with a capacity of 2000m^3 each which will be used as an interim fuel storage facility until the gas infrastructure is constructed by the DoE and Transnet. Two (2) fuel unloading stations will be associated with these tanks.
» Water storage facilities for process water and fire-fighting purposes.

[1] In response to comments received on the draft scoping report, Light Fuel Oil (LFO) and Heavy Fuel Oil (HFO) have been excluded as fuel sources due to their high emissions.
[2] This is dependent on the DoE's Gas IPP Programme and the requirements of gas power stations to run at either base-load or mid-merit.

» An HV-Yard and Substation, adjacent to the power plant.
» A new 132kV power line to connect into the Municipal grid, connecting directly to the Indus Substation bordering the site.
» Guard house, admin building, workshops and a warehouse.

Water volumes of between 50 000m^3 and 270 000m^3 [3]per annum are expected to be required for the project. The volume of water required will be supplied via the Richards Bay IDZ water supply network that has an allotment from the local water authority. Every effort is being made to reduce these volumes further, including the potential for recycling condensation from air cooled condensers if such equipment will form part of the final plant design. The Richards Bay IDZ has undertaken to provide the water to the site under its long-term lease agreement with Richards Bay Gas to Power 2 (Pty) Ltd.

Alternatives being assessed

The proposed gas to power plant is to be located on a site located within the Richards Bay IDZ Phase 1F within the uMhlathuze Local Municipality, which falls under the jurisdiction of the uThungulu District Municipality in Kwazulu-Natal. The site has been zoned for general industrial development as part of the planning for this IDZ area. The erven on which the proposed facility is planned have been allocated to the developer for this purpose. Therefore, the siting of the facility has been predetermined and no feasible siting alternatives exist. Richards Bay Gas to Power 2 (Pty) Ltd considers this area, and specifically the demarcated site, to be highly preferred for the development of a gas to power project from a technical perspective.

During the operation phase of the project, the power plant could operate at base load or mid-merit energy. This will be dependent on the DoE IPP Programme requirements.

» Base load is defined as the minimum level of demand on an electrical supply system over 24 hours. Base load power sources are those plants which can generate dependable power to consistently meet demand.
» Mid-merit is defined as the power supply that fills the gap between peak load and base load where peak load is the maximum level of power demand.

Table 5 below shows the main differences associated with running the power plant at base load versus mid-merit as proposed by Richards Bay Gas to Power 2 (Pty) Ltd.

[3] Exact water requirements are unconfirmed at this stage and are therefore best estimates. Once the final technology has been selected, water volumes will be confirmed.

Table 5: Base load versus Mid-merit

	Base load	**Mid-merit**
Number of gas turbines	2	6
Number of steam turbines	1-2	1-2
Number of engines	2	6
Number of operational hours per year	8000	3000
Volume of diesel /LPG required	1 000 000m^3	410 000m^3
Number of trucks delivering fuel daily	52	18
Volume of LNG/ NG required	800 000 000m^3	326 000 000m^3
Volume of water required	270 000m^3	50 000m^3
Number of employment opportunities	~550 (Construction) ~75-90 (Operations)	~550 (Construction) ~25-30 (Operations)

Locality and size:

The gas to power plant and associated infrastructure will be located on a site within the Richards Bay Industrial Development Zone 1F, covering an area of approximately 7.4ha. The proposed site is situated within the uMhlathuze Local Municipality (ULM), which is located within the jurisdiction of the uThungulu District Municipality (UDM) in the KwaZulu-Natal (KZN) Province. The power station will have a generating capacity of 400MW (up to 300MW from the gas turbines and 100MW from the steam turbines).

Construction phase:

» *Duration:* It is estimated that the construction phase for the proposed development and associated infrastructure is to extend over a period of 14-20 months.
» *Capital expenditure:* The total construction capital expenditure associated with the proposed development is estimated to be in the region of R5 billion (2016 Rand value) with a proposed split of 60% imported and 40% locally sourced goods and services. In terms of business opportunities for local companies, expenditure during the construction phases will create business opportunities for the regional and local economy.
» *Employment opportunities and wages:* The proposed development is likely to create approximately ~550 employment opportunities during construction and ~25-30 employment opportunities during Operational phase (20 years), depending on the final design. Of this approximately 25% of the opportunities will be available to low-skilled workers (construction labourers, security staff etc.), 35% will be available to semi-skilled workers (drivers, equipment operators etc.), and 40% will be available to skilled personnel (engineers,

land surveyors, project managers etc.). Majority of low-skilled and semi-skilled opportunities are likely to be available to local workers (±25%). The injection of income into the area in the form of wages will represent an opportunity for the local economy and businesses in the area.

» *Skills development and training:* The developer has indicated that there will be opportunities for on-site skills development and training for employees during the construction phase.

» *Labour accommodation:* The developer has indicated that no on-site accommodation is envisaged. Most labourers will be sourced from the local area and will not be housed on site, given the relative proximity of the proposed development to Richards Bay. However, overnight site worker presence will be limited to security staff; a security team is likely to be present at the construction camp at all times. Labourers and skilled staff from outside the area will be housed off-site within the town of Richards Bay.

» *Transportation of components and equipment:* Transportation of project components and equipment to the location of the proposed development would be transported using vehicular / trucking transport. The national, regional and secondary roads will be used to transport all components and equipment required during the construction phase of the facility. Some of the components may be defined as abnormal loads in terms of the Road Traffic Act (Act No. 29 of 1989)[4] by virtue of the dimensional limitations. Typical civil engineering construction equipment will need to be brought to the location of the proposed development area (e.g. excavators, trucks, graders, compaction equipment, cement trucks, etc.) as well as components required for the construction of the power plant and site preparation. Access to the proposed development will be via existing roads within the IDZ Phase 1F (already approved through an EIA undertaken for the Phase 1F infrastructure).

Operation phase:

» *Duration:* Power plants are designed to be operational for at least 20-25 years.

» *Employment*: Full-time operational and maintenance crews would be required for the power plant. Based on information provided by the developer, the number of permanent workers will differ for baseload verses mid-merit technology options. For mid-merit, it is estimated that approximately ~25-30 jobs will be generated and for baseload approximately ~75-90 for the lifetime of the project (over a period of ~20-25 years). A. The number of low-skilled personnel will comprise 25% of the workforce, semi-skilled will comprise 35% and skilled will comprise 40% of the workforce during the operation phase. The injection of income into the area in the form of wages will represent an opportunity for the local economy. Approximately 50% of the employees will be sourced from the local area of Richards Bay.

[4] A permit will be required for the transportation of these abnormal loads on public roads.

» *Skills development and training:* There will be opportunities for on-site skills development and training within the operation phase.
» *On-site presence*: The proposed development will be designed to operate continuously and with low maintenance. Regular monitoring and maintenance activities every few weeks would be required to ensure safe and consistent operation for at least ~20-25 years.

Decommissioning phase:

The power plant is anticipated to have a lifespan of approximately 20-25 years. It is a possibility that the power plant will be replaced with more modern technology at the end of its lifespan, but this will depend on the need for the plant at the time. Disassembling and replacement activities will require the transport of abnormal loads to and within the proposed site. Decommissioned components will be removed from the development and reused, recycled or disposed of in accordance with regulatory requirements. According to current legislation, infrastructure will have to be removed and the site rehabilitated once final decommissioning has occurred. Decommissioning activities will be required to be undertaken in accordance with the relevant legislation at the time.

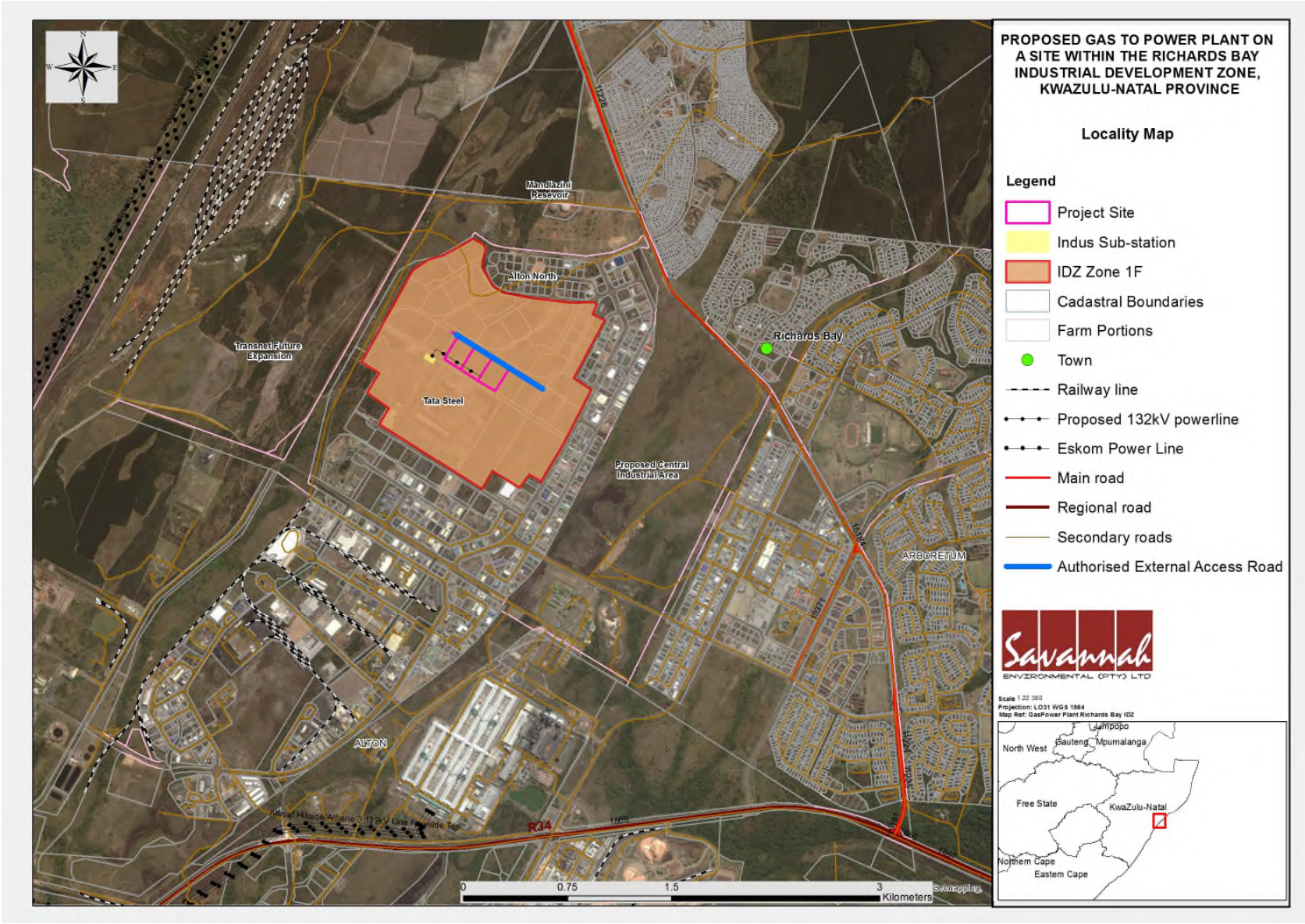

Figure 1: Location of the proposed gas to power plant in the Richards Bay IDZ 1F

2. METHODOLOGY AND APPROACH

2.1. Approach to Study

The main aim for the social report is to determine the social impacts that may arise from the proposed development. The approach used for the SIA study is based on the Western Cape Department of Environmental Affairs and Development Planning Guidelines for Social Impact Assessment, February 2007 (KZN currently do not have a guideline for SIA). These guidelines are based on the international best practice. The key objectives in the SIA process include:

» Describing and obtaining an understanding of the proposed Development (type, scale, location), the communities likely to be affected and determining the need and scope of the SIA;
» Collecting baseline data on the current social environment and historical social trends;
» Identifying and collecting data on the Social Impact Assessment variables and social change processes related to the proposed intervention. This requires consultation with affected individuals and communities;
» Assessing and documenting the significance of social impacts associated with the proposed project;
» Assessing the project (including any feasible alternatives) and identifying potential mitigation and enhancement measures;
» Developing an Environmental Management Plan.

2.2. Data Collection

Primary and secondary data sources were utilised to inform the study in aid of the objectives of the study. Primary data sources for the SIA included the following:

» A site visit undertaken on Friday, 22 April 2016. Observations were made while on site and within the study area.
» Meetings were arranged and held with key representative stakeholders to collect primary social data (see Table 6). Meetings were held with individuals that were both directly and indirectly associated with the proposed Development.
» Key stakeholders were contacted and meeting arrangements were made with key stakeholders during the social consultation process (see Appendix B).
» A project specific questionnaire was developed and utilised for the semi-structured meetings (see minutes of meetings in Appendix B). These meetings formed the basis of the primary data collection and assisted with the gathering of baseline information as well as establishing the stakeholder's perceptions, interests and concerns on the proposed Development.

» The minutes of the meetings that were undertaken as part of the Public Participation process were also taken into consideration in the SIA.
» Meetings were held with the following key stakeholders catalogued in Table 6 below.

Table 6: Stakeholder consultations

Meeting	Details	Notes
Friday 22 April 2016		
Driving Details: **Depart JHB at 06:10 - Arrive in RB at 07:25**		
+Richards Bay Industrial Development Zone Name: Percy Langa (Environmental Manager) Joe Muller	Date: Friday 22 April 2016 Time: 08:30-09:30	Meeting Address: 150A Pioneer Road Captains Walk Building Tuzi Bazi Waterfront, Richards Bay
City of uMhlathuze Municipality Name: Allen Viljoen (Ward 2 Councillor)	Date: Friday 22 April 2016 Time: 10:00-11:00	Meeting Address: 5 Mark Strasse, Civic Centre, Richards Bay
City of uMhlathuze Municipality Name: Sibeko (Municipal Manager)	Date: Friday 22 April 2016 Time: 11:00-12:00	Meeting Address: 5 Mark Strasse, Civic Centre, Richards Bay
Adjacent Landowner (Tata Steel KZN) Name: Ndumiso Ngongoma (Environment, quality & systems specialist)	Date: Friday 22 April 2016 Time: 12:30-13:30	Meeting Address: 22 bronze Bar, Alton North, RB
uThungulu District Municipality & Notices Name: Wisdom Mdofu (Manager Planning) Nontokozo Hlongwa (Environmental Officer)	Date: Friday 22 April 2016 Time: 15:00-16:00	Meeting Address: uThungulu House, Krugerrand, CBD Richards Bay

Secondary data, mostly collected by means of a desktop study, was gathered and analysed for the purpose of the study. The following documents were examined:

» Project maps;
» A desktop aerial study of the affected area through the use of the latest version of Google Earth Pro 2016;
» The scoping report – to ensure that all the issues have been addressed at the EIA stage of the process;
» The background information document (BID);
» The Richards Bay Gas to Power stakeholder database;
» The 2011 South African Census Survey and the Local Government Handbook;

- » Planning documentation such as District Municipality (DM) Integrated Development Plans (IDPs), Spatial Development Framework (SDF) and Environmental Management Framework (EMF) as well as the Local Municipality (LM) IDPs and policies;
- » Relevant guidelines, policies and plan frameworks, as outlined in Section 3 of this report;
- » Other similar specialist studies and relevant information where there have been cross-cutting issues, such as the EIAs undertaken for previous power plants in the Province and other parts of South Africa; and
- » Literature reviews of social issues associated with gas power plants.

Information that was relevant to the project was identified and assessed from these sources within the context of the pre-construction, construction, operation and decommissioning phases of the proposed project. The evaluation of the social impacts involved the assessment of both quantitative and qualitative data and the use of professional judgement. Quantitative data collected through national sources or local level interviews is assessed and analysed with sociological techniques (see Figure 2). However, qualitative data collected using the same methodology is more open to interpretation. In addition, what is a major impact to one person, one household or one community may be a minor impact to another according to specific personal circumstances. Hence, the results do not lend themselves easily to being ranked or assessed in exactly the same way as environmental data.

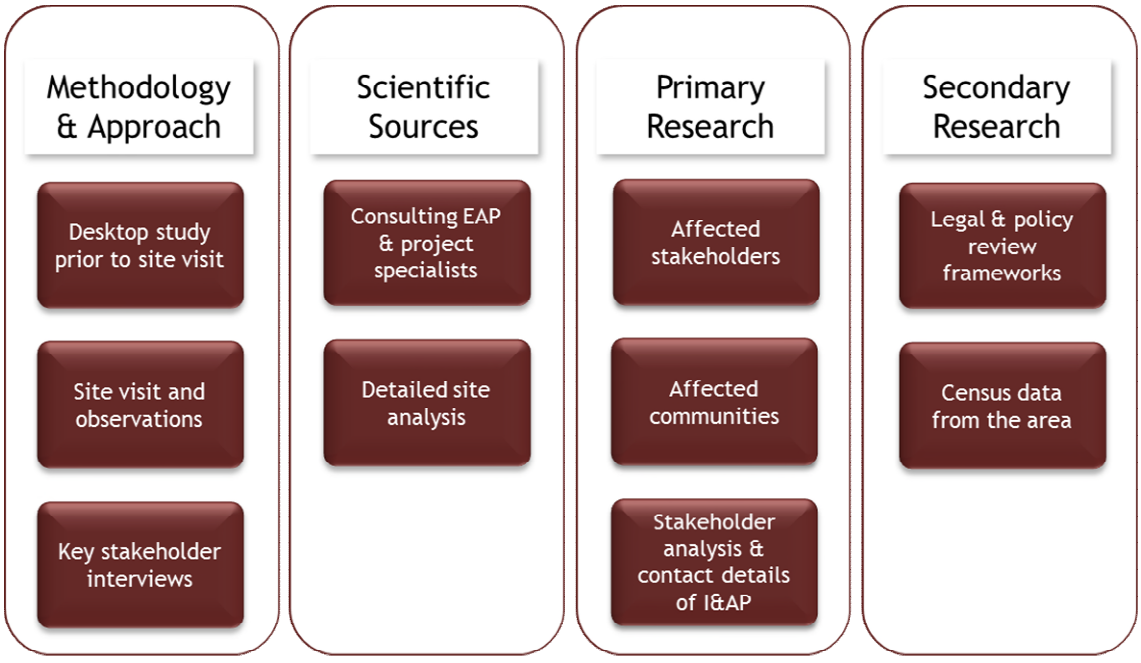

Figure 2: Research methodology and sources diagram

2.3. Public Participation Process

The Public Participation Process (PPP) played an important part in the EIA process. The process of stakeholder disclosure consultation is an ongoing overarching requirement that applies to the entire SIA process, and where possible, the PPP and SIA processes have been integrated. Effective consultation with stakeholders is important to understand the concerns and requirements of affected communities and ensuring their participation in the formulation and refinement of the project design. Relevant stakeholders are informed about the proposed project and thereafter are able to register and participate in the environmental impact assessment process. The communications during the PPP and written submission of comments have been reviewed and issues raised through this process have been incorporated into the SIA where relevant. The PPP involves raising awareness of the proposed development by providing information about the proposed project to all interested and affected parties and providing an opportunity for these parties to raise any issues and/or concerns regarding the project. Consultations were of critical importance in gaining insights into the key environment and social issues and concerns of communities and other stakeholders, and in aiding the proposed development of potential strategies for addressing these impacts.

2.4. Impact Evaluation Method

This section provides an overview of the method used to identify and evaluate the social impacts for the construction and operation phase of the power plant. The main objective is to determine the social risks and opportunities, and positive and adverse impacts of the power plant. The methodology below allows for the evaluation of the overall effect of a proposed activity on the social environment. This includes an assessment of the significant direct, indirect, and cumulative impacts. The significance of social impacts is to be assessed by means of the criteria of extent (scale), duration, magnitude (severity), probability (certainty) and direction (negative, neutral or positive).

The **nature** of the impact refers to the causes of the effect, what will be affected and how it will be affected.

Extent (E) of impact
Local (site or surroundings) to Regional (provincial)
Rating = 1 (low) to 5 (high).

Duration (D) rating is awarded as follows:
Whether the life-time of the impact will be:

» Very short term – up to 1 year: Rating = 1
» Short term – >1 – 5 years: Rating = 2

» Moderate term - >5 – 15 years: Rating = 3
» Long term – >15 years: Rating = 4
  » The impact will occur during the operational life of the activity, and recovery may occur with mitigation (restoration and rehabilitation).
» Permanent – Rating = 5
  » The impact will destroy the ecosystem functioning and mitigation (restoration and rehabilitation) will not contribute in such a way or in such a time span that the impact can be considered transient.

Magnitude (M) (severity):
A rating is awarded to each impact as follows:
» Small impact – the ecosystem pattern, process and functioning are not affected.
  Rating = 0
» Minor impact - a minor impact on the environment and processes will occur.
  Rating = 2
» Low impact - slight impact on ecosystem pattern, process and functioning.
  Rating = 4
» Moderate intensity – valued, important, sensitive or vulnerable systems or communities are negatively affected, but ecosystem pattern, process and functions can continue albeit in a slightly modified way.
  Rating = 6
» High intensity – environment affected to the extent that the ecosystem pattern, process and functions are altered and may even temporarily cease. Valued, important, sensitive or vulnerable systems or communities are substantially affected.
  Rating = 8
» Very high intensity – environment affected to the extent that the ecosystem pattern, process and functions are completely destroyed and may permanently cease.
  Rating = 10

Probability (P) (certainty) describes the probability or likelihood of the impact actually occurring, and is rated as follows:
» Very improbable – where the impact will not occur, because of either design or historic experience.
  Rating = 1
» Improbable – where the impact is unlikely to occur (some possibility), either because of design or historic experience.
  Rating = 2
» Probable - there is a distinct probability that the impact will occur (<50% chance of occurring).
  Rating = 3

» Highly probable - most likely that the impact will occur (50 – 90% chance of occurring).
Rating = 4
» Definite – the impact will occur regardless of any prevention or mitigating measures (>90% chance of occurring).
Rating = 5

Significance (S) - Rating of low, medium or high. Significance is determined through a synthesis of the characteristics described above where:
S = (E+D+M)*P

The **significance weighting** should influence the proposed development project as follows:

» Low significance (significance weighting: <30 points)
If the negative impacts have little real effects, it should not have an influence on the decision to proceed with the project. In such circumstances, there is a significant capacity of the environmental resources in the area to respond to change and withstand stress and they will be able to return to their pre-impacted state within the short-term.
» Medium significance (significance weighting: 30 – 60 points)
If the impact is negative, it implies that the impact is real and sufficiently important to require mitigation and management measures before the proposed project can be approved. In such circumstances, there is a reduction in the capacity of the environmental resources in the area to withstand stress and to return to their pre-impacted state within the medium to long-term.
» High significance (significance weighting: >60 points)
The environmental resources will be destroyed in the area leading to the collapse of the ecosystem pattern, process and functioning. The impact strongly influences the decision whether or not to proceed with the project. If mitigation cannot be effectively implemented, the proposed activity should be terminated.

2.5. Limitations and Assumptions

The following assumptions and limitations were relevant:

» The 2011 Census is the most recent source of official statistics and this has been used for generating a lot of the information provided in the baseline profile of the study area. In addition to this, the latest District and Local Municipality policies and plans were utilised in generating information. While the data does provide useful information, it should be noted that this data may now be out of date to some degree and may no longer accurately reflect the current socio-economic profile.

» This study was done with the information available to the specialist at the time of executing the study, within the available timeframes. The sources consulted are not exhaustive, and additional information which might strengthen arguments, contradict information in this report, and/or identify additional information might exist. The specialist did try to take an evidence-based approach in the compilation of this report and did not intentionally exclude scientific information relevant to the assessment.
» A limited amount of finalised project details from the project developer means that some of the actual project projections may be higher or lower than estimated in this report.
» It was assumed that the motivation for, planning and feasibility study of the project were undertaken by the developer with integrity, and that information provided to date by the project developer, the independent environmental assessment practitioner and the public participation consultant was accurate.

3. LEGISLATION AND GUIDELINES

A review of the policy environment provides valuable insight into the government's priorities and plans. The review of the relevant planning and policy documents was undertaken as a part of the SIA process. The key documents reviewed included:

National Policies:

» The Constitution of the Republic of South Africa (Act 108 of 1996)
» The National Environmental Management Act (107 of 1998) (NEMA)
» The National Energy Act (Act No. 34 of 2008)
» National Development Plan 2030
» National Climate Change Response Policy White Paper (2011)
» Integrated Energy Plan (2012)
» Integrated Resource Plan (2010 – 2030)
» White Paper on Energy Policy of South Africa (1998)
» National Integrated Resource Plan for South Africa (2010-2030) (Update report 2013)
» Gas Utilisation Master Plan (GUMP)
» Gas-to- Power programme

Provincial Policies:

» KZN Provincial Growth and Development Strategy (PGDS) 2011-2030 (Version 29.2- September 2013)
» KZN Department of Economic Development and Tourism Strategic Plan 2013/14- 2017/18
» KwaZulu-Natal Provincial Spatial Development Framework (PSDF)
» KwaZulu-Natal Climate Change Response and Sustainable Development Plan

District and Local Policies:

» uThungulu District Municipality (UDM) Integrated Development Plan (IDP) (2012/2013-2014/2015)
» uThungulu District Municipality (UDM) Spatial Development Framework (SDF) (2012)
» uMhlathuze Local Municipality (ULM) Integrated Development Plan (IDP) (2012-2017)
» uMhlathuze Spatial Development Framework (2007)
» Environmental Management Framework (EMF) for Richards Bay Port Expansion Area and Industrial Development Zone (IDZ) (2011)

The legislative and policy context plays an important role in identifying and assessing the potential social impacts associated with the proposed development. In this regard a key component of the SIA process is to assess the proposed development in terms of its suitability with regards to the key planning and policy documents. A brief overview of the most relevant policies, plans and guidelines, in relation to the proposed facility are discussed in this section below.

3.1. National Policies

Any project contributing to the objectives mentioned within the national policies, discussed briefly below, could be considered strategically important for the nation. The review of the policy environment suggests that utilisation of variety of energy sources in the country is considered to be an integral means of diversifying the national economy, and reducing poverty. As the project would contribute a energy supply to provincial and national targets set out and supported within these national policies, it is considered that the proposed development fits within the national policy framework. A brief review of the most relevant national policies is provided below.

3.1.1. The Constitution of the Republic of South Africa (Act 108 of 1996)

The Constitution of the Republic of South Africa (Act 108 of 1996) has been adopted as the supreme law of the country and forms the foundations for a democratic society in which fundamental human rights are protected. In terms of the environment, Chapter 2 Section 24 states that everyone has a right:

(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."

Chapter 7 defines the role of local government in its community. Five objectives of local government are described in Chapter 7 Section 152:

» to provide democratic and accountable government for local communities;
» to ensure the provision of services to communities in a sustainable manner;
» to promote social and economic development;
» to promote a safe and healthy environment; and
» to encourage the involvement of communities and community organisations in the matter of local government.

The Constitution outlines the need to promote social and economic development. An SIA is a requirement for sustainable development as it assesses the social impacts associated with development and aims towards safeguarding people's future well-being. The proposed gas to power plant aims to increase the economic opportunities of the area by providing more job opportunities for the local community.

3.1.2. The National Environmental Management Act (107 of 1998) (NEMA)

NEMA is the legislation setting out the framework for environmental management in South Africa. The Act promotes cooperative environmental governance and establishes principles for decision making on matters affecting the environment. An overarching principle in Chapter 1 emphasises that development must be socially, environmentally and economically sustainable.

The EIA Regulations (Government Notices R982-985 of December 2014) define an environmental impact assessment as 'the process of collecting, organising, analysing, interpreting and communicating information that is relevant to the consideration of that application'. The SIA aims to fulfil these requirements by providing all social information relevant to the consideration of the project.

3.1.3. The National Energy Act (Act No. 34 of 2008)

The National Energy Act (Act No 34 of 2008) was promulgated in 2008. The Act aims to strengthen energy planning in order to ensure that diverse energy resources are available, in sustainable quantities and at affordable prices to the South African economy and more specifically to "provide for energy planning, increased generation and consumption of renewable energies". This is to be undertaken in support of economic growth and poverty alleviation, taking into account environmental management requirements and interactions amongst economic sectors. The Act provides the legal framework which supports the development of power generation facilities. The proposed gas to power plant would therefore be supported by the Act.

3.1.4. National Development Plan 2030

The National Development Plan (NDP) (2012) is a long-term development plan aimed which aims to eliminate poverty and reduce inequality by 2030. A key focus of the NDP is the country's ability to return to a state of continued and uninterrupted electricity supply. This is to be achieved by increasing the electricity generation reserve margin from 1% (2014) to 19% in 2019, which will require the development of 10GW of additional electricity capacity by 2019 against the 2010 baseline of 44GW. Five of the 10GW are to be sourced from RE, with an additional 2GW to be operational by 2020.

The plan sets out steps that aim to ensure that, in 20 years, South Africa's energy system looks very different to the current situation: coal will contribute proportionately less to primary-energy needs, while gas and renewable energy resources – especially wind, solar and imported hydroelectricity – will play a much

larger role. The development of gas is identified in a number of areas of the NDP as a priority, including:

» The development of policies and plans for the exploration of gas as an alternative to coal.
» The investigation and development of various gas supply options as an alternative to coal for power generation in order to help reduce South Africa's greenhouse gas emissions.
» The consideration of the use of gas as an alternative to nuclear power. Gas could provide a reliable base-load and mid-merit power generation through combined-cycle gas turbines.
» The construction of infrastructure to import liquefied natural gas and increasing exploration to find domestic gas feedstock (including investigating shale and coal bed methane reserves) to diversify the energy mix and reduce carbon emissions.

In this regard, the proposed gas to power plant aligns with the NDP as it is an alternative, "cleaner" energy source compared to coal thereby reducing the country's reliance on coal for energy. This project can assist to alleviate the immediate need for electricity while the necessary LNG infrastructure is secured to ensure alleviation of the long term energy crisis that the country faces.

3.1.5. National Climate Change Response Policy White Paper (2011)

The Department of Environmental Affairs (DEA) National Climate Change Response Policy White Paper (2011) is the third influential policy paper that supported the country's aspirations for cleaner energy. The National Climate Change Response White Paper (2011) was largely informed by a process known as the Long-Term Mitigation Scenario (LTMS) formulation. The LTMS, led by the DEA, was a Cabinet-mandated process that took place in South Africa between 2005 and 2008. The LTMS arose out of the realisation that South Africa would need to contribute its share to mitigation, but recognising that the economy had been built around energy intensive industry, which is heavily reliant on coal. The country also needed to address poverty and inequality, so any move to a low carbon development path would require a major shift in thinking and action. However, a potential 'advantage' was that such Third World issues could be strategically addressed in the process of creating cleaner energy, as the provision thereof is manufactured from scratch, using the most appropriate and affordable technologies.

South Africa's response to climate change has two objectives: 1) to effectively manage the inevitable climate change impacts through interventions that build and sustain South Africa's social, economic and environmental resilience and emergency response capacity; and 2) to make fair contribution to the global

efforts to stabilise greenhouse gas (GHG) concentrations in the atmosphere at a level that avoids dangerous anthropogenic interference with the climate system within a timeframe that enabled economic, social and environmental development to proceed in a sustainable manner. The paper proposes a number of approaches dealing with climate change impacts with respect to selected sectors. Energy, in this context, is considered to be one of the key sectors that provides for possible mitigations to address climate changes. In this regard the air pollution impacts that may arise from the proposed development would need to be taken into consideration, although it will result in lower carbon dioxide emissions relative to other energy fossil fuels (e.g. coal).

3.1.6. Integrated Energy Plan (2012)

The Integrated Energy Plan (IEP) (2012) and Integrated Resource Plan (IRP) are the most important documents shaping the country's energy sector, and can be regarded as the second level of implementation, with the policy papers being the first. Often confused with each other, the IEP is Government's strategic, coordinated master plan for the entire energy system that enables alignment and optimisation across the respective energy carriers and provides a coherent and holistic energy plan for the country. The IEP takes into consideration the crucial role that energy plays in the entire economy of the country and reflects the three developmental elements of the energy triangle (refer to Figure 2.2) with the imperative of a sustainable energy system apparent in its objectives, some of which include:

» To guide the development of energy policies and, where relevant, set the framework for regulations in the energy sector.
» To guide the selection of appropriate technologies to meet energy demand (i.e. the types and sizes of new power plants and refineries to be built and the prices that should be charged for fuels).
» To guide investment in and the development of energy infrastructure in South Africa.
» To propose alternative energy strategies which are informed by testing the potential impacts of various factors such as proposed policies, introduction of new technologies, and effects of exogenous macro-economic factors.

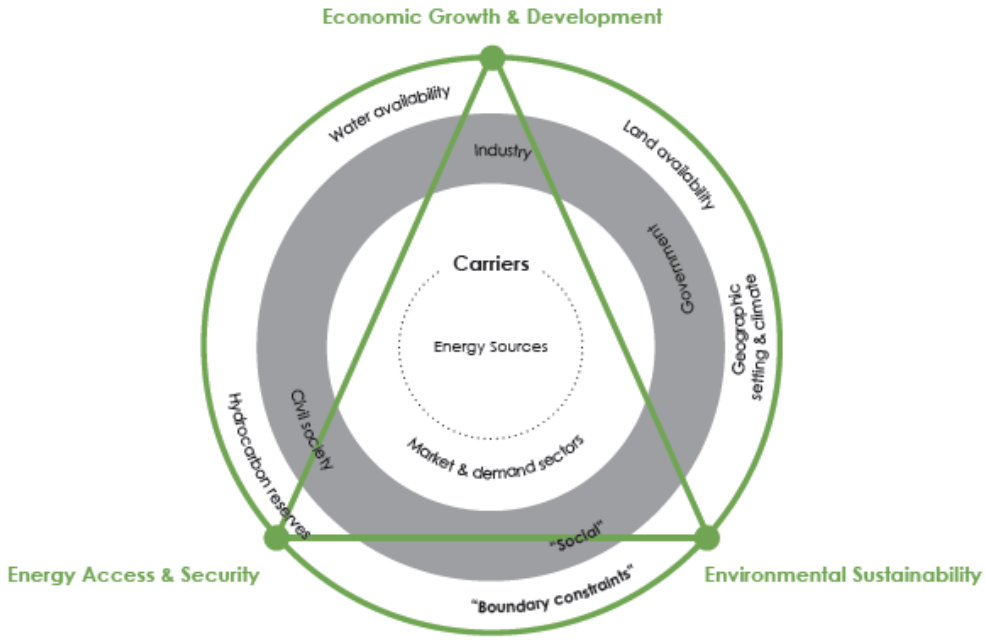

Figure 2.2: Energy Triangle (Source: State of Renewable Energy in South Africa Report, 2015)

Eight key objectives for energy planning were identified:

» Objective 1: Ensure the security of supply
» Objective 2: Minimise the cost of energy
» Objective 3: Increase access to energy
» Objective 4: Diversify supply sources and primary sources of energy
» Objective 5: Minimise emissions from the energy sector
» Objective 6: Promote energy efficiency in the economy
» Objective 7: Promote localisation and technology transfer and the creation of jobs
» Objective 8: Promote the conservation of water

The IEP recognises the potential of natural gas both for power generation and direct thermal uses. It is noted that power generation remains the main driver behind natural gas demand growth globally and remains a key potential for South Africa. It is highlighted that South Africa has a limited gas network and that one of the challenges of introducing natural gas into new markets is that large, capital-intensive investment in infrastructure along the supply chain is required. Transporting gas by pipeline is relatively expensive, more so than oil, because of the additional capital-intensive equipment needed to overcome the lower energy density of gas. The construction of an LNG facility would need to be underpinned by a gas-fired power plant as a key off-taker as the most feasible solution in the short- to medium-term. This option could enable South Africa to move towards a low carbon future as natural gas has lower carbon content than coal.

The proposed project aligns with all 8 objectives of the IEP and can also be seen as the "key off-taker" for gas within the Richards Bay area, thus supporting the shift towards a low carbon future for South Africa.

3.1.7. Integrated Resource Plan (2010 – 2030)

Secondary to the IEP is the Integrated Resource Plan (IRP) 2010-2030 which was promulgated by the Department of Energy (DoE) in May 2011. It is a key document that provides a long-term plan for electricity generation. It calls for doubling of electricity capacity using a diverse mixture of energy sources, mainly Coal, Gas, Nuclear and Renewables, as well as large-scale Hydro, which is to be imported from the southern African region.

The primary objective of the IRP 2010-2030 is to determine the long term electricity demand and detail how this demand should be met in terms of generating capacity, type, timing and cost. However, the IRP 2010-2030 also serves as input to other planning functions, *inter alia* economic development, and funding, environmental and social policy formulation.

Implementation of the IRP 2010-2030 is carried out through Ministerial Determinations, which are regulated by Electricity Regulations on New Generation Capacity.

The accuracy of the IRP 2010-2030 is to be improved by regular reviews and updates, and a draft revised Plan had been available for public comment (until 7 February 2014) with the final Plan submitted to Cabinet in March 2014 for approval[5]. The IRP 2010 projected that an additional capacity of up to 56 539MW of generation capacity will be required to support the country's economic development and ensure adequate reserves over the next twenty years. The required expansion is more than two times the size of the existing capacity of the system.

The current iteration of the IRP for South Africa, initiated by the DoE after a first round of public participation in June 2010, led to the Revised Balanced Scenario (RBS) that was published in October 2010. The document outlines the proposed generation new build fleet for South Africa for the period 2010 to 2030. This scenario was derived based on the cost-optimal solution for new build options (considering the direct costs of new build power plants), which was then "balanced" in accordance with qualitative measures such as local job creation. In addition to all existing and committed power plants, the RBS included a nuclear fleet of 9.6 GW; 6.3 GW of coal; 17.8 GW of renewables; and **8.9 GW of other**

[5] The updated IRP 2010-2030 has not yet been adopted by Parliament.

generation sources (including gas). This means that 75% of new generation capacity by 2030 will be derived from energy sources other than coal.

3.1.8. White Paper on Energy Policy of South Africa (1998)

The White Paper on Energy Policy (1998) was published in December 1998 by the Department of Minerals and Energy (DME). The Paper considered all South Africans, recognising inequalities in the energy sector, both in energy usage and access, and escalated the need for increased access to affordable energy services for all the country's citizens. In addition, it gave a Government commitment to support and promote the development of renewable energy resources in the country. The White Paper on Energy Policy's position with respect to renewable energy is based on the integrated resource planning criterion of "ensuring that an equitable level of national resources is invested in renewable technologies, given their potential and compared to investments in other energy supply options". The White Paper on Energy Policy (1998) identifies key objectives for energy supply, such as:

» Increasing access to affordable energy services;
» Improving energy sector governance;
» Stimulating economic development;
» Managing energy-related environmental impacts; and
» Securing supply through diversity.

In order to meet these objectives and the developmental and socio-economic objectives in South Africa, the country needs to optimally use the available energy resources. The South African Government is required to address what can be done to meet these electricity needs both in the short- and long-term.

From an energy policy point of view, the White Paper on Energy Policy (1998) promotes fuel diversification in the South Africa energy mix, and recognises natural gas as an attractive option for South Africa.

It notes that the development of the gas industry will stimulate inter-fuel competition, provide environmental benefits through lower emissions in contrast to oil and coal, provide greater options for industrial thermal applications, and increase the diversity of fuel supplies and hence improve South Africa's energy security. Government is therefore committed to the establishment of an appropriate climate to facilitate the development of the gas industry.

The proposed development of the gas to power plant by Richard's Bay Gas to Power 2 (Pty) Ltd therefore assists in meeting the objectives of the White Paper on Energy Policy (1998).

3.1.9. National Integrated Resource Plan for South Africa (2010-2030) (Update report 2013)

The Integrated Resource Plan (IRP) 2010 developed by the Department of Energy projected that an additional capacity of up to 56 539MW of generation capacity will be required to support the country's economic development and ensure adequate reserves over the next twenty years. The required expansion is more than two times the size of the existing capacity of the system. In order to meet this required generation capacity, the IRP includes a mix of generation technologies, including a nuclear fleet of 9.6 GW; 6.3 GW of coal; 17.8 GW of renewables; and 8.9 GW of other generation sources, including gas. Although natural gas (NG)-fuelled combined cycle gas turbines are considered to be one of the alternative baseload power generation options in the least-cost Base Case presented in the IRP, the potential to develop these plants has been constrained by the availability of fuel and the capacity to build. Transnet is currently working with Department of Energy Independent Power Producer (IPP) office to help expedite the 3126 MW Ministerial determination for Gas IPPs. It is in response to this initiative that this project is being proposed.

3.1.10. Gas Utilisation Master Plan (GUMP)

In 2012, the Minister of Energy directed in her determinations that new generation capacity should be procured from hydro, coal and gas sources to support the South Africa's base load energy mix and generation from gas and cogeneration as part of the medium-term risk mitigation project programme. The determinations require that 3 126MW of baseload and/or mid-merit energy generation capacity is needed from gas-fired power generation to contribute towards energy security. The gas required for such power generation will be from both imported and domestic gas resources[6]

During the Gas Conference III held in May 2014[7] it was noted that LNG can provide a solution to mitigate the power shortage in a competitive manner and at the same time can complement South Africa's efforts to improve its balance of payments and meet its CO_2 emissions targets.

Power generation utilising natural gas currently comprises only 3% of the total energy mix (Michael-Fichardt, Department of Energy, 2014). South Africa has three options for increasing its natural gas share in its primary energy mix:

1. Increase imports through pipelines from neighbouring countries;
2. Import Liquefied Natural Gas (LNG) via tankers and yet-to-be-built LNG landing terminals; and

[6] https://www.ipp-gas.co.za/Home/About
[7] http://www.fossilfuel.co.za/gas-conference-iii-21-may-2014/

3. Own domestic gas, either conventional or unconventional

The DoE is currently finalising a Gas Utilisation Master Plan (GUMP) for South Africa in order to give guidance on how these different options could be developed in the next decades. The GUMP is a 30-year plan for the development of the South African gas industry and has been developed in parallel to the Gas-to-Power Procurement Programme. The GUMP includes an analysis of demand; supply; current infrastructure; market structure and organisation; and social, economic and environmental risks and considerations. One of the key objectives of the GUMP is to enable the development of indigenous gas resources and to create the opportunity to stimulate the introduction of a portfolio of gas supply options.

Michael-Fichardt from the DoE, in his presentation at the Gas Conference III, noted that there is a demand for gas in the Industrial Development Zones in South Africa, namely: Saldanha, Coega and **Richards Bay** and that these IDZs are potential locations for LNG import terminals. The benefits of gas utilisation in the energy mix include decreasing South Africa's CO_2 emissions and that it could provide South Africa with cheaper energy, and therefore a competitive economic advantage.

3.1.11. Gas-to- Power programme

The DoE, in May 2015, issued a Request for Information (RFI) regarding possible developments in a proposed Gas-to- Power programme. This RFI has its genesis in the Integrated Resources Plan 2010-2030. No such gas based economy presently exists in South Africa, and the country is caught in an impasse between developing domestic demand for gas (which depends on gas being readily available) and developing gas distribution infrastructure (which depends on the existence of local demand). The Gas-to-Power programme is seen as a way to break this impasse. The demand from the Gas to Power Programme will provide a market for a potential supply of gas. It will also provide long term gas demand sinks for future indigenous gas supplies.

The RFI speaks boldly to respondents providing information on possible Gas-to-Power solutions. These solutions could take two forms. First, there could be a 'cradle-to-grave' sourcing of gas, comprising development of the gas import infrastructure and delivery of the gas to, and processing of the gas in, that infrastructure, then utilisation of that gas for power generation and sale of power to Eskom under a long term power purchase agreement (PPA). Alternatively, there could be solutions that speak to discrete elements of this value chain.

The DoE recognises that, in the absence of available natural gas within South Africa and to ensure new capacity is delivered in timescales commensurate with

the objectives of the medium-term risk mitigation project, it will be necessary to import Gas, *inter alia*, in the form of Liquefied Natural Gas (LNG) or Compressed Natural Gas (CNG). As a consequence, the Gas to Power Programme could be designed as a potential means to catalyse the importation of such Gas.

The proposed gas to power plant is aligned with the Gas to Power Programme and the development of the gas sector in South Africa. It is expected to generate up to 400MW and will thus make a contribution to the 8.9GW of other generation sources required by 2030 as defined in the IRP.

3.2. Provincial Policies

A brief review of the most relevant provincial policies is provided below. The proposed development is considered to align with the aims of these policies, even if contributions to achieving the goals therein are only minor.

3.2.1. KZN Provincial Growth and Development Strategy (PGDS) 2011-2030 (Version 29.2- September 2013)

The Provincial Growth and Development Plan (PGDP) for KZN addresses the triple challenge of poverty, inequality and unemployment. The KZN provincial government's vision is for the province to maximize its position as a gateway to South and Southern Africa, as well as its human and natural resources to create a safe, healthy and sustainable environment by 2030; eliminating poverty, inequality, unemployment and the current disease burden in the province. Through the seven strategic goals the KZN PGDS aims to achieve its vision by 2030, including:

» Job creation (expanded and sustained economic output is the fundamental driver for job creation)
» Human resource development (he human resource capacity of KZN is relevant and responsive to the growth and development needs of the province)
» Human and community development (reduce poverty and inequality in KZN)
» Strategic infrastructure (strategic infrastructure provides for social and economic growth and development needs of KZN)
» Environmental sustainability (reduce global greenhouse gas emissions and create social-ecological capacity to adapt to climate change)
» Governance and policy (effective and efficient government systems)
» Spatial equity (increased spatial access to goods and services)

The proposed development will result in the creation of job opportunities, human resource development, and strategic infrastructure for social and economic growth which will contribute towards reducing poverty and inequality in KZN.

This development will therefore assist the province in achieving the aims of the PGDS to some extent.

3.2.2. KZN Department of Economic Development and Tourism Strategic Plan 2013/14- 2017/18

The strategic focus for the KZN DEDT during the 2013/14 – 2017/18 planning period will be building a resilient KZN provincial economy that can respond to global factors, stimulating provincial economic development, alignment of functions and purpose of all economic development entities as well as building a vibrant organisation. The vision of the strategic plan is 'leading the attainment of inclusive growth for job creation and economic sustenance.' The mission of the strategic plan is to 1) develop and implement strategies that drive economic growth; 2) be a catalyst for economic transformation and development; 3) provide leadership and facilitate integrated economic planning and development; and 4) create a favourable environment for investment. The main objectives of the strategy that relate to the proposed project are as follows:

» To facilitate creation of new markets;
» To drive growth of the KZN provincial economy;
» To enhance sector and industrial development through Trade, Investment and Exports Logistics, ICT, Manufacturing, Green economy, agri-business, Tourism, Creative Industries, Maritime, Aerotropolis, Aviation;
» To investigate and develop viable alternative energy generation options.

The proposed development will drive economic growth, infrastructural transformation and development and the area is seen as a favourable area for investment and development.

3.2.3. KwaZulu-Natal Provincial Spatial Development Framework (PSDF)

The KZN Provincial Spatial Development Strategy has been developed in order to achieve the goals and objectives of the PGDS in a targeted and spatial co-ordinated manner. Spatially, it is vital to consider general accessibility as a cross-cutting variable which impacts all three pillars of sustainable development and as a result the four main spatial variables informing the provincial spatial development framework include:

» *Environmental Sensitivity:* According to the environmental constraints map, the study area is located in an area that's been transformed and is not located in any Biodiversity Priority areas
» *Economic Potential:* Key economic sectors include Agriculture, Industry, Tourism and Service Sector. The current general distribution of high potential agricultural land has the potential to increase its contribution to the provincial

economy. The potential for industrial development in the province is anchored by the nodes of eThekwini and uMhlathuze. The primary tourism potential within the province is in the beach tourism cultural tourism and eco-tourism markets. The areas of national tourism importance within the province are the Southern Zululand and Dolphin Coast, the Elephant Coast and surrounds, the greater Pietermaritzburg and Durban region, and the Drakensberg region. The service sector is the largest sector in the provincial economy, contributing 52.8% to GGP. Based on all the key economic sectors, the economic potential in the study area is medium-high.

» *Social Need:* uMhlathuze was identified as one of the core areas where concentrated high densities of more than 451 persons per square kilometre were recorded. The ULM was not indicated as one of the Local Municipalities with notable concentrations of significantly high dependency ratios. The Social Needs composite map demonstrates that the study area where the proposed site is located has low social needs.
» *Urban Accessibility:* The areas where limited urban accessibility occurred were classified as areas with a high need for intervention as regional accessibility is viewed as the first step towards spatial integration of these marginalised areas into the provincial economy. The study area has significant urban accessibility.

The PSDF spatial variables were considered collectively and a ranking order to key elements used to formulate a composite Provincial Spatial Development Framework which identifies Broad Provincial Spatial Planning Categories such as:

» Conservation Corridors
» Biodiversity Priority Areas
» Areas of Economic Value adding
» Areas of Economic support
» Areas of Agricultural Development
» Areas of High Social Need
» Mandated Service Delivery Areas

The study area is located within the Areas of Economic Value Adding and Areas of Economic Support. Areas of Economic Value Adding is the key economic centres and areas where all of the variety of economic sectors (Agriculture, Tourism, Manufacturing, Services) are prevalent and perceived to have good potential to be further expanded on. These areas are visibly linked to high accessibility areas with existing bulk infrastructure and relatively high population densities which would both contribute to the economic expansion and benefit from interventions in these areas. Due to these factors, further economic processing and value adding at a provincial level, are mainly proposed within these identified areas. Areas of Economic Support resemble a region of good economic potential in more than just one of the key provincial economic sectors. Typical interventions in

these areas would include economic prioritisation of development, labour force interventions (e.g. skills development), key economic infrastructure investment and area promotion. The proposed development will contribute towards economic value, economic support and economic growth in the area.

3.2.4. KwaZulu-Natal Climate Change Response and Sustainable Development Plan

In September 2012, the KwaZulu-Natal Provincial Government became the first provincial government to establish a Climate Change and Sustainable Development Council, which boosts multi-stakeholder membership (http://www.theclimategroup.org/who-we-are/our-members/the-province-of-kwazulu-natal). The Council has set up three Working Groups, namely Policy and Regulatory Alignment Working Group; Adaptation and Mitigation Working Group and Renewable Energy Working Group.

The province is in the early stages of developing the Climate Change Response and Sustainable Development Plan which is guided by, among others, the national strategy and the KwaZulu-Natal Growth and Development Strategy which has among its goals environmental sustainability as well as:

» Provision of 100% energy access in KZN Province by 2030, i.e., an additional 600,000 households or some 3 million people.
» Implementation of a number of significant renewable energy and energy efficiency projects.
» Establishment of renewable energy manufacturing hubs, a localisation initiative.

3.3. District and Local Municipality Policies

These strategic policies at the district and local level have similar objectives for the respective areas, namely to accelerate economic growth, create jobs, uplift communities and alleviate poverty. The proposed development is considered to align with the aims of these policies, even if contributions to achieving the goals therein are only minor.

3.3.1. uThungulu District Municipality (UDM) Integrated Development Plan (IDP) (2012/2013-2014/2015)

The vision for uThungulu was developed within the context of the international, national and provincial environment. The vision of the UDM is as follows: "An economically viable district with effective infrastructure that supports job creation through economic growth, rural development and promoting of our heritage." The mission of UDM is to create a prosperous district through:

» Rural development, agrarian reform and food security,
» Creating economic growth and decent job opportunities,
» Fighting crime and corruption,
» Promoting quality education for all,
» Improving the quality of health,
» Community participation, nation building and good governance

The UDM core values include integrity, transparency, commitment, co-operation, innovation and accountability. The UDM goals include:

» Municipal Transformation and Institutional Development
» Basic Service Delivery and Infrastructure Development (one of the objectives is to facilitate renewable energy programmes)
» Local Economic Development (Objectives: promote job creation, capacitate SMMEs and local entrepreneurs)
» Municipal Financial Viability and Management
» Cross cutting

The district with the support of its social partners like COGTA is currently implementing innovative renewable and clean energy projects. The most notable projects in UDM are the Biogas and Wonderpot projects. Funding for these projects has been secured from the Cooperative Governance and Traditional Affairs (COGTA) and efforts to secure more funding will be intensified due to the success of the pilot projects.

Local Economic Development opportunities that will promote job creation are one of the key strategic objectives of the district municipality. In terms of infrastructure development one of the objectives is to facilitate renewable energy programmes. The proposed development will provide green energy opportunities for the area as well stimulate local economic growth through job creations, diversifying the local industry and skills development which is in line with the IDP.

3.3.2. uThungulu District Municipality (UDM) Spatial Development Framework (SDF) (2012)

According to the 2010 Global Insight Statistics, it is noted that the vast majority of economic performance (41.8%) in the district is vested in uMhlathuze Local Municipality with its primary urban centres being Richards Bay and Empangeni. This area is the third most important in the province of KZN in terms of economic production and contributes 9.1% of the total GGP1 and 8.5% of the total employment (formal and informal) in 2010. The uMhlathuze Municipality, although it has the smallest comparative size, accounts for nearly half of the population of the uThungulu District. The most significant population growth is

noted in the uMhlathuze and Mthonjaneni Local Municipalities. A large and growing population will necessarily place increased pressure on the provision of infrastructure, i.e. water, sanitation, electricity and housing. Apart from engineering infrastructure, pressures will also increase for the provision of social infrastructure and economic development will have to be fostered to ensure households and individuals become and remain self-sufficient. Such a large population does also present an opportunity of development in the form of a large potential work force that has the ability to create and support economic opportunities.

Richards Bay, Msunduzi, Newcastle and Port Shepstone has been identified as provincial Secondary Nodes and thus urban centres with good existing economic development and the potential for growth and services to the regional economy. Key strategic interventions specifically targeted at these nodes include:

» Primary Economic Growth Area
» Priority Socio-Economic Development Spending
» Promote as Primary Node in support of Corridor Development
» Promote Compact Urban Development & Combat Urban Sprawl
» Promote Focused Investment & Managed Growth
» Promote Densification (Brown Agenda) and Infill Development
» Provide Economies of Scale for Effective & Affordable Service Delivery
» Infill where High Levels of Services are Available (Restructuring Nodes)
» Increased Residential Density (number of dwellings)
» Promote provision of sufficient Bulk Infrastructure Services (Demand & Supply)
» Priority spending on Infrastructural Upgrading Needs (New & Maintain)
» Promote Effective & Efficient Public Transportation Systems linked to Multi Modal Facilities
» Single Land Use Management System (Township Formalization)

The SDF states that a major economic sector is manufacturing which is located in Richards Bay. It is important to continue enforcing investor confidence through the provision of infrastructure. Also states the need to encourage alternative energy use in future developments given constraints in the electrification industry is critical. The uThungulu Environmental Concerns include, air pollution, loss of valuable agricultural land for food production and loss of biodiversity.

The SDF states the need to encourage alternative energy use in future developments given constraints in the electrification industry is critical; the proposed development will provide an alternative energy source for the national grid and contribute towards diversifying the local industry. Currently the district has a large and growing population that places increased pressure on the provision of infrastructure and services. It is therefore important that the majority of the labour for the project be sourced from within the local area as

bringing in a non-local work force could further strain the existing infrastructure and services. Richards Bay has been identified as provincial Secondary Nodes and thus urban centres with good existing economic development and the potential for growth and services to the regional economy. The proposed development is located within the secondary node in Richards Bay and would contribute towards economic growth and alternative energy supply.

3.3.3. uMhlathuze Local Municipality (ULM) Integrated Development Plan (IDP) (2012-2017)

The ULM provides a reference point and essential socio- economic amenities and facilities to most of the towns in the northern region. Challenges facing the municipality include economic recovery placing huge strain on the municipality financial sustainability and the attraction of economic investment in the town, as well as rural development, employment, affordable housing, and maintenance of infrastructure and health issues. The Local government has the following objectives:

» Provide democratic and accountable government;
» Provision of Services to the community in a sustainable manner;
» Promote Social and Economic Development;
» Promote safe and healthy environment; and
» Encourage the involvement

Priority needs for budget purposes in the local municipality include the upgrade of rural roads, poverty/ job creation, housing, crime, provision of electricity, sanitation and water. The following key issues were identified within the situational analysis:

» Sustainable financial management: new approaches to risk and growth need to be created to sustain financial stability.
» Cash Flow Management
» Low levels of skills development and literacy
» Limited access to basic household and community services
» High rates if unemployment and low economic growth
» High levels of poverty
» Limited access to basic household and community services
» Unsustainable development practices: The Municipality faces a challenge of reacting to urban sprawl, which, in turn, results in increased informal settlement, overcrowded schools, ill health, marked spatial disparities, higher cost of providing infrastructure and services, disturbed ecosystems and environmental resources, changes in air quality, change in aesthetics and urban form, as well as loss of land for economic and agricultural services (ULM IDP, 2012-2017).

» Ensuring adequate energy and water supply: The unsustainable use of resources such as energy and water has major impacts on the environment, and will ultimately compromise the Municipality's energy security, as well as its ability to deliver water of adequate quality and quantity to its citizens. In the case of water, whole catchment management (including areas that fall outside of the municipal area) as well as efficient nature conservation programmes will help to ensure that there is an adequate supply of clean water. The most sustainable solution to the energy crisis is to reduce the demand for energy and at the same time investigate alternative renewable energy sources.
» High levels of crime and risk
» Increased incidents of HIV/AIDS and communicable diseases
» Infrastructure degradation: Degradation has become a critical social problem. It is therefore critical that the Municipality works towards managing its assets, work towards mitigating climate change, ensure life cycle management of infrastructure, thus ensuring value for money.
» Climate Change: Escalating greenhouse gas emissions contribute towards climate change and will ultimately impact on human health, food security, natural resources, sea level rise, land loss and coastal infrastructure. As such climate change runs the risk of undoing all of the development gains of the last one and a half decades, and for a city such as Durban climate change adaptation in all sectors will have to become one of the Municipality's top development priorities.

The vision of the ULM is 'offering improved quality of life for all its citizens through sustainable development.' The uMhlathuze's development strategies include the following:

» Development strategy 1: Good governance
» Development strategy 2: Infrastructure and services provision
» Development Strategy 3: Social and economic development (Objectives: to create opportunities through economic growth and development to increase economic stability by creating new functional linkages with other economic activities through enhancing a prudent and efficient use of social and economic infrastructure to meet future demands. To promote social cohesion and the creation of a safe and healthy living environment)
» Development Strategy 4: Institutional Development
» Development Strategy 5: Sound Financial Management

Key issues of the ULM include climate change, low levels of skills development and literacy, high rates if unemployment, low economic growth and high levels of poverty. The proposed development will contribute towards local economic development and job creation, therefore marginally reducing the unemployment rate/ poverty level during the temporary construction phase as well as during the

operation phase of the proposed project. It will contribute towards economic development in the local municipality which will in turn support economic growth and provide employment opportunities which is in line with strategy 3 of the IDP.

3.3.4. uMhlathuze Spatial Development Framework (2007)

As part of the SDF, four (4) spatial development goals were identified. These include:

» Promote Sustainable urban Development
» Environmental management and Conservation
» Promote Economic Development (Permitting and encouraging diverse land uses at appropriate locations to develop the economy. Boosting those economic sectors/activities that have the potential to grow and create employment and income.)
» Provision of a minimum Level of Service (LOS) to all (New developments should, as far as possible, be serviced by existing infrastructure networks. Indicate where infrastructure investment is needed to provide minimum levels of services.)

The following elements that have a significant impact on the spatial development include:

» Proposed expansion of the Richards Bay Port - the proposed expansion of the Richards Bay Port is driven by external forces. The implementation of the Port Expansion proposals has a significant implication on the spatial form and structuring of the municipal area.
» Air Quality - dangerous emissions in the Richards Bay area (taking into account anticipated emissions from TATA Steel and Pulp Unite) cannot continue to increase. Based on current emissions, the air has virtually reached its limit. Significant portions of Richards Bay fall within a health risk area.
» Environmental conservation and linkage zones.
» Geotechnical stability.
» Availability of Bulk Infrastructure.
» Access to land.

One of the main outcomes of the uMhlathuze SDF is the identification of potential expansion areas. Also, the SDF considers a number of growth scenarios for the municipal area based on recorded growth over the last few years. The proposed development falls in line with the spatial development goals as the development will contribute towards sustainable urban development as well as it will promote economic development.

3.3.5. Environmental Management Framework (EMF) for Richards Bay Port Expansion Area and Industrial Development Zone (IDZ) (2011)

The Environmental Management Framework (EMF) was prepared for an area of about 25 000 hectares within the City of uMhlathuze informed mainly by the Port of Richards Bay (and its proposed expansion) as well as the then IDZ area to guide decision making in the area. The EMF essentially identified a number of Environmental Management Zones. Eight such zones were identified and a ninth zone was created as an overlay to address issues of conflicting and long-term land use proposals. The following environmental management zones were identified during the process:

» Zone 1: Lakes and Corridors
» Zone 2: Floodplain
» Zone 3: Port, Estuary, Marine and Seashore Area
» Zone 4: Dune Cordon
» Zone 5: Coastal Plain Residential Area
» Zone 6: Coastal Plan Subsistence Farming Area
» Zone 7: Coastal Plain Commercial-Industrial Area
» Zone 8: External Linkages
» Zone 9: Strategic Development Management Overlay Zone

The proposed development is located within the RBIDZ Zone 1F. Phase 1F of the IDZ falls within the Coastal Plain Commercial-Industrial Area Zone (Zone 7 of the EMF). Zone 7 represents fairly flat land on the sandy coastal plain. It is used primarily for light and heavy industrial purposes, business and commerce, and forms the economic hub of the municipality. The EMF Zone 7 objective is 'To promote sustainable commercial and industrial development that is able to secure ecosystem productivity over the long-term.'

» Environmental management priorities in Zone 7:
    1. Use of space
    2. Critical ecological assets and linkages (grasslands and wetlands)
    3. Integrated water resources management (alternative supply options, demand side measures, water quality, storm water management)
    4. Sustainable consumption and production patterns (energy, air quality, waste management)
    5. Industrial and commercial development
    6. Port expansion potential
    7. Integrated industrial development planning
    8. Institutional arrangements for achieving conservation priorities
    9. Landscape risks
    10. Climate change

» Activities encouraged in Zone 7:
  * Industrial development that is directly related to and/or dependent on the port.
  * Activities such as techno-park industries (e.g. electronic components and assembly plants).
  * Energy-saving industries, such as solar water heater manufacturing.
  * Labour-intensive activities.
  * Development that promotes local entrepreneurship.
» Activities discouraged in Zone 7:
  o Large manufacturing facilities which may aggravate the air quality situation.
  o Resource intensive primary industries such as refineries and smelters.
  o Encroachment into open spaces.
  o Groundwater abstraction.

The land in Phase 1F is largely transformed. Tata Steel is located in this zone. High levels of degradation are prevalent of all the vegetation types that occur in this phase. Constraints for development include wetland and ecological linkages, water and air quality, and uncertainty about long-term energy and water supply. Opportunities exist to develop the area as long as the EMF guidelines are followed. The EMF must be therefore consulted when decisions are made.

» Activities encouraged in phase 1F:
  * Manufacturing activities that create backward linkages, such as assembling for electronic components and automotive parts.
  * Activities like chemical storage and blending.
  * IDZ enterprises that will advance the objectives of the EMF.
» Activities discouraged in phase 1F:
  * Encroachment of development into conservation amenity areas.
  * Large industrial activities such as refineries, smelters, pulp and paper mills.
  * Industries that demand large quantities of water.
  * Activities with high energy demand.

Conservation priorities of wetlands and ecological linkages in Phase 1F must be protected, maintained and managed as a contribution to the management of water quality by:

» Discouraging encroachment of development into and/or near wetlands.
» Delineating appropriate ecological buffers in accordance with the land development types.

» Discouraging reclamation or infilling of wetlands except if a no net loss policy is followed, if suitable offset receiving sites can be identified and if appropriate arrangement could be made to manage and monitor such arrangements.
» Preventing the illegal dumping of waste into water features and storm water gutters.
» Ensuring that activities which pose a risk of water contamination employ appropriate design measures to avoid and minimise this risk.

In terms of consumption and production there is severe air quality constraints associated with phase 1F. There are also uncertainties in respect of sustainable supply of water and energy, and the area's waste infrastructure in general is unable to accommodate potential future waste streams. Any development in Phase 1F must take cognisance of the air quality constraints and the potential impact and consequences development may have on the health of adjacent communities. Development in this zone must also take cognisance of the prevailing water demand and the integrated water resources management approach of the study area, and ensure that appropriate demand side management measures is implemented. The same applies to the energy constraints that currently prevail in the area. To ensure that land use in this area does not result in erosion and pollution appropriate storm water management is critical. Appropriate development must be promoted in this Phase to protect atmospheric integrity and air quality and to ensure sustainable consumption and production patterns.

Development priorities: The land in Phase 1F is zoned as general industrial. The 2005 IDZ Designation Notice promoted the area for "a Ferro-Metals Cluster as well as RHI Refractories". The Tata Steel Ferrochrome Smelter was subsequently established in this phase. There is still space to advance industrial development but the prevailing environmental constraints on these sites may limit the extent to which this potential could be realised. The IDZ objectives must be promoted in this phase but this must take cognisance of the environmental constraints outlined above.

3.4. Conclusion

The findings of the review of the relevant policies and documents pertaining to the energy sector indicate that the gas to power plant is supported at a national, provincial, and local level, and that the proposed gas to power plant will contribute towards the various targets and policy aims.

4. BACKGROUND INFORMATION ON THE STUDY AREA AND KEY STAKEHOLDER IDENTIFICATION

The gas to power plant is proposed to be established in the RBIDZ Zone 1F, which is located within the ULM, which forms part of the UDM of the KZN Province. This section will provide a brief overview of the study area, baseline description and surrounding land uses.

4.1. KwaZulu-Natal (KZN)

According to the Local Government Handbook 2012, KZN is located in the south-east of South Africa bordering the Indian Ocean. It also borders on the Eastern Cape, Free State and Mpumalanga provinces, as well as Lesotho, Swaziland and Mozambique. The 'Garden Province' of South Africa stretches from the subtropical east coast with the warm Indian Ocean, to the savannah in the east and the Drakensberg Mountain Range in the west. It covers an area of 94 361km², the third-smallest in the country, and has a population of 10 267 300, making it the second most populous province in South Africa. The capital is Pietermaritzburg. The largest city is Durban. Other major cities and towns include Richards Bay, Port Shepstone, Newcastle, Estcourt, Ladysmith and Richmond.

The province's manufacturing sector is the largest in terms of contribution to GDP. Richards Bay is the centre of operations for South Africa's aluminium industry. The Richards Bay Coal Terminal is instrumental in securing the country's position as the second-largest exporter of steam coal in the world. The province has undergone rapid industrialisation owing to its abundant water supply and labour resources. Agriculture is also central to the economy. The sugar cane plantations along the coastal belt are the mainstay of KZN's agriculture. The coastal belt is also a large producer of subtropical fruit, while the farmers inland concentrate on vegetable, dairy and stock farming. Another source of income is forestry in the areas around Vryheid, Eshowe, Richmond, Harding and Ngome.

KZN is divided into one metropolitan municipality (eThekwini Metropolitan Municipality) and 10 district municipalities, which are further subdivided into 50 local municipalities.

4.2. uThungulu District Municipality (UDM)

According to the Local Government Handbook 2012, the UDM is located in the north-eastern region of the KZN Province. It covers the area from KwaGingindlovu (previously Gingindlovu) in the south, to the Umfolozi River in the north, and inland to Nkandla. The district is home to six local municipalities: City of uMhlathuze, Ntambanana, uMlalazi, Mthonjaneni, Nkandla and Mfolozi

(previously Mbonambi). It has the third-highest population in the province. The N2 highway links the district to other significant economic centres such as Durban and Johannesburg. It also offers a direct route to Maputo in Mozambique. The development of the RBIDZ is boosting economic activity and attracting international investors. Main towns in the district include: Empangeni, Eshowe, Heatonville, KwaGingindlovu, KwaMbonambi, Melmoth, Mtunzini, Nkandla, Ntambanana, and Richards Bay. The main economic sectors in the district include: Manufacturing (40.9%), mining (15.2%), community services (11.9%), finance (8.7%), transport (8.5%), trade (6.5%), agriculture (5.3%), and construction (2.1%).

4.3. uMhlathuze Local Municipality (ULM)

According to the Local Government Handbook 2012, the ULM is the third-largest municipality in KZN. Located on the north-east coast of the province, it is a strategically placed, aspirant metropole due to its close proximity to Durban. It is home to the country's largest deep water port and an Industrial Development Zone that has associated economic spin-offs. The John Ross Parkway, the major access road to the City from the inland provinces, is in the process of being upgraded and rehabilitated. The road boasts the country's longest road bridge and has been designed to meet the growing transport needs of the City in line with the development plans for the CBD and harbour. Apart from being an industrial and economic hub, the City has a diverse natural environment. Richards Bay is considered to be the industrial and tourism hub, Empangeni the commercial hub and eSikhaleni the largest suburb. The local municipality's vision is: 'The ULM, as a port city, will offer improved quality of life for all its citizens through sustainable development. It will be a renowned centre for trade, tourism and nature-lovers, coastal recreation, commerce, industry, forestry and agriculture.' Primary towns include Empangeni and Richards Bay. The main economic sectors include: Manufacturing (45.9%), mining and quarrying (11.6%), financial, real estate and business (10.7%), community, social and personal services (10.4%), transport and communication (9.1%), trade (6.3%), agriculture, forestry and fishing (3.2%).

The RBIDZ is a purpose-built and secure industrial estate in KZN, linked to the international deep-water port of Richards Bay. It is tailored for manufacturing of goods and production of services to boost beneficiation, investment, economic growth and the development of skills and employment. The RBIDZ, which is deemed to be a Special Economic Zone (SEZ), aims to encourage international competitiveness through world-class infrastructure as well as tax, VAT and duty free incentives to qualifying entities (RBIDZ, 2015). The mission of the RBIDZ is to provide a conducive environment that attracts appropriate investment for sustainable economic development. The Zone's strategic goals are to promote good governance and ensure legislative compliance; establish a world-class IDZ

infrastructure; establish a sustainable IDZ; and attract fixed investment in export-orientated manufacturing and services industries. The purpose of proclaiming the RBIDZ was to facilitate the creation of an industrial complex having strategic economic advantage; provide the location for the establishment of strategic investments; enable the exploitation of resource-intensive industries; take advantage of existing industrial capacity, and promote integration with local industry and value-added production; create employment and other economic and social benefits in the region in which it is located; be consistent with any applicable national policies and laws, as determined by appropriate environmental, economic and technical analyses; develop and operate an IDZ in the area designated in the operator permit; provide quality services infrastructure to attract internationally competitive, export-orientated manufacturing businesses; take ownership of the assets and affairs of the Zone and be responsible for ongoing management and maintenance thereof; establish a one-stop service centre and provide commensurate human resources capacity, expertise and suitable technologies; make arrangements for and mobilise requisite resources for the development of the Zone; and operate in a manner that recognises that the shareholder is prioritising development, socio-economic improvement and long-term sustainability, rather than financial profit (Local Government Handbook, 2012).

5. BASELINE SOCIO-ECONOMIC ENVIRONMENT

The purpose of the section is to provide an overview of the current socio-economic baseline environment and context in which the proposed project will take place within the ULM, which is located within the jurisdiction of the UDM, in the KZN Province. This section of the report will provide a strategic understanding of the socio-economic profile of the study area, in order to develop a better understanding of the socio-economic dynamics as a background to the development of the project. The data presented in this section has been largely derived from the KZN Census 2011 Municipal Report, latest municipalities IDP's and the Census Survey 2011 (Stats SA), as well as the Local Government Handbook 2012.

5.1. Socio-Economic Context

5.1.1. Population

The population trends in a geographical area affect the rate of economic growth through the provision of labour and entrepreneurialism and the demand for goods and services. These trends also indicate the number of people who are likely to be impacted by the proposed project. KZN is the country's third smallest province of the nine provinces, with a total area of 94 361km^2 taking up 7.7% of South Africa's (SA) land area in terms of area. KZN has the second largest

population in SA, with 10.3 million people living in KZN (Census 2011). The proposed development will be constructed in ULM, which is situated within the jurisdiction of the UDM. The population of the UDM in 2011 was approximately 907 519 people, of which 33 459 people reside in the ULM. The population growth rate in the UML was 1.5% from 2001 to 2011 (see Table 7). The ULM is a densely populated area of about 420 people per square km in comparison with the UDM and KZN having a population density of 110 /km^2.

Table 7: Population statistics (Source: Census 2011)

Census 2011	Area (km^2)	Population total	Population density /km^2	Population growth rate % (2001 - 2011)
KZN Province	94 361 km^2	10 822 734	110/km^2	0.7%
uThungulu DM	8 213 km^2	907 519	110 /km^2	0.2%
uMhlathuze LM	793 km^2	334 459	420 /km^2	1.5%

5.1.2. Population groups and languages

The population groups and language distribution gives an indication of the cultural dynamics of the area and has implications for the proposed project in terms of the approach that should be used for communication regarding the project as well as implementation of the project. Figure 3 and Figure 4 demonstrates a comparison of the population and language distribution in the province, district and local municipality.

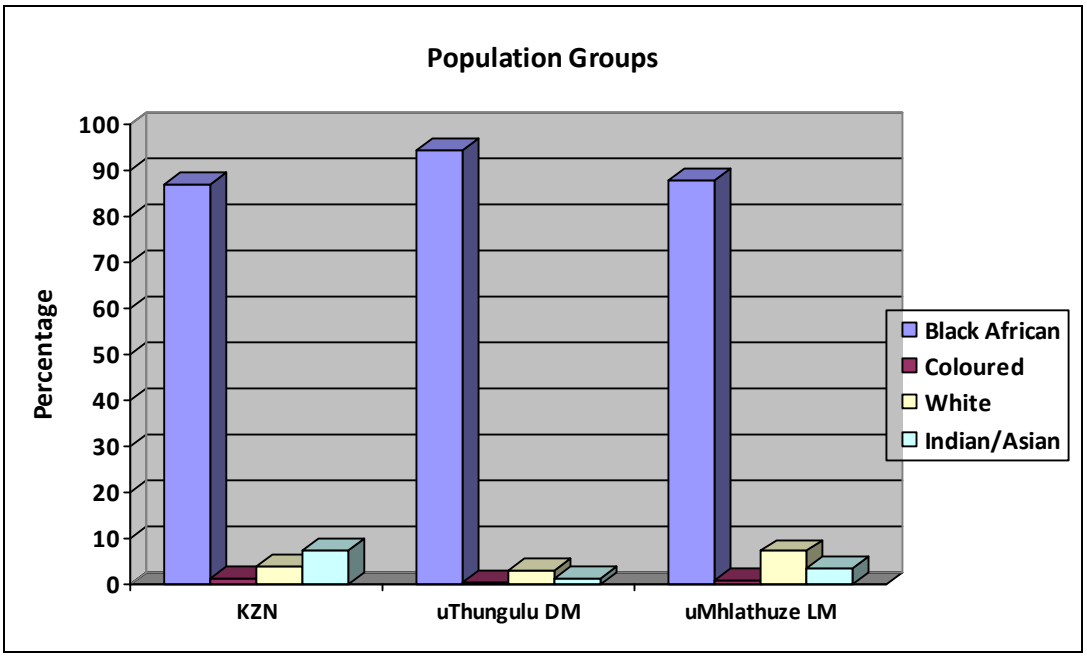

Figure 3: Population groups (Source: Census 2011)

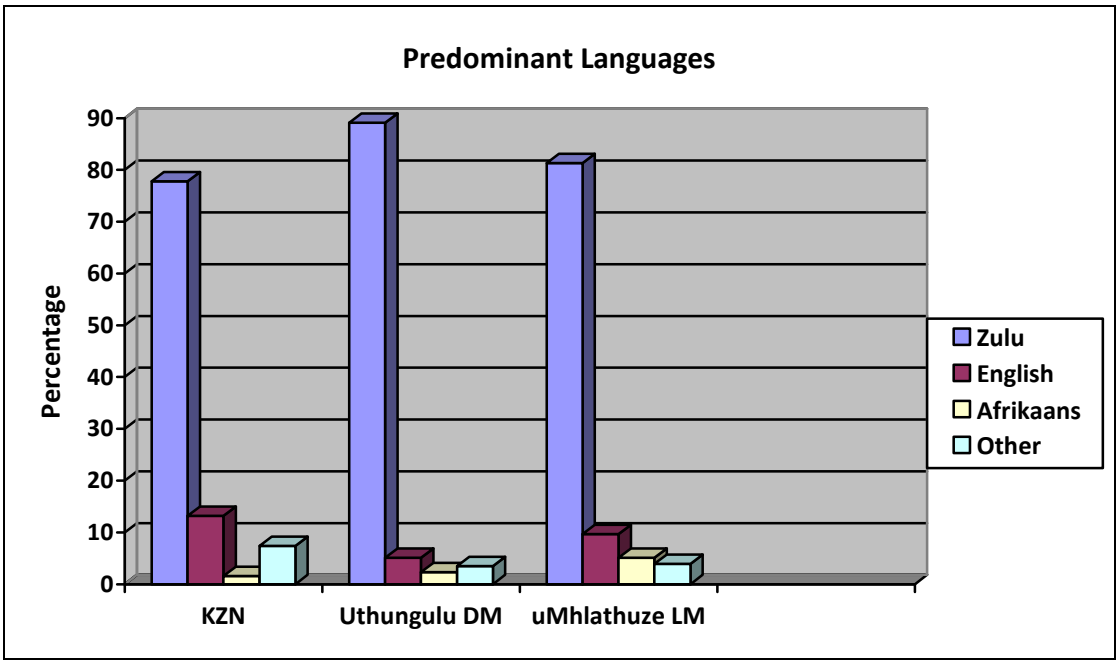

Figure 4: Predominant languages (Source: Census 2011)

The distribution of the population groups and prominent languages indicates that the local population are likely to be culturally similar to one another. It is evident that:

» The most dominant population group is the Black African population throughout the province, district and local municipality. The Black African population comprises 87.7% of the ULM population, see Figure 3 and Figure 4 that demonstrates the population group distribution in the area. Figure 5 demonstrates that the proposed site is located in a sparsely populated area (this is due to the proposed site being located within an industrial region).

» The most spoken language in the local area is Zulu followed by English (see Figure 4). Approximately 81.3% of the ULM speaks Zulu. This indicates that in addition to English, Zulu should also be used for communication processes throughout the EIA project.

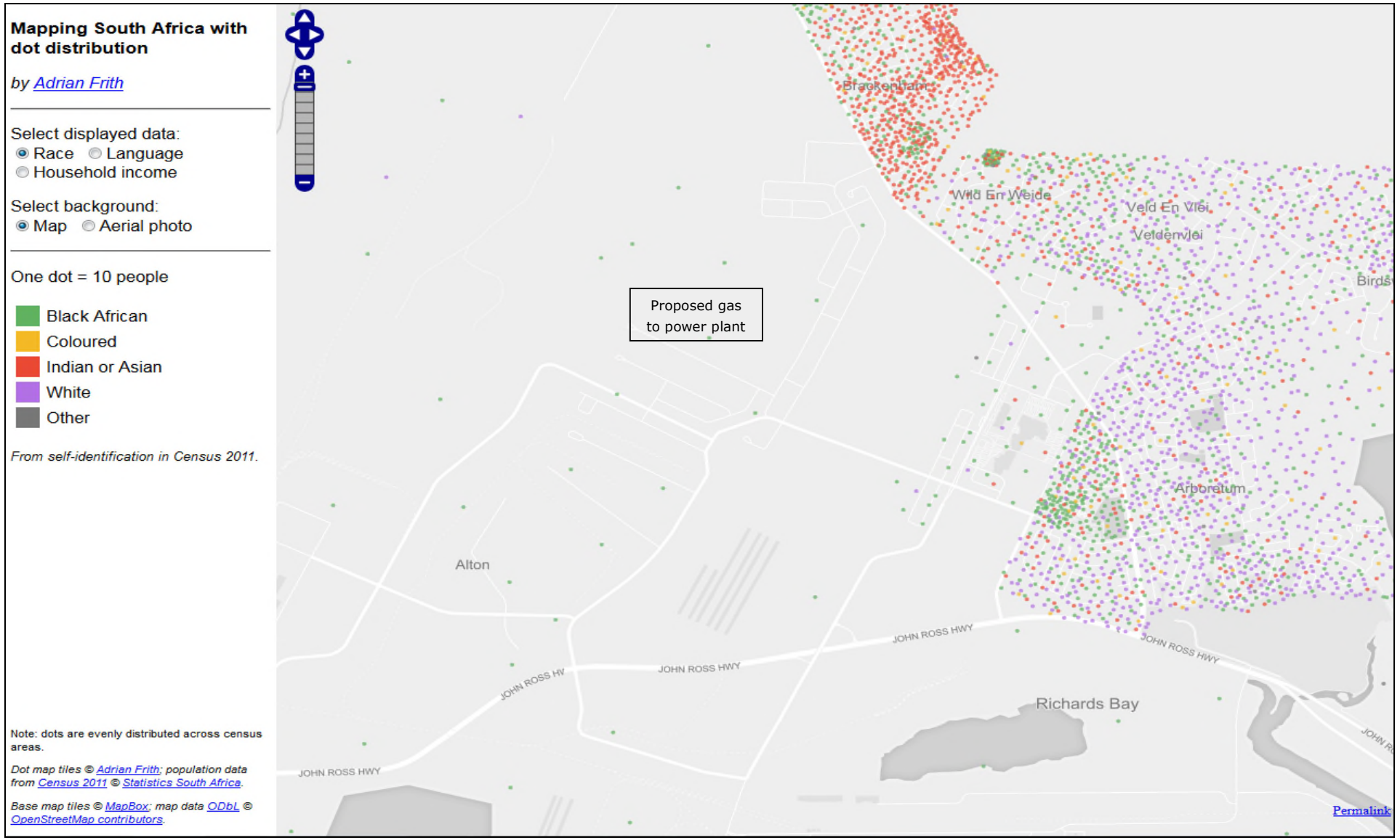

Figure 5: Distribution of population groups in the local area (Source: http://dotmap.adrianfrith.com/)

5.1.3. Age composition and gender differentiation

The age structure of a population is extremely important for planning purposes. Figure 6 indicates the age and gender profile of citizens at a provincial and municipal level.

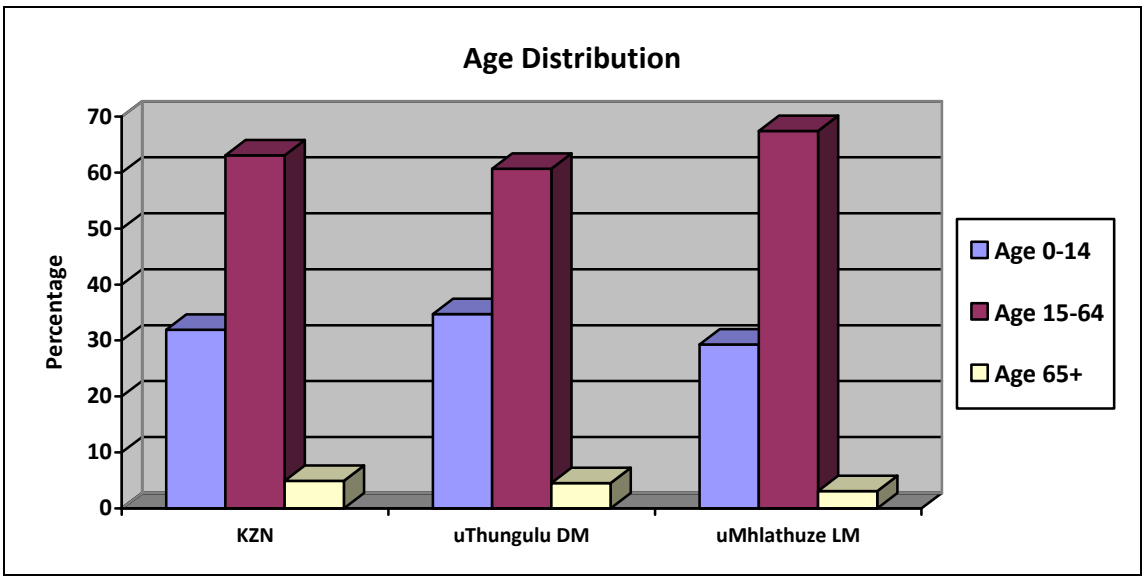

Figure 6: Age distribution (Source: Census 2011)

The age distribution of the population is very similar throughout the local area with the greatest proportion of the population falling within the age group of 15-64 years (Economically Active Population). Approximately 67.4% of the ULM population comprise the Economically Active Population (EAP); this implies that there is a larger human resource base for development projects to involve the local population with the ULM. The high proportion of potentially economically active persons implies that there is a larger human resource base for development projects to involve the local population. The gender differentiation is also quite similar where there are slightly more females in the province, district and local municipalities, see Figure 7.

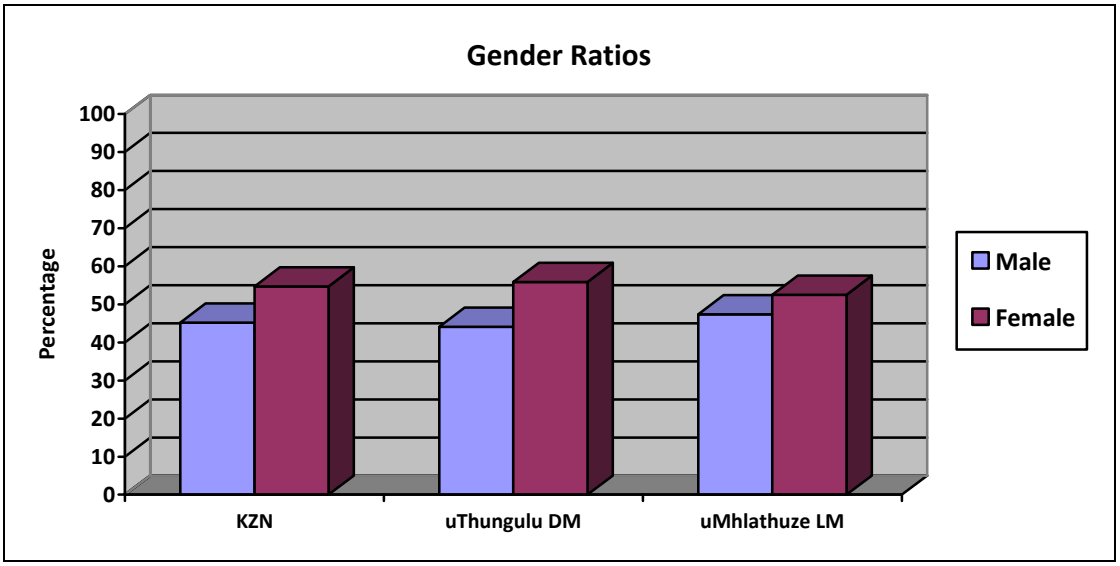

Figure 7: Gender Ratios (Source: Census 2011)

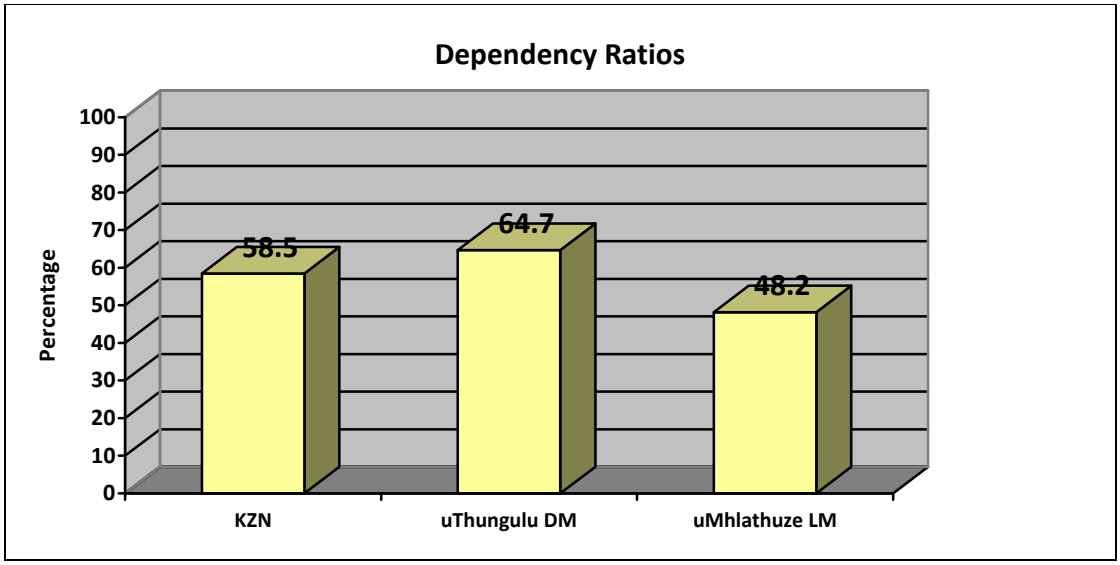

Figure 8: Dependency ratios for the local area (Source: Census 2011)

The dependency ratio indicates the number of individuals that are below the age of 15 and over the age of 64, that are dependent on the Economically Active Population (EAP) (Individuals that are aged 15-64 that are either employed or actively seeking employment). The total dependency ratio is used to measure the pressure on the productive population and government. Dependents increase the burden on the EAP / productive population and local municipalities to maintain basic needs, upbringings

and pensions. A high dependency ratio can also cause problems for municipalities as the largest proportion of government expenditure is on health, social grants and education that are mostly utilised by the young and old population. As demonstrated in the Figure 8 above, the dependency ratio of the ULM is 48.2% of the population, meaning that almost half of the population is dependent on the EAP. According to the ULM IDP 2012-2017, the local municipality has high levels of poverty. The current welfare dependency on grants, packages offered by the municipality will start to strain the municipality due to the municipality's financial situation. The IDP states that it is therefore necessary to introduce strategic objectives to enable job opportunities in the area and economic development programmes.

5.1.4. Unemployment

The employment profile of the study area is an important indicator of human development. The quality of labour is reflected, among other things, by the educational profile of the economically active population and the availability of training facilities in the region. The term labour force refers to those people who are available for employment in a certain area. According to Statistics South Africa, the definitions of the following employment indicators are:

» Economically active person: "A person of working age (between 15 and 65 years inclusive) who is available for work, and is either employed, or is unemployed but has taken active steps to find work in the reference period."
» Employed: "Those who performed work for pay, profit or family gain for at least one hour in the seven days prior to the interview or who were absent from work during these seven days, but did have some form of paid work to return to."
» Official and expanded definition of unemployment: "The unemployed are those people within the economically active population who: (a) did not work during the seven days prior to the interview, (b) want to work and are available to start work within two weeks of the interview, and (c) have taken active steps to look for work or start some form of self-employment in the four weeks prior to the interview."
» Labour force: "All employed and unemployed persons of working age".
» Unemployment rate: "The percentage of the economically active population that is unemployed."

The employment profile of the study area is an important indicator of human development, but also of the level of disposable income and subsequently the expenditure capital of the residing population. Poverty and unemployment are closely correlated. The proposed project is expected to generate employment opportunities in the construction and operation phases. Table 8 demonstrates the unemployment rate in the study area.

Table 8: Distribution of population aged 15-64 years by employment status (Source: Census 2011)

	Number of employed people (2011)	Number of unemployed people (2011)
KZN	1 978 330	983 807
uThungulu DM	140 045	77 301
uMhlathuze LM	81 902	37 686

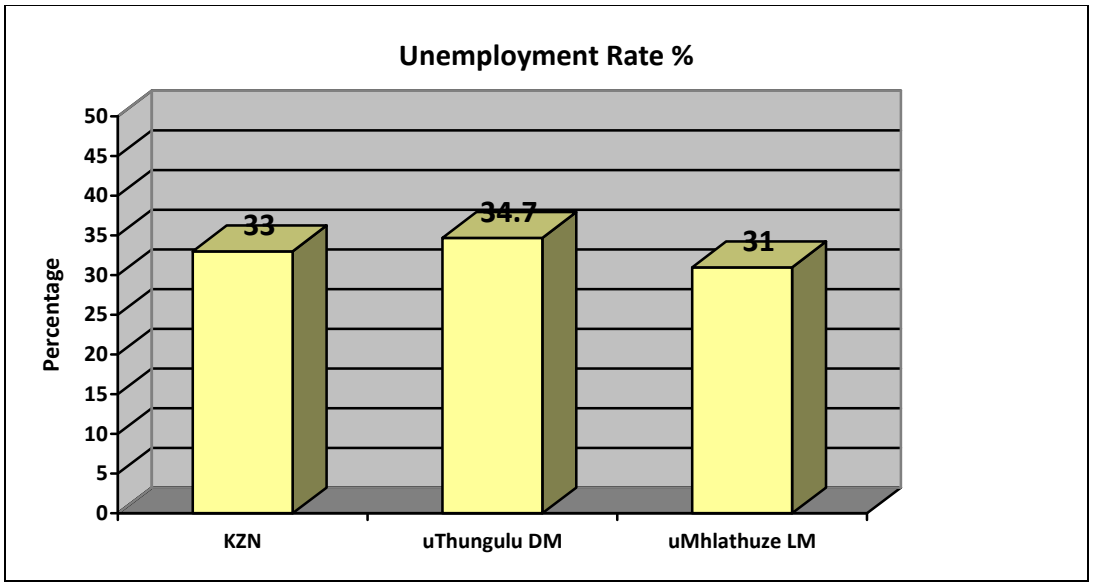

Figure 9: Unemployment rate (Source: Census 2011)

The ULM is largely populated by the potentially economically active population. There are 119 588 economically active (employed or unemployed but looking for work) people in the ULM, and of these 31% are unemployed (as demonstrated in Table 8 and Figure 9). This implies that there is an efficient number of human capital available for any kind of work, but also that there is space for training and developing economically active population in the relevant fields needed. This could increase the employment level and decrease the poverty level in the local area. Local workers should be utilised as much as possible for the proposed development in order to alleviate local unemployment.

5.1.5. Household income levels

Household income is one of the most important determinants of welfare in a region. The ability to meet basic needs, such as adequate food, clothing, shelter and basic amenities, is largely determined by the level of income earned by the households. Poverty is often defined as the lack of resources to meet these needs. Household

income levels are one avenue for determining poverty levels in a community. Households that have either no income or low income fall within the poverty level (R0-R38 200 per annum); indicating the difficulty to meet basic needs requirements. A middle-income is classified as earning R38 201- R307 600, and a high income is classified as earning R307 601 or more per annum. Figure 10 indicates the household income levels of the residents in the ULM.

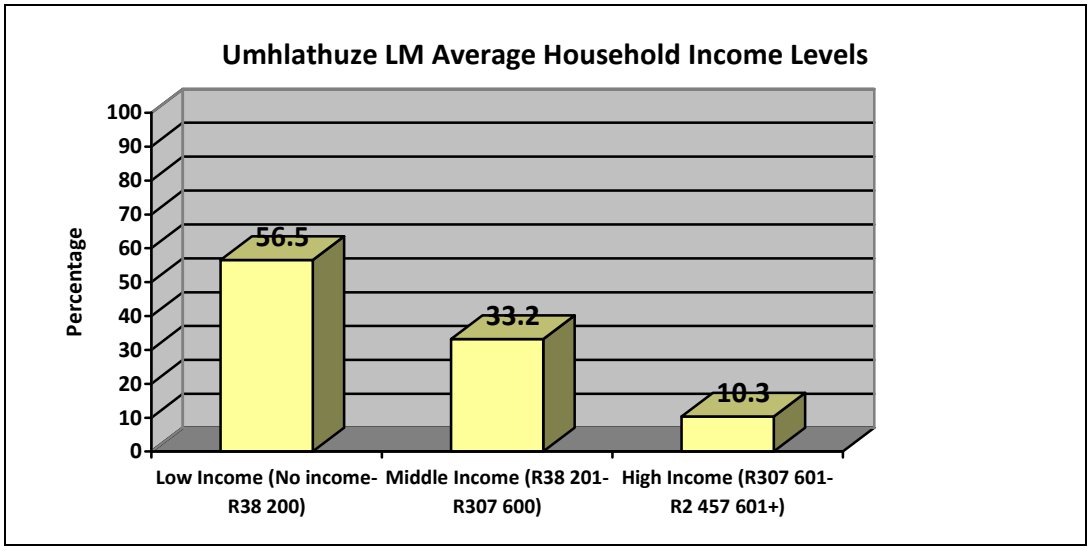

Figure 10: Household income levels in ULM (Source: Census 2011)

It is evident from Figure 10 that the ULM has a high number of households fall within a low income category and within the poverty level, this being 56.5% of the local population. A low percentage of households fall within the middle income category (33.2% of the population) and high income category (10.3%). The high percentage of low income households indicates that that there is a high demand for employment opportunities which will help decrease the dependence on forms of assistance either from government and or non-government organisations. The high poverty level of 56.5% has social consequences such as not being able to pay for basic needs and services. The lower average income levels indicate a higher demand for employment opportunities in the economy. However skill levels are less likely to improve unless education levels improve which will lead to more skilled people which will in turn lead to the opportunity to earn higher income levels. This means that there should be less focus on the quantity of job creations and more focus on the quality of jobs created.

5.1.6. Education levels

Education plays a critical role in the development of communities and impacts greatly on economies. The type of education and training received by individuals equally determines the occupation or career they would eventually pursue. It provides a set of basic skills for development, creativity and innovative abilities. The level of

education influences growth and economic productivity of a region. There is a positive correlation between a higher level of education and the level of development and standard of living. Education levels in any given population will influence economic and human development. It is clear that low education levels lead to low skills base in an area, while high education levels have the opposite effect, producing a skilled or highly skilled population. Household and personal income levels are also either positively or adversely affected by education levels.

The availability of skills in a local population indicates whether it is possible to employ local residents in the construction and operation phase of a project. Figure 11 demonstrates the level of education/skills availability in the study area.

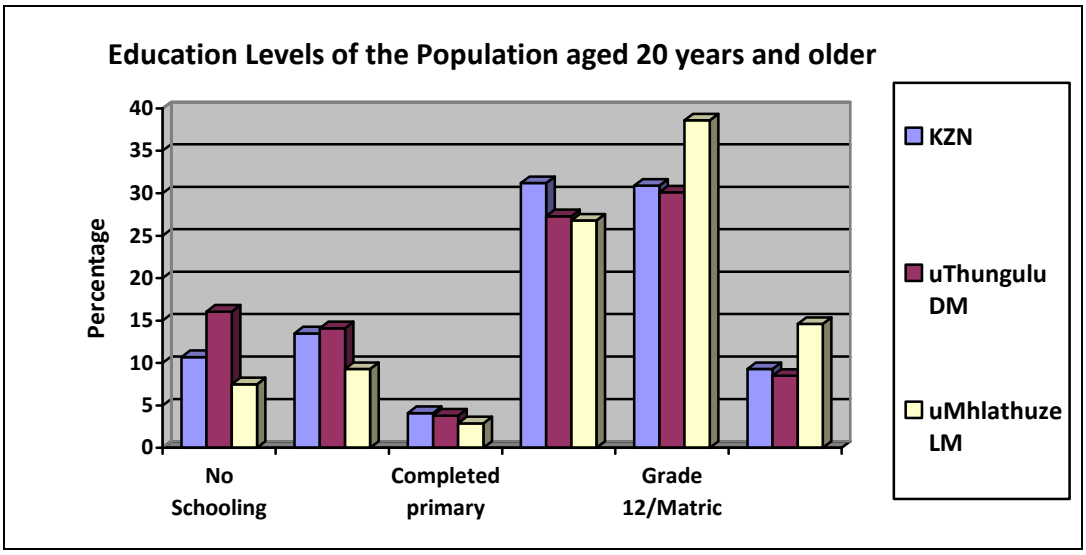

Figure 11: Education levels of the population aged 20 years and older (Source: Census 2011)

The education levels in the area are moderate. Almost half of the population aged 20 years and older in the municipality have only some secondary education or less (in the ULM this being 46.5% of the population); this indicates that almost half of the local population are semi- skilled or unskilled. Approximately half of the local population either have a matric or have a higher qualification; this reflects the industrial nature of the region and the level of skills available (Richards Bay Industrial Development Zone). Approximately 38.6% of the ULM have a matric and 14.6% of the local population have higher education; indicating that a relatively significant proportion of the population are skilled or highly skilled. The Municipality has a responsibility to facilitate the improvement of literacy levels of the community and to ensure an adequate skills base to foster enterprise growth and job creation. Scarce skills need

to be transferred by partnership relations with industries and the different organisations that exist in the area (ULM IDP 2012-2017).

The Municipality faces a challenge with regard to a marketable and skilled work force, thereby creating a gap in productivity, which in turn has a negative impact on the economic growth path (ULM IDP 2012-2017). The skills profile of the area indicates that the availability of local labour for the proposed project which is limited to low-skilled construction workers as well as possible skilled and highly skilled workers. Therefore majority of the necessary employees required for the proposed project can be sourced from the local area.

5.1.7. Household trends

Analysis of household data provides important indicators in relation to the consumption of electricity. The number of households in the UDM is approximately 202 976 and approximately 86 609 households within the ULM (see Table 9). The average household size in the UDM is 4.3 and ULM is 3.6 people per household.

Table 9: Number of households and average household size (Source: Census 2011)

Census 2011	Number of households	Average household size
KZN	2 539 429	3.9
uThungulu DM	202 976	4.3
uMhlathuze LM	86 609	3.6

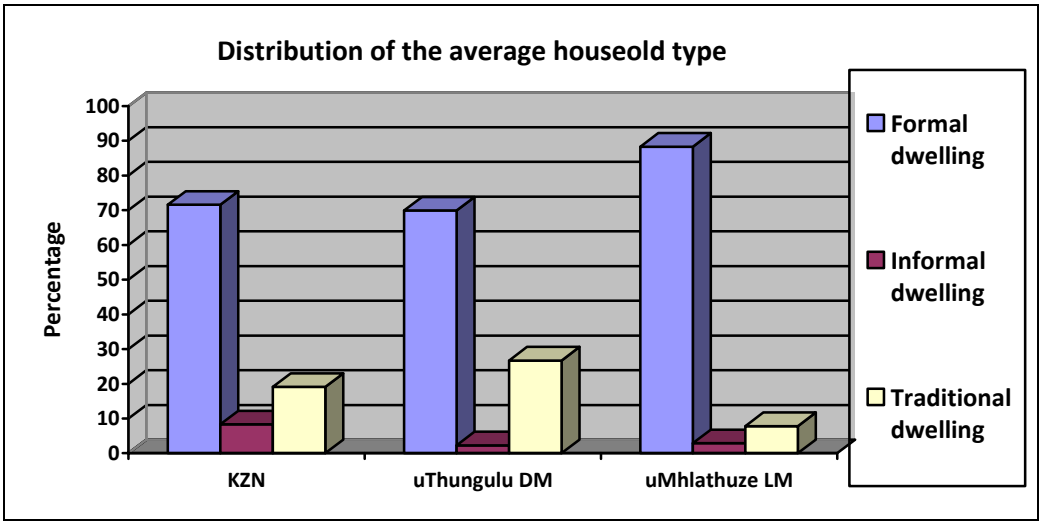

Figure 12: Distribution of the average household type (Source: Census 2011)

Majority of the population live in urbanised areas within formal dwellings. ULM has the highest number of households with access to formal housing (see Figure 12). The continuous increase in the number of households will have an upward impact on electricity demand thus requiring greater electrical capacity.

5.1.8. Access to services

Households are entitled to a minimum level of services. The proportion of households in the study area with the minimum access to services is indicated in Figure 13-16.

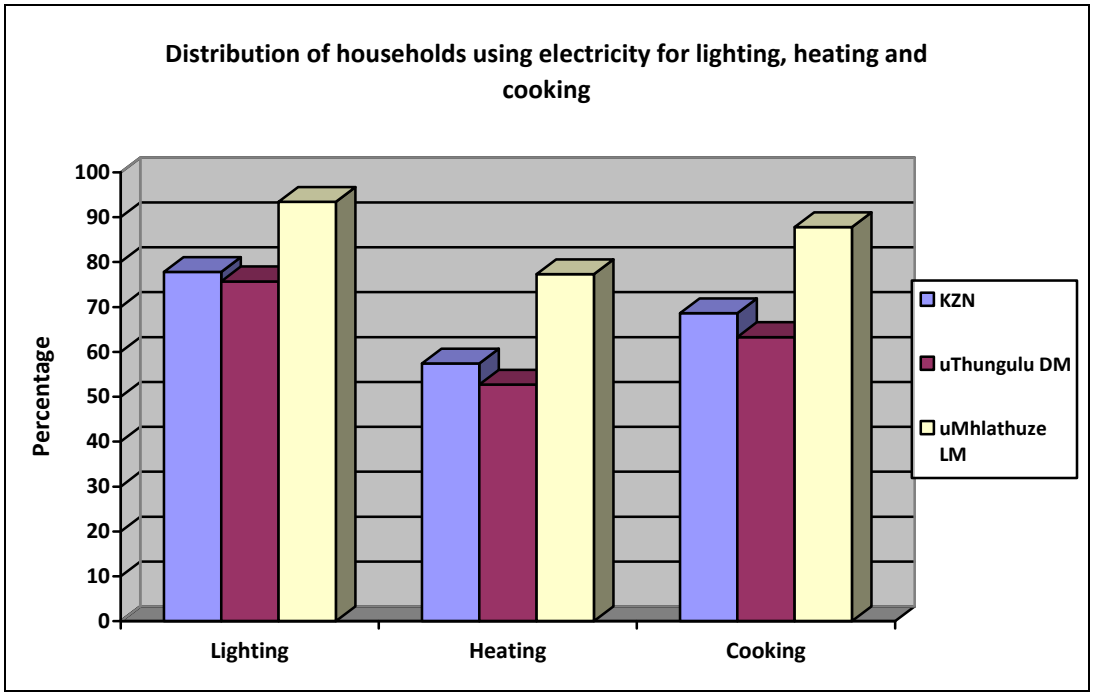

Figure 13: Distribution of households using electricity for electricity, heating and cooking (Source: Census 2011)

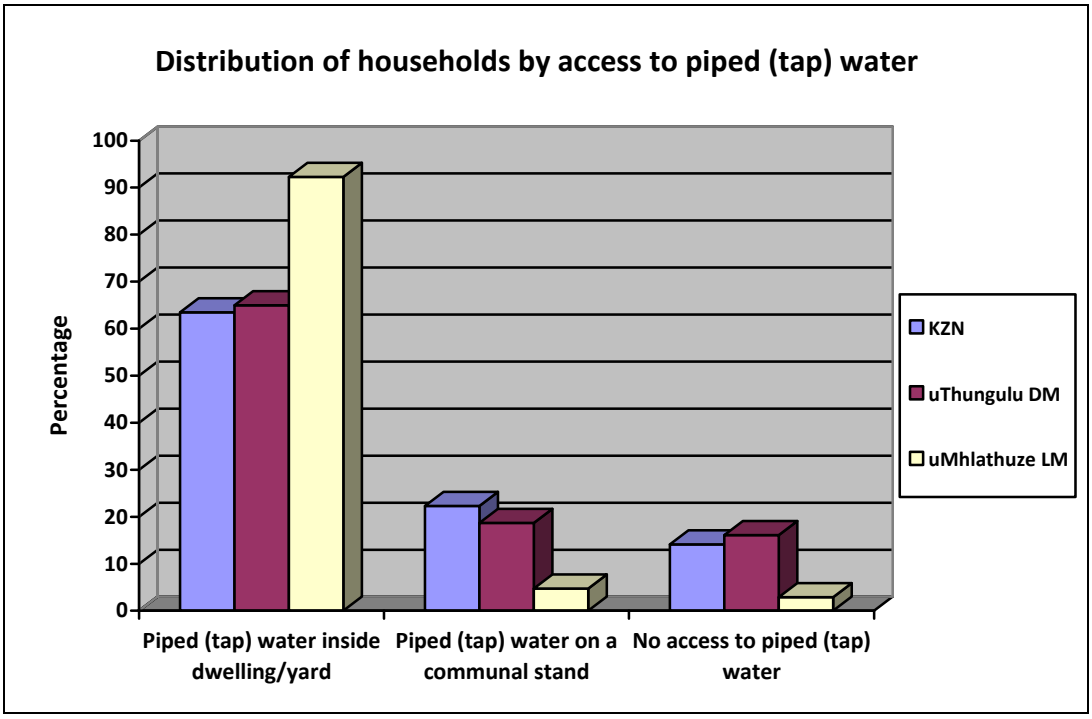

Figure 14: Distribution of households by access to piped water (Source: Census 2011)

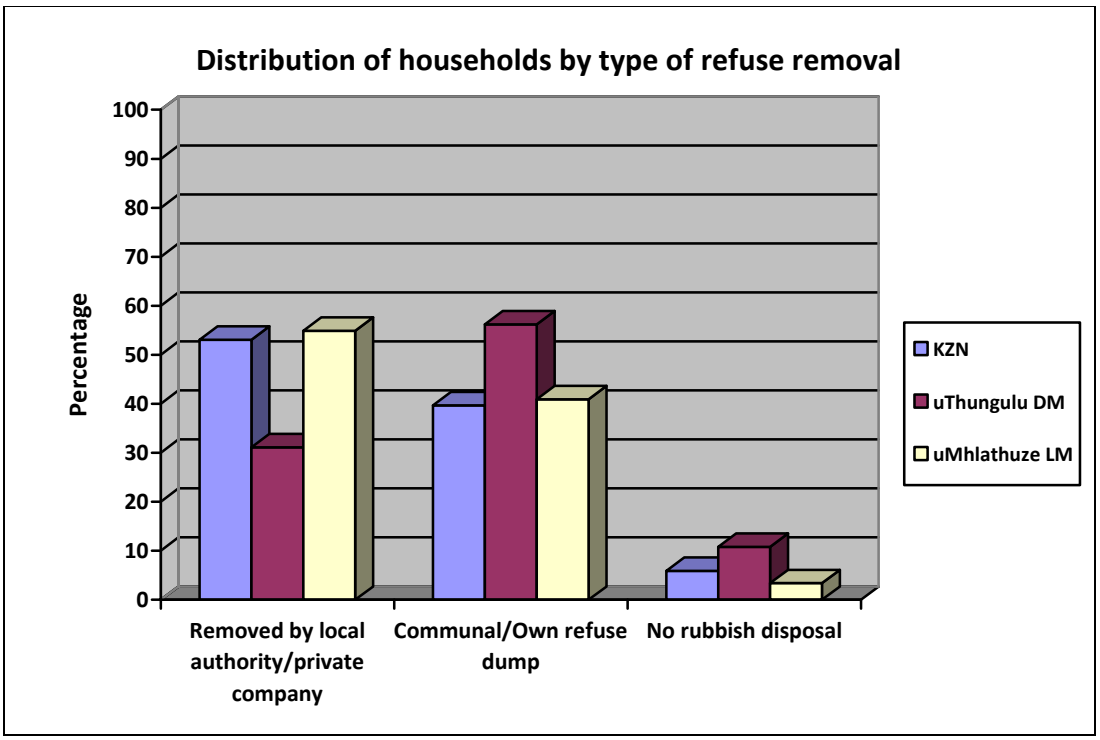

Figure 15: Distribution of households by type of refuse removal (Source: Census 2011)

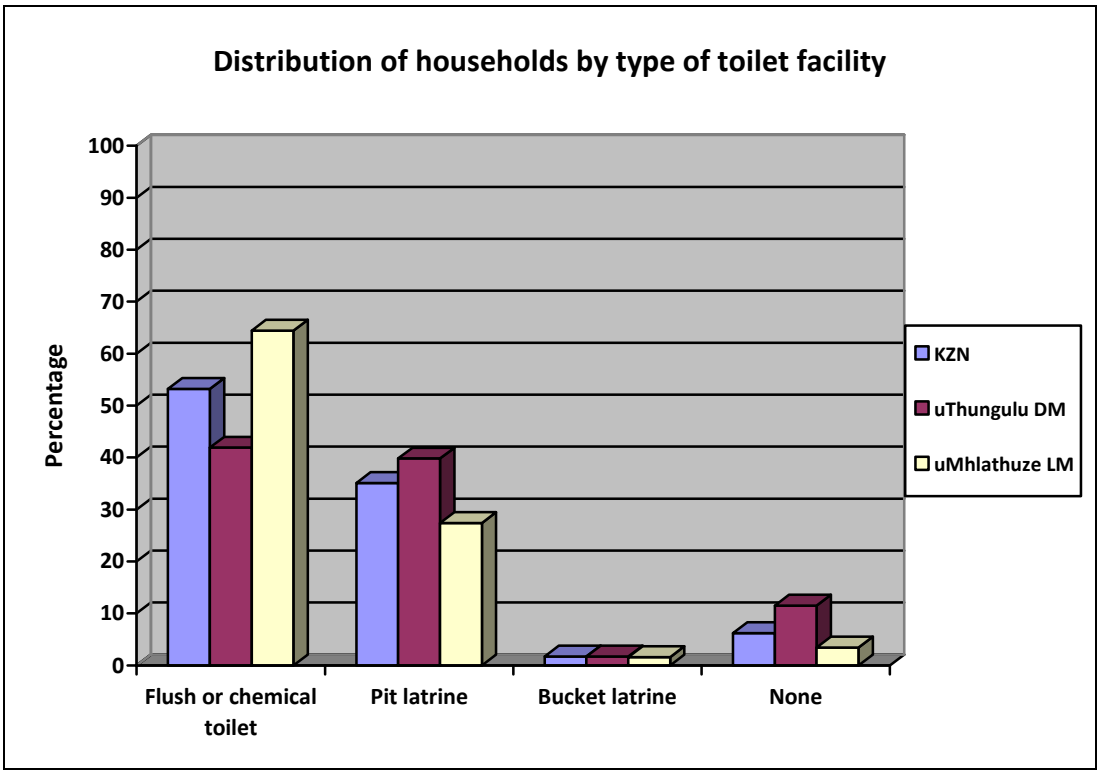

Figure 16: Distribution of households by type of toilet facility (Source: Census 2011)

A large number of people in the local municipality have access to basic services. There is still room for improvement in the provision of basic services more specifically in the rural/farm areas (ULM IDP 2012-2017), to expand basic services such as refuse removal and sanitation. The ULM IDP 2012-2017 states that water, electricity, sanitation, waste removal and social amenities are key critical services which have been identified by communities that are required to meet their basic needs. Limited funding and the increasing numbers of the community daily increases the levels of backlogs. A weakness the ULM currently faces is weak and/or poor quality basic services infrastructure to rural areas which discourages investors. An objective of the ULM includes improving the living environment of households in the informal settlements through incremental access to basic services and structured in situ upgrading (where suitable).

5.1.9. Health

Within the municipal area there are four hospitals and twenty three health clinics. Generally, there seems to be a need for additional health facilities in remote Traditional Authority areas (ULM IDP 2012-2017). HIV/AIDS is an epidemic which is increasing at an alarming rate and affects communities negatively. Provision of basic health services and effective healthcare infrastructure, increased financial and human

resources in healthcare, awareness and education and poverty alleviation programmes will reduce the increased incidents of HIV/AIDS and communicable diseases (ULM IDP 2012-2017).

5.1.10. Economic base

The economic base is defined as the main industries that provide employment opportunities and drive economic growth in a study area. The following is an overview of the economic base in local municipality.

uMhlathuze's Economy has the following components; Local Economic Development, Agriculture, Tourism, Other sectors such as mining, construction and manufacturing. Key issues that relate to the ULM economy include, increase in unemployment, large portion of the population subject to conditions associated with poverty, little or no diversity in the economy, declining resource base and the impacts of climate change.

Table 10: Key sectoral contributions to the economy in the ULM (Source: ULM IDP 2012-2017)

Economic Sector	(2001) %	(2008) %
Manufacturing	46.6	45.9
Community Services/ Social	12.9	10.4
Trade	6.2	6.3
Financial/ Real Estate/ Business	8.3	10.7
Agricultural/ Forestry/ Fishing	4.9	3.2
Construction	2.5	2.2
Transport/ Communication	11.5	9.1
Mining/ Quarrying	6	11.6
Electricity	1.1	0.6

The economic sectors that have shown a slight increase are financial and mining. The increase in the mining sector has been significant in that this sector is the second largest economic contributor above community services. The global economic reception affected the uMhlathuze area and the impact was severely felt during years 2008-2010. This is one of the reasons there has been a slight decrease in the economic performance in the area.

5.2. Summary

Summary and key challenges of the local area:

The socio-economic profile provided an overview of the study area. The following is a summary of the key baseline findings as a result of the study conducted on the UDM and the ULM in KZN. In summary, the area was found to have the following general characteristics:

» The population of the UDM in 2011 was approximately 907 519 people, of which 33 459 people reside in the ULM.
» The most dominant population group is the Black African population throughout the province, district and local municipality. The Black African population comprises 87.7% of the ULM population and the most spoken language in the ULM is Zulu.
» The female population is slightly more prominent in the UDM, ULM and KZN.
» 67.4% of the ULM population comprise the Economically Active Population (EAP); this implies that there is a larger human resource base for development projects to involve the local population with the ULM. The dependency ratio is high at 48.2% of the ULM population which puts pressure the EAP and local municipalities.
» There is high unemployment rate in the LM (31%) with a large economically active population seeking employment opportunities. Local workers should be utilised as much as possible for the proposed development in order to alleviate local unemployment
» The ULM has a high number of households which falls within a low income category and within the poverty level. Poverty level and the majority of the population falling within the low income level in the ULM is approximately 56.5% which demonstrates the need for job creation; the high demand for employment can be addressed (although marginally) through direct job creation during the construction and operation phase of the proposed development.
» The education levels in the ULM area are generally low. Almost half of the population aged 20 years and older in the municipality have only some secondary education or less (in the ULM this being 46.5% of the population); this indicates that almost half of the local population are semi- skilled or unskilled. This reflects the relatively poor education of the region.
» The skills profile of the area indicates that the availability of local labour for the proposed project which is largely limited to low-skilled construction workers, semi-skilled workers and a small number of skilled workers available
» Majority of the population live in urbanised areas within formal dwellings.
» ULM area is considered to be generally well serviced in terms of the extent and level of infrastructure available in terms of basic services however the ULM has weak/poor quality basic services and infrastructure.

» The economic sectors that have shown a slight increase over the years are financial and mining. The increase in the mining sector has been significant in that this sector is the second largest economic contributor above community services.

It is apparent that the local areas biggest challenge is illiteracy, poverty and unemployment. This is directly affected by lack of education which in turn affects income levels of the local population. Lack of income and high dependency rates has a negative influence on the payment of services provided by the municipality to communities.

The proposed development supports the social and economic development through enabling skills development and training in order to empower individuals and promote employment creation within the local area. The development would mainly focus on economic benefits to the area and contribute towards diversifying the local economy. Negative dimensions of impacts such as influx of jobseekers into the area putting pressure on municipal service facilities is assessed in the SIA.

5.3. Land use character of the study area

The site is zoned as IDZ Industrial by the uMhlatuze municipality. IDZ Industry provides for lower impact industries as compared to General Industrial zonation. In terms of land use, the quaternary catchment is characterised by intense past land-use modifications from agriculture, mining, tourism, residential, recreational and industrial development activities.

The study area within the IDZ Phase 1F is bordered by mixed-use industrial developments as well as residential areas and open areas. The broader surrounding area contributes significantly to the stormwater drainage that runs through the study site. Potential impacts include a loss of undeveloped areas locally. No specific specialist study was undertaken in terms of land use as the proposed development within the RBIDZ does occur in close proximity to existing commercial/industrial areas.

The proposed site is located within the Richards Bay Industrial Development Zone 1F, in the KZN Province. Majority of the land surrounding the proposed site comprises industrial areas and open spaces. Prominent features within or surrounding the proposed site includes (also see locality map, Figure 1):

» Tata Steel is located south west, directly adjacent to the proposed site
» Transnet Future Expansion area is located west of the proposed site, approximately 500m away.
» Proposed Central Industrial area is located south east of the proposed site approximately 1km away
» Eskom Power Line is located approximately 2km north west of the proposed site

» Richards Bay residential area (Alton) starts approximately 1.5km north east of the proposed site.
» Mandlazini Reservoir is located approximately 1.3km north east of the proposed site
» R619 provisional road is located north east of the proposed site, approximately 2km away (the R619 northern terminus is the N2, north-east of Empangeni and north of Richards Bay. It heads south, for nine kilometres to meet the R34 at Richards Bay).
» Idus substation is located south, directly adjacent, to the proposed site.
» The IDZ Phase 1F can be accessed via (see Figure 17):
    o The N2 via the R619 (located north of the IDZ 1F) onto Heliumhoogte Road and then onto Alumina Alley Road;
    o Or the IDZ 1F can be accessed via the N2 on the R34 (also known as John Ross PKWY) and then onto Alumina Alley road.

Figure 17: Access routes to the IDZ Phase 1F

6. SOCIAL IMPACT ASSESSMENT

This section provides a detailed description and assessment of the potential social impacts associated with the construction, operation and decommissioning and rehabilitation phases of the proposed development and associated infrastructure. Cumulative impacts are assessed within Section 6.3. No social impacts were identified in the pre-construction / planning phase.

6.1. Construction Phase

Impacts associated with the construction phase of the project are usually of a short duration (approximately 14-16 months) and temporary in nature, but could have long-term effects on the surrounding social environment if not managed appropriately.

6.1.1. Direct employment and skills development

The construction of the proposed project will require a workforce and therefore direct employment will be generated. The proposed development will create employment opportunities for the local community. It is estimated that during the construction phase (for the period of approximately 14-16 months) approximately ~300-400 employment opportunities will be generated for the proposed Development. In terms of skills requirements, it is common that highly skilled or skilled labour such as engineers, technical staff and project managers will constitute about 40% of the work force; skilled staff would typically be required to operate machinery and will constitute about 35% of employees, while unskilled staff such as construction and security workers will constitute about 25% of the work force. Employment opportunities for the proposed development will peak during the construction phase and significantly decline during the operation phase. The injection of income into the area in the form of wages will represent an opportunity for the local economy and businesses in the area.

There will be significant job opportunities available for low skilled (construction, security, and maintenance workers) and semi-skilled workers, which can be sourced from the local area. The proponent has indicated that approximately 25% of the labour force are likely to be available to the local community. Construction workers could be sourced from the local area of Richards Bay. It could be expected that some of the workers from outside the local area would form part of the construction team. Local labour should be sourced from within Richards Bay first and if need be extend the search to the UDM or nationally. Adverse impacts could occur if a large in-migrant workforce, culturally different from the local communities within local area are employed and brought in during the construction phase. While the local labour pool may be qualified for less-

skilled jobs, often local hiring will not meet the demands in professional and technical areas. A number of specialist contractors would most likely be brought in from other areas.

The developer will need to demonstrate a commitment to local employment targets in order to maximise the opportunities and benefits for members of the local community. It is likely that an Engineering, Procurement and Construction (EPC) contractor will be appointed by the developer who will hire the necessary employees. The applicant has indicated that training will also be provided to employees during the construction phase of the proposed development. Specific skills training for local communities have the opportunity to develop local employee potential. This is crucial to long-term development of skills and education in the area. This will accelerate the positive benefits and impacts of the proposed development on the economy.

Table 11: Impact assessment on direct employment opportunities and skills development

Construction Phase		
Nature: The creation of employment opportunities and skills development opportunities during the construction phase for the country and local economy		
	Without enhancement	**With enhancement**
Extent	Local- Regional (3)	Local- Regional (3)
Duration	Short term (2)	Short term (2)
Magnitude	Low (4)	Moderate (6)
Probability	Highly probable (4)	Highly probable (4)
Significance	**Medium (36)**	**Medium (44)**
Status (positive or negative)	Positive	Positive
Reversibility	N/A	
Irreplaceable loss of resources	N/A	
Can impacts be enhanced	Yes	
Enhancement measures: » If possible, efforts should be made to employ local contractors that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria. » It is recommended that local employment policy is adopted to maximise the opportunities made available to the local labour force (sourced from Richards Bay). » The recruitment selection process should seek to promote gender equality and the employment of women wherever possible. » Where feasible, training and skills development programmes should be initiated prior to the commencement of the construction phase. » A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process. The EPC contractor should appoint a designated staff member to implement grievance procedures and address issues and complaints. A Public Complaints register must be maintained by the Contractor and		

monitored by the ECO to record all complaints and queries relating to the project and the action taken to resolve the issue.
Residual impacts » Improved pool of skills and experience in the local area. » Economic growth for small-scale entrepreneurs. » Temporary employment during construction phase will result in jobs losses and struggles for local construction workers to find new employment opportunities post construction.

The impact is therefore assessed to be **positive,** local and regional in extent, temporary in duration, of moderate intensity, and highly probable with enhancement measures implemented. The impact is assessed to be of **medium significance** to the decision making process.

6.1.2. Economic multiplier effects

There are likely to be opportunities for local businesses to provide services and materials for the construction phase of the proposed development. The local service sector will also benefit from the proposed Development. The site is located within the RBIDZ Zone 1F. Given the relative proximity of the site to Richards Bay, the proponent has indicated that no on-site accommodation is envisaged for the construction phase. Employees will be sourced from the local areas (where possible). Off-site accommodation in Richards Bay would be required for contract workers and certain employees. The economic multiplier effects from the use of local goods and services opportunities will include, but is not limited to, construction materials and equipment and workforce essentials such as services, safety equipment, ablution, accommodation, transportation and other goods. The total construction capital expenditure associated with the proposed development is estimated to be in the region of R5 billion (2016 Rand value) with a proposed split of 60% imported and 40% locally sourced goods and services.

In terms of business opportunities for local companies, expenditure during the construction phase will create business opportunities for the regional and local economy. The increase in demand for new materials and services in the nearby area may stimulate local business and local economic development (however locally sourced materials and services may be limited due to availability). There is likely to be a direct increase in industry and indirect increase in secondary businesses.

Also the injection of income into the area in the form of wages will represent an opportunity for the local economy and businesses in the area. Through the stimulation of employment and income is the creation of new demand within the local and regional economies. With increased income comes additional income for

expenditure on goods and services supplied. The intention is to maximise local labour employment opportunities, this is likely to have a positive impact on local communities and have downstream impacts on household income, education and other social aspects. The implementation of the enhancement measures below can increase the opportunities for the local area.

Table 12: Economic multiplier effects impact assessment

Construction Phase		
Nature: Significance of the impact from the economic multiplier effects from the use of local goods and services		
	Without enhancement	**With enhancement**
Extent	Local- Regional (4)	Local- Regional (4)
Duration	Short term (2)	Short term (2)
Magnitude	Minor (2)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	**Low (24)**	**Medium (30)**
Status (positive or negative)	Positive	Positive
Reversibility	N/A	
Irreplaceable loss of resources	N/A	
Can impacts be enhanced	Yes	
Enhancement » It is recommended that a local procurement policy is adopted by the developer to maximise the benefit to the local economy. » Where feasible, the developer should create a database of local companies, specifically Historically Disadvantaged (HD) which qualify as potential service providers (e.g. construction companies, waste collection companies, security companies etc.) prior to the commencement of the tender process for construction contractors; these companies should be notified of the tender process and invited to bid for project-related work where applicable. » It is recommended that goods and services are sourced from the local area as much as possible; engage with local authorities and business organisations to investigate the possibility of procurement of construction materials, goods and products from local suppliers, where feasible.		
Residual impacts Improved local service sector, growth in local business		

The impact is assessed to be **positive**; local to regional in extent; temporary in duration; moderate intensity; and highly probable. The impact is assessed to be of a **low-medium significance** to the decision-making process.

6.1.3. Influx of jobseekers

The proposed development will create a range of employment possibilities and thus this will attract jobseekers. An influx of people looking for economic opportunities could result in pressure on economic and social infrastructure on the local population (rise in social conflicts and change in social dynamics). Influx of jobseekers into the area, could lead to a temporary increase in the level of crime, cause social disruption and put pressure on basic services. Influx of jobseekers could potentially create conflict between locals and outsiders mainly due to difference in racial, cultural and ethnic compositions. The high unemployment rates and expectations of job creation is already a potential source of competition among locals and could be exacerbated through outsiders coming into the area resulting in conflict. A further negative impact that could result due to an inflow of jobseekers is that local unemployment levels could rise due to an oversupply of an available workforce, particularly with respect to semi and unskilled workers.

Richards Bay is seen as a sensitive social receptor and jobseekers coming into the area could put pressure on social infrastructure; create social problems, tensions and conflicts. The impact associated with in-migration of jobseeker includes pressure on local services and infrastructure. This includes municipal services such as sanitation, electricity, water, waste management, health facilities, transportation and availability of housing. Informal settlements may develop near towns to accommodate jobseekers. It is very difficult to control the influx of people into an area, especially in a country where there's high levels of unemployment. Like any other development, this project would require employees during the construction phase. An influx of jobseekers to an area often results in an increase in prostitution activities, destructive behaviour (e.g. alcohol abuse, damaging the environment) and temporary sexual relations with locals; this could result in the spreading of HIV/Aids and STDs and unwanted pregnancies. The proposed development disrupting societies largely depends on the level of local employment achievable and clearly stipulating a local employment regime to limit outsiders coming into the area. Employment opportunities can be sourced from the local area first, i.e. Richards Bay, if availability of labour is limited then extend the search to the ULM and UDM. The ULM population (334 459 people) could fulfil the majority of the lower and semi-skilled employment opportunities that emerge from the proposed development.

Table 13: Assessment of impacts from influx of jobseekers in the local area

Construction Phase		
Nature: Added pressure on economic and social infrastructure and an increase in social conflicts during construction as a result of in-migration of jobseekers		
	Without mitigation	**With mitigation**
Extent	Local (2)	Local (2)
Duration	Short-term (2)	Short-term (2)
Magnitude	Low (4)	Minor (2)

Probability	Probable (3)	Probable (3)
Significance	**Low (24)**	**Low (18)**
Status (positive or negative)	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources	No	
Can impacts be mitigated	Yes	
Mitigation » It is recommended that local employment policy is adopted to maximise the opportunities made available to the local labour force. » A skills audit should be undertaken for construction employment opportunities, especially for semi and low-skilled job categories. Enhance employment opportunities for the immediate local area; (i.e. Richards Bay), and if this is not possible, then the broader focus areas should be considered for sourcing workers such as ULM and UDM. » Tender document should stipulate the use of local labour as far as possible. » Prior to construction commencing representatives from the local community (e.g. ward councillor, surrounding landowners) should be informed of details of the construction schedule and exact size of the workforce. » Recruitment of temporary workers at the gates of the proposed development should not be allowed. A recruitment office should be established by the contractor in a nearby town to deal with jobseekers. » A security company is to be appointed and appropriate security procedures to be implemented. » Establish procedures for the control and removal of loiterers at the construction site. » A comprehensive employee induction programme should address issues such as HIV/ AIDS and sexually transmitted diseases. The induction should also address a code of conduct for employees that would align with community values. » Developer is to have an HIV/AIDs policy, as well as Grievance Policy for workers. » A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process. The EPC contractor should appoint a designated staff member to implement grievance procedures and address issues and complaints. A Public Complaints register must be maintained by the Contractor and monitored by the ECO to record all complaints and queries relating to the project and the action taken to resolve the issue.		
Residual impacts Possibility of outside workers remaining in the area after construction is completed and subsequent pressures on local infrastructure and services.		

The impact is assessed to be **negative**; local in extent; temporary in duration; moderate intensity; and improbable with mitigation measures. The impact is assessed to be of **low significance** to the decision-making process.

6.1.4. Impacts on daily living and movement patterns (traffic impacts)

An increase in traffic due to construction vehicles and heavy vehicles could create short-term disruptions and safety hazards for current road users. Transportation

of project components and equipment to the proposed site will be transported using vehicular / trucking transport. The developer has indicated that the number of heavy vehicle trips per day would be in the region of ~30-50 trips in the beginning phase and thereafter approximately only ~15-20 trips. Access to the proposed development site will be via existing roads within the IDZ Phase 1F (already approved through an EIA undertaken for the Phase 1F infrastructure). The IDZ Phase 1F can be accessed via:

- The N2 via the R619 (located north of the IDZ 1F) onto Heliumhoogte Road and then onto Alumina Alley Road; or
- The IDZ 1F can be accessed via the N2 on the R34 (also known as John Ross PKWY) and then onto Alumina Alley road.

Increased traffic due to construction vehicles and heavy vehicles could cause disruptions to road users and increase safety hazards. The use of local roads and transport systems may cause road deterioration and congestion. During the stakeholder consultations that took place it was noted that the R619 route is currently a congested route with high volumes of vehicles and trucks passing through each day. Increased vehicular movement during the construction phase may influence daily living and movement patterns of community members in the surrounding communities. Mitigation measures are aimed at optimising vehicular movement during the construction phase to minimize traffic congestion problems in the area, which in turn influences daily living and movement patterns of community members in the surrounding communities who make use of these roads. It is suggested that construction vehicles and trucks utilise the R34 route to access the IDZ phase 1F area, to prevent further congestion on the R619 route.

Table 14: Assessment of impact on daily living and movement patterns (traffic impacts)

Construction Phase		
Nature: Impacts from an increase in traffic disruptions, congestion and impacts movement patterns during the construction phase		
	Without mitigation	**With mitigation**
Extent	Local (2)	Local (2)
Duration	Short term (2)	Short term (2)
Magnitude	Moderate (6)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	**Medium (30)**	**Low (24)**
Status (positive or negative)	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources	No	
Can impacts be mitigated	Yes	
Mitigation » The R34 (John Ross Pkwy) access route to the IDZ 1F area should be utilised as much		

as possible » All vehicles must be road worthy and drivers must be qualified, obey traffic rules, follow speed limits and made aware of the potential safety issues. » Heavy vehicles should be inspected regularly to ensure their road safety worthiness. » Implement penalties for reckless driving for the drivers of heavy vehicles as a way to enforce compliance to traffic rules. » A comprehensive employee induction programme must be implemented to cover land access protocols and road safety. » A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process. The EPC contractor should appoint a designated staff member to implement grievance procedures and address issues and complaints. A Public Complaints register must be maintained by the Contractor and monitored by the ECO to record all complaints and queries relating to the project and the action taken to resolve the issue.
Residual impacts None anticipated

The impact is assessed to be **negative**; local in extent; temporary in duration; low intensity and improbable with mitigation measures. The impact is assessed to be of **low significance** to the decision making process.

6.1.5. Safety and security impacts

The perceived decline of security during the construction phase of the proposed project due to the influx of workers and/ or outsiders to the area (as influx of newcomers or jobseekers are usually associated with an increase in crime) may have indirect effects, such as increased safety and security risk for neighbouring properties and damage to property, increased risk of veld fire, crime and so forth. The perception exists that construction related activities (influx of jobseekers, and construction workers and so forth) is a contributor to increased criminal activities in an area. Safety and security impacts are a reality in South Africa which needs to be addressed through appropriate mitigation and management measures. The proposed site is located within an industrial area where general industrial activities are taking place or are proposed to take place in the future.

The portion of land (i.e. development area) identified by the developer for the construction and operation of the power plant and associated infrastructure will be leased from the RBIDZ. The area has been earmarked for general industrial development. The proposed power plant development area will be appropriately secured all the time with access control and a security company will be appointed. Therefore the proposed safety and security impacts is anticipated to be of low significance.

Table 15: Assessment of safety and security impacts

Construction Phase		
Nature: Temporary increase in safety and security concerns associated with the influx of people during the construction phase		
	Without mitigation	**With mitigation**
Extent	Local (1)	Local (1)
Duration	Short term (2)	Short term (2)
Magnitude	Low (4)	Low (4)
Probability	Improbable (2)	Very improbable (1)
Significance	**Low (14)**	**Low (7)**
Status (positive or negative)	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources	No	
Can impacts be mitigated	Yes	

Mitigation

» Working hours should be kept within daylight hours during the construction phase, and/or as any deviation that is approved by the surrounding landowners.
» The perimeter of the construction site should be appropriately secured. The fencing of the site should be maintained throughout the construction periods.
» The appointed EPC contractor must appoint a security company and appropriate security procedures and measures are to be implemented.
» Access in and out of the site should be strictly controlled by a security company.
» Provide workers with identity tags and prohibit the access of unauthorized people to the construction site.
» The contractor must ensure that open fires on the site for heating, smoking or cooking are not allowed except in designated areas.
» Contractor must provide adequate firefighting equipment on site and provide firefighting training to selected construction staff.
» Provision of adequate and strategically placed traffic warning signs and control measures along the access road to warn road users of the construction activities taking place and displaying road safety messages and speed limits. Warning signs must be visible at all times.
» A comprehensive employee induction programme, covering land access protocols, fire management and road safety. This must be addressed in the construction EMPr as the best practice.
» All vehicles must be road worthy and drivers must be qualified and made aware of the potential road safety issues and follow the speed limits.
» The contractor should have personnel trained in first aid on site to deal with smaller incidents that require medical attention.
» A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process. The EPC contractor should appoint a designated staff member to implement grievance procedure and address issues and complaints.

Residual impacts

None anticipated.

The impact is assessed to be **negative**; local in extent; temporary in duration; low intensity and improbable with mitigation measures. The impact is assessed to be of **low significance** to the decision making process.

6.1.6. Nuisance Impacts (noise and dust)

Impacts associated with construction related activities include noise, dust and disruption or damage to adjacent properties and is considered as a potential issue. Site clearing and construction vehicles traveling on gravel roads does increase the risk of dust and noise being generated, which can in turn impact on the surrounding area. The primary sources of noise during construction would be from the construction equipment and other sources of noise including vehicle/truck traffic, and general construction activities. Noises levels can be audible over a large distance however are generally short in duration. The generation of dust would come from construction activities as well as trucks/ vehicles driving on the gravel access road. With the in-migration of people and construction workers into the area, this will also increase noise impacts. Enviro Acoustic Research (Pty) Ltd have indicated that a noise impact study would not be required. This is because the facility would be further than 1 000m from the closest potential noise-sensitive receptors (the closest residential developments) and the potential of a noise impact would be low. Therefore the activity is unlikely to have any acoustical implications. The proposed site is also located within a Richards Bay general industrial area IDZ 1F. Therefore the nuisance impacts from the construction activities are expected to have a low significance.

Table 16: Assessment of nuisance impacts (noise and dust)

Construction Phase		
Nature: Nuisance impacts in terms of a temporary increase in noise and dust		
	Without mitigation	**With mitigation**
Extent	Local (1)	Local (1)
Duration	Short-term (2)	Short-term (2)
Magnitude	Small (1)	Small (1)
Probability	Probable (3)	Improbable (2)
Significance	**Low (12)**	**Low (10)**
Status (positive or negative)	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources	No	
Can impacts be mitigated	Yes	
Mitigation » Vehicles used to transport sand and building materials must be fitted with tarpaulins or covers when travelling on roads. » Ensure all vehicles are roadworthy, drivers are qualified and are made aware of the potential noise and dust issues. » A method of communication should be implemented whereby procedures to lodge		

complaints are set out in order for the local community to express any complaints or grievances with the construction process. The EPC contractor should appoint a designated staff member to implement grievance procedures and address issues and complaints. A Public Complaints register must be maintained by the Contractor and monitored by the ECO to record all complaints and queries relating to the project and the action taken to resolve the issue.
Residual impacts None anticipated

The impact is assessed to be **negative**; local in extent; temporary in duration; low intensity; and improbable. The impact is assessed to be of **low significance** to the decision-making process.

6.2. Operation Phase

The power plant is designed to be operational for at least ~25-40 years. The potential positive and negative social impacts which could arise as a result of the operation of the proposed project include the following:

6.2.1. Direct employment and skills development

The operation phase of the project will require a workforce and therefore direct employment will be generated. The project involves the construction of a gas-fired power station which will provide either baseload[8] or mid-merit[9] power supply to the electricity grid. The exact number of permanent workers will differ for the baseload verses the mid-merit technology options. For mid-merit, it is estimated that approximately ~25-30 jobs will be generated and for baseload approximately ~75-90 for the lifetime of the project (over a period of ~20-25 years). A number of highly skilled personnel may need to be recruited from outside the local area. These employees would include skilled engineers (specialised in both electrical and mechanical engineering). Employees that can be sourced from the local municipal pool include the less skilled such as safety and security staff and maintenance crew. Routine activities would include operation of the power plant to produce power, and regular monitoring and maintenance activities to ensure safe and consistent operation. Maintenance will be carried out throughout the lifespan of the power plant and associated infrastructure.

It should be encouraged that as many as possible employees be sourced from within the local municipal pool and if the relevant skills are not available then these should be sought out on a regional/ national basis. The proponent will need

[8] "Baseload electricity generating capacity" refers to power station technology designed specifically to generate electricity continuously for all hours of the day and night.
[9] "Mid-Merit electricity generating capacity" refers to power station technology designed specifically to generate electricity during peak demand hours.

to demonstrate a commitment to local employment targets in order to maximise the opportunities and benefits for members of the local community. The proponent has indicated that approximately 50% of the workforce will be sourced from the local area. The focus for employment should be on local people, including women; this will have a maximum positive long-term impact (and if there is sufficient transfer of skills the positive impact can be extended). As the employment opportunities generated during the operation phase are more permanent and sustainable in the long run, as opposed to those generated during the construction phase (which are only temporary), sourcing of local labour during this phase will have long term beneficial impact. The applicant has indicated that training will also be provided to employees. Training is crucial to long-term development of skills and education in the area. This will accelerate the positive benefits and impacts of the proposed development on the economy.

Table 17: Employment opportunities and skills development at mid-merit

Operation Phase		
Nature: The creation of employment opportunities and skills development opportunities during the operation phase for the country and local economy at mid-merit		
	Without enhancement	**With enhancement**
Extent	Local- Regional (2)	Local- Regional (2)
Duration	Long term (4)	Long term (4)
Magnitude	Minor (2)	Low (4)
Probability	Highly probable (4)	Highly probable (4)
Significance	**Medium (32)**	**Medium (40)**
Status (positive or negative)	Positive	Positive
Reversibility	N/A	
Irreplaceable loss of resources	N/A	
Can impacts be enhanced	Yes	
Enhancement » It is recommended that a local employment policy is adopted to maximise the opportunities made available to the local community. » The recruitment selection process should seek to promote gender equality and the employment of women wherever possible. » Vocational training programs for employees should be established to promote the proposed development of skills.		
Residual impacts Improved pool of skills and experience in the local area		

The impact is assessed to be **positive**; local to regional in extent; long-term; low intensity and is highly probable. The impact is assessed to be of **medium significance** to the decision-making process.

Table 18: Employment opportunities and skills development at baseload

Operation Phase		
Nature: The creation of employment opportunities and skills development opportunities during the operation phase for the country and local economy at baseload		
	Without enhancement	**With enhancement**
Extent	Local- Regional (2)	Local- Regional (2)
Duration	Long term (4)	Long term (4)
Magnitude	Low (4)	Moderate (6)
Probability	Highly probable (4)	Highly probable (4)
Significance	**Medium (40)**	**Medium (48)**
Status (positive or negative)	Positive	Positive
Reversibility	N/A	
Irreplaceable loss of resources	N/A	
Can impacts be enhanced	Yes	
Enhancement » It is recommended that a local employment policy is adopted to maximise the opportunities made available to the local community. » The recruitment selection process should seek to promote gender equality and the employment of women wherever possible. » Vocational training programs for employees should be established to promote the proposed development of skills.		
Residual impacts Improved pool of skills and experience in the local area		

The impact is assessed to be **positive**; local to regional in extent; long-term; moderate intensity and is highly probable. The impact is assessed to be of **medium significance** to the decision-making process.

6.2.2. Economic multiplier effects

There are likely to be opportunities for local businesses to provide services and materials for the operation phase of the development. The local service sector will also benefit from the proposed development. In terms of business opportunities for local companies, expenditure during the operation phase will create business opportunities for the regional and local economy. Also the injection of income into the area in the form of wages will represent an opportunity for the local economy and businesses in the area. Through the stimulation of employment and income is the creation of new demand within the local and regional economies. With increased income comes additional income for expenditure on goods and services supplied. The intention is to maximise local labour employment opportunities, this is likely to have a positive impact on local communities and have downstream impacts on household income, education and

other social aspects. The implementation of the enhancement measures below can increase the opportunities for the local area.

Table 19: Economic multiplier effects impact assessment

Operation Phase		
Nature: Significance of the impact from the economic multiplier effects from the use of local goods and services		
	Without enhancement	**With enhancement**
Extent	Local- Regional (4)	Local- Regional (4)
Duration	Long term (4)	Long term (4)
Magnitude	Minor (2)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	**Low (24)**	**Medium (30)**
Status (positive or negative)	Positive	Positive
Reversibility	N/A	
Irreplaceable loss of resources	N/A	
Can impacts be enhanced	Yes	
Enhancement » It is recommended that a local procurement policy is adopted by the developer to maximise the benefits to the local economy. » Where feasible, the developer should create a database of local companies, specifically Historically Disadvantaged (HD) which qualify as potential service providers (e.g. construction companies, waste collection companies, security companies etc.); these companies should be notified of the tender process and invited to bid for project-related work where applicable. » It is recommended that goods and services are sourced from the local area as much as possible; engage with local authorities and business organisations to investigate the possibility of procurement of materials, goods and products from local suppliers, where feasible.		
Residual impacts Improved local service sector, growth in local business		

The impact is assessed to be **positive**; local to regional in extent; temporary in duration; moderate intensity; and highly probable. The impact is assessed to be of a **low-medium significance** to the decision-making process.

6.2.3. Development of energy infrastructure

Approximately 90% of South African electricity comes from coal-fired power stations, with Eskom being the dominant electricity producing company generating 95% of all electricity in South Africa (as detailed in the SA Yearbook 2009/2010). The demand for electricity in South Africa has grown, on average, at more than 4% over the past few years, with a simultaneous reduction in the

surplus generating capacity due to limited commissioning of new generation facilities. The Integrated Resource Plan (IRP) 2010 developed by the Department of Energy projected that an additional capacity of up to 56 539MW of generation capacity will be required to support the country's economic development and ensure adequate reserves over the next twenty years. In order to meet this required generation capacity, the IRP includes a mix of generation technologies, including a nuclear fleet of 9.6 GW; 6.3 GW of coal; 17.8 GW of renewables; and 8.9 GW of other generation sources, including gas. The generation of power is also needed to ensure the sustainability of existing industry, as well as attracting new industry to the area. The proposed development of a power plant could therefore add to the stability of the economy and contribute to the local economy.

Table 20: Assessment of the proposed development energy infrastructure

Operational Phase		
Nature: Development of energy infrastructure		
	Without enhancement	**With enhancement**
Extent	Local- Regional- National (4)	Local- Regional- National (4)
Duration	Long term (4)	Long term (4)
Magnitude	Minor (2)	Minor (2)
Probability	Highly probable (4)	Highly probable (4)
Significance	**Medium (40)**	**Medium (40)**
Status (positive or negative)	Positive	Positive
Reversibility	Yes	
Irreplaceable loss of resources	Yes (impact of climate change)	
Can impacts be enhanced	No	
Enhancement None anticipated		
Residual impacts » Contribution towards security of electricity supply.		

The impact is assessed to be **positive**; local to national in extent; long term; minor intensity; and highly probable. The impact is assessed to be of **medium positive significance** to the decision-making process.

6.2.4. Impacts on daily living and movement patterns (traffic impacts)

During phase 1 of the power plant, fuels will need to be transported to site each day, including diesel and Liquified Petrolium Gas (LPG) (phase 1 of the proposed development). The project involves the construction of a gas-fired power station

which will provide either baseload[10] or mid-merit[11] power supply to the electricity grid. Tankers will be delivering fuel per day during phase 1 of the operation phase. Each tanker delivering fuel to site will bring 40-44 m^3 of diesel or LPG. Depending on the technology design required the number of tankers delivering fuel per day will be as follows:

» For baseload operation – 52 tankers a day
» For mid-merit operation – 18 tankers a day

Access to the proposed development site will be via existing roads within the RBIDZ Phase 1F (already approved through an EIA undertaken for the Phase 1F infrastructure). The RBIDZ Phase 1F can be accessed via:

» The N2 via the R619 (located north of the IDZ 1F) onto Heliumhoogte Road and then onto Alumina Alley Road; or
» The IDZ 1F can be accessed via the N2 on the R34 (also known as John Ross PKWY) and then onto Alumina Alley road.

Increased traffic due to heavy vehicles (tankers) could cause disruptions to road users and increase safety hazards. The use of local roads and transport systems may cause road deterioration and increase congestion. During the stakeholder consultations that took place it was noted that the R619 route is currently a congested road with high volumes of vehicles and trucks passing through each day. Increased vehicular movement during the operation phase may influence daily living and movement patterns of community members in the surrounding communities through increased congestion. Mitigation measures are aimed at optimising vehicular movement during the operation phase to minimize traffic congestion problems in the area, which in turn influences daily living and movement patterns of community members in the surrounding communities who make use of these roads. It is suggested that construction vehicles and trucks utilise the R34 route to prevent further congestion along the R619 route.

Table 21: Assessment of impact on daily living and movement patterns (traffic impacts) for mid-merit

Operation Phase		
Nature: Impacts from an increase in traffic disruptions, congestion and impacts movement patterns during the operation phase (mid-merit)		
	Without mitigation	**With mitigation**
Extent	Local (2)	Local (2)
Duration	Long term (4)	Long term (4)
Magnitude	Moderate (6)	Low (4)
Probability	Probable (3)	Improbable (2)

[10] "Baseload electricity generating capacity" refers to power station technology designed specifically to generate electricity continuously for all hours of the day and night.
[11] "Mid-Merit electricity generating capacity" refers to power station technology designed specifically to generate electricity during peak demand hours.

Significance	**Medium (36)**	**Low (20)**
Status (positive or negative)	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources	No	
Can impacts be mitigated	Yes	
Mitigation » The R34 access route should rather be utilised by tankers delivering fuel as much as possible during phase 1 of the operation phase. » All vehicles must be road worthy and drivers must be qualified, obey traffic rules, follow speed limits and made aware of the potential safety issues. » Heavy vehicles should be inspected regularly to ensure their road safety worthiness. » Implement penalties for reckless driving for the drivers of heavy vehicles as a way to enforce compliance to traffic rules. » A comprehensive employee induction programme must be implemented to cover land access protocols and road safety.		
Residual impacts None anticipated		

The impact is assessed to be **negative**; local in extent; long-term; low intensity and improbable with mitigation measures. The impact is assessed to be of **low significance** to the decision making process.

Table 22: Assessment of impact on daily living and movement patterns (traffic impacts) for baseload

Operation Phase		
Nature: Impacts from an increase in traffic disruptions, congestion and impacts movement patterns during the operation phase (baseload)		
	Without mitigation	**With mitigation**
Extent	Local (2)	Local (2)
Duration	Long term (4)	Long term (4)
Magnitude	High (8)	Moderate (6)
Probability	Probable (3)	Improbable (2)
Significance	**Medium (42)**	**Low (24)**
Status (positive or negative)	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources	No	
Can impacts be mitigated	Yes	
Mitigation » The R34 access route should rather be utilised by tankers delivering fuel as much as possible during phase 1 of the operation phase. » All vehicles must be road worthy and drivers must be qualified, obey traffic rules, follow speed limits and made aware of the potential safety issues. » Heavy vehicles should be inspected regularly to ensure their road safety worthiness. » Implement penalties for reckless driving for the drivers of heavy vehicles as a way to enforce compliance to traffic rules. » A comprehensive employee induction programme must be implemented to cover land		

access protocols and road safety.
Residual impacts None anticipated

The impact is assessed to be **negative**; local in extent; long-term; moderate intensity and improbable with mitigation measures. The impact is assessed to be of **low significance** to the decision making process.

6.2.5. Visual impact and sense of place impacts

The sense of place is developed over time as the community embraces the surrounding environment, becomes familiar with its physical properties, and creates its own history. The sense of place is created through the interaction of various characteristics of the environment, including atmosphere, visual resources, aesthetics, climate, lifestyle, culture and heritage. Importantly though it is a subjective matter and is dependent on the demographics of the population that resides in the area and their perceptions regarding trade-offs. An impact on the sense of place is one that alters the visual landscape to such an extent that the user experiences the environment differently, and more specifically, in a less appealing or less positive light. The social impacts associated with the impact on sense of place relate to the change in the landscape character and visual impact from the proposed gas to power facility. The landscape in the area has already been altered due to the industrial activities nearby. The site is also located within the RBIDZ Phase 1F which is planned to have general industrial activities surrounding the proposed development. Therefore the aesthetics from the gas to power plant is expected to have a low intensity impact and a low impact on the areas sense of place.

Table 23: Visual impact and impacts on sense of place assessment

Operational Phase		
Nature: Visual impacts and sense of place impacts associated with the operation phase of the power plant and associated infrastructure		
	Without mitigation	**With mitigation**
Extent	Local (1)	Local (1)
Duration	Long term (4)	Long term (4)
Magnitude	Minor (2)	Minor (2)
Probability	Improbable (2)	Improbable (2)
Significance	**Low (14)**	**Low (14)**
Status (positive or negative)	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources	No	

Can impacts be mitigated	Yes
Mitigation » Non anticipated	
Residual impacts None anticipated if the visual impact will be removed after decommissioning, provided the site is rehabilitated to its original (current) status.	

The impact is assessed to be **negative**; local in extent; long term; minor intensity; and improbable. The impact is assessed to be of **low significance** to the decision-making process.

6.3. Cumulative Impacts

The proposed development is to be located within the identified RBIDZ area most suitable for the rollout of the development of industrial activities within the KZN Province. This implies that projects of the same nature will be consolidated in one area creating a node, and ultimately aiming to reduce the potential for cumulative impacts associated with such developments when spatially fragmented. The site is located in close proximity to Tata Steel and the proposed gas to power plant is located in the RBIDZ Phase 1F, an area planned for further industrial development (see Figure 18). Possible cumulative impacts as a result of other industrial projects in the area could have cumulative negative and positive impacts for the local community. Cumulative impacts have been considered as part of the SIA and identified where relevant.

Figure 18: RBIDZ Phase 1F Land Allocation. Land allocated to the project is that indicated in orange (erven 17455, 17443 and 17442).

6.3.1. Cumulative impacts from employment, skills and business opportunities

The proposed development and the establishment of other general industrial plants in the RBIDZ phase 1F has the potential to result in significant positive cumulative impacts; specifically with the creation of a number of socio-economic opportunities for the Province, which in turn, will result in a positive social benefit. The positive cumulative impacts include creation of employment, skills development and training opportunities, and downstream business opportunities. Furthermore at municipal level, the cumulative impact could be positive and could incentivise operation and maintenance companies to centralise and expand their activities towards education and training more closely to the projects. Cumulative impacts on local entrepreneurs will be positive and assist in developing their businesses further.

Table 24: Cumulative impacts of employment opportunities, business opportunities and skills development

Nature: An increase in employment opportunities, skills development and business opportunities with the establishment other general industrial developments in the RBIDZ phase 1F		
	Overall impact of the proposed project considered in isolation	**Cumulative impact of the project and other projects in the area**
Extent	Local- Regional (3)	Local- regional (3)
Duration	Long term (4)	Long term (4)
Magnitude	Minor (2)	Moderate (6)
Probability	Probable (3)	Probable (3)
Significance	**Low (27)**	**Medium (39)**
Status (positive or negative)	Positive	Positive
Reversibility	N/A	
Irreplaceable loss of resources	N/A	
Can impacts be enhanced	Yes	
Confidence in findings	High	
Enhancement The establishment of other general industrial developments in the RBIDZ phase 1F has the potential to have a positive cumulative impact on the area in the form of employment opportunities, skills development and business opportunities. The positive benefits will be enhanced if local employment policies are adopted and local services providers are utilised by the developers to maximise the developments opportunities available to the local community.		

The impact is assessed to be **positive**; local to regional in extent; long-term; moderate intensity and probable. The overall impact is likely to have a **medium positive significance** to the local area.

6.3.2. Cumulative impacts on daily living and movement patterns (traffic impacts)

The proposed development is to be located within the identified RBIDZ area most suitable for the rollout of the development of industrial activities within the KZN Province. This implies that projects of the same nature will be consolidated in one area creating a node, and ultimately aiming to reduce the potential for cumulative impacts associated with such developments when spatially fragmented. The site is located in close proximity to Tata Steel and the proposed gas to power plant is located in the RBIDZ Phase 1F, an area planned for further industrial development. Possible cumulative impacts as a result of other industrial projects in the area could have cumulative negative impacts for the local community. Increased traffic due to construction vehicles and heavy vehicles could cause disruptions to road users and increase safety hazards. The use of local roads and transport systems may cause road deterioration and congestion. During the stakeholder consultations that took place it was noted that the R619 route is currently a congested route with high volumes of vehicles and trucks passing through each day. Increased vehicular movement from other industrial developments in the IDZ phase 1F may influence daily living and movement patterns of community members in the surrounding communities. If more than one development is under construction at any one time, then the impacts from increased traffic is likely to have more of a negative impact on the local area. Mitigation measures are aimed at optimising vehicular movement to minimize traffic congestion problems in the area, which in turn influences daily living and movement patterns of community members in the surrounding communities who make use of these roads. It is suggested that heavy vehicles and trucks utilise the R34 route to access the RBIDZ Phase 1F area to prevent further congestion on the R619 route.

Table 25: Cumulative assessment of impact on daily living and movement patterns (traffic impacts)

Nature: Impacts from an increase in traffic disruptions, congestion and impacts on movement patterns during the operation phase		
	Overall impact of the proposed project considered in isolation	**Cumulative impact of the project and other projects in the area**
Extent	Local (2)	Local (2)
Duration	Short term (2)	Long term (4)
Magnitude	Low (4)	Moderate (6)
Probability	Probable (3)	Highly probable (4)

Significance	**Low (24)**	**Medium (48)**
Status (positive or negative)	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources	No	
Can impacts be mitigated	Yes	
Confidence in findings	High	

Mitigation

» The R34 access route should rather be utilised by tankers delivering fuel as much as possible during phase 1 of the operation phase.
» All vehicles must be road worthy and drivers must be qualified, obey traffic rules, follow speed limits and made aware of the potential safety issues.
» Heavy vehicles should be inspected regularly to ensure their road safety worthiness.
» Implement penalties for reckless driving for the drivers of heavy vehicles as a way to enforce compliance to traffic rules.
» A comprehensive employee induction programme must be implemented to cover land access protocols and road safety.

The impact is assessed to be **negative**; local in extent; long-term; low intensity and improbable with mitigation measures. The impact is assessed to be of **medium significance** to the decision making process.

6.3.3. Cumulative impacts with large scale in-migration of people

Large-scale industrial development in the RBIDZ Phase 1F will likely draw a large number of labour, businesses and jobseekers to the area. If the local labour force cannot be sourced locally or the local labour pool is inadequate for the industrial developments, outside labour will likely move to the area to fill the gap. The area may experience an influx of new residents who may move to the area looking for job opportunities; which will have effects on the existing population during the construction periods that could entail problems of housing, sanitation, water usage and solid waste disposal. Employment for a power plant peaks during construction and significantly declines during operation. Though there may be an influx of workers during construction, these workers are largely temporary. Towns with larger populations (greater than 1 000 individuals) and with developed services will likely experience greater rates of population growth than areas without developed services. In relation to the area, the town that will be mostly affected is Richards Bay (population of 57 387 people) and the smaller settlements nearby. With the influx of new individuals, secondary industries in the town may also begin to grow, more individuals will move to the area to fill these secondary positions. The impact of this on services and resources is likely to impact the current communities and increase the pressure on local municipality to meet the basic needs of these potential new communities. The poor communities are likely to be the most vulnerable to loss of service provision and suffer the negative impact of large scale in-migration. There is

potential for the influx of migrants to significantly change the local receiving environment and this is likely to have a permanent impact in the region. If more than one industrial development is under construction at any one time, then the impacts from in-migration of people is likely to have more of a negative impact on the local area. It is very difficult to control an influx of people into an area, especially in a country where unemployment rates are high.

Table 26: Cumulative impacts with large-scale in-migration of people

Construction & Operational Phase		
Nature: Negative impacts and change to the local economy with an in-migration of labourers, businesses and jobseekers to the area.		
	Overall impact of the proposed project considered in isolation	**Cumulative impact of the project and other projects in the area**
Extent	Local (3)	Local (3)
Duration	Long term (4)	Long term (4)
Magnitude	Minor (2)	Minor (2)
Probability	Improbable (2)	Probable (3)
Significance	**Low (18)**	**Low (27)**
Status (positive or negative)	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources	No	
Can impacts be mitigated	Yes	
Confidence in findings	Medium	
Mitigation » Develop a recruitment policy/ process (to be implemented by contractors), which will source labour locally, where feasible. » Working together with government agencies to ensure service provision is in line with the proposed development needs of the local area. » Forming joint ventures with community organisations, through Trusts, which can provide local communities with benefits, such as employment opportunities and services.		

The impact is assessed to be **negative**; local to regional in extent; long-term; moderate intensity and probable. The overall impact is likely to have a **low negative significance** to the local area.

6.3.4. Cumulative impacts on the sense of place and landscape

The proposed development is to be located within the identified RBIDZ area most suitable for the rollout of the development of industrial activities within the KZN Province. This implies that projects of the same nature will be consolidated in one area creating a node, and ultimately aiming to reduce the potential for impacts

associated with such developments when spatially fragmented. The site is located in close proximity to Tata Steel and the proposed gas to power plant is located in the RBIDZ Phase 1F, an area planned for further industrial development. Therefore the aesthetics from the industrial developments in the area is expected to have a low intensity impact and a low impact on the areas sense of place.

Table 27: Cumulative visual impacts and impacts on sense of place assessment

Operational Phase		
Nature: Visual impacts and change in the sense of place impacts associated with the establishment of more than one industrial development in the area		
	Overall impact of the proposed project considered in isolation	**Cumulative impact of the project and other projects in the area**
Extent	Local (2)	Local (2)
Duration	Long term (4)	Long term (4)
Magnitude	Minor (2)	Minor (2)
Probability	Improbable (2)	Probable (3)
Significance	**Low (16)**	**Low (24)**
Status (positive or negative)	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources	No	
Can impacts be mitigated	No	
Confidence in findings	High	
Mitigation » None anticipated		

The impact is assessed to be **negative**; local to regional in extent; long-term; moderate intensity and probable. The overall impact is likely to have a **low negative significance** to the local area.

6.4. Decommissioning Phase

Typically, the major social impacts associated with the decommissioning phase are linked to the loss of jobs and associated income. This has implications for the households who are directly affected, the communities within which they live, and the relevant local authorities. However, in the case of the proposed development the decommissioning phase is likely to involve the disassembly and replacement of the existing components with more modern technology. This is likely to take place in 25 - 40 years post commissioning. The decommissioning phase is therefore likely to create additional, construction type jobs, as opposed to the job losses typically associated with decommissioning however for a limited period of time.

Given the relatively small number of people employed during the operation phase (~65-100), the social impacts at a community level associated with decommissioning are likely to be limited. In addition, potential impacts associated with the decommissioning phase can be effectively managed with the implementation of a retrenchment and downscaling programme.

Table 28: Social impacts associated with decommissioning

Nature: Social impacts associated with retrenchment including loss of jobs and source of income		
	Without Mitigation	**With Mitigation**
Extent	Local (2)	Local (2)
Duration	Short term (1)	Short Term (1)
Magnitude	Moderate (6)	Low (4)
Probability	Highly Probable (4)	Highly Probable (4)
Significance	**Medium (36)**	**Low (28)**
Status	Negative	Negative
Reversibility	No	
Irreplaceable loss of resources?	No	
Can impact be mitigated?	Yes	
Mitigation » Implementation of a retrenchment and downscaling programme » All structures and infrastructure associated with the proposed Development should be dismantled, removed and transported off-site on decommissioning; and the landscape rehabilitated/ re-vegetated.		
Residual impacts Loss of jobs and associated loss of income, can impact on local economy and other businesses.		

The impact is assessed to be **negative**; local in extent; short term; low intensity; and highly probable. The impact is assessed to be of **low significance** to the decision-making process.

6.5. Assessment of Impacts for the No-go Option:

The impacts of pursuing the no-go option are both positive and negative as follows:

» The benefits would be that there is no disruption from, traffic impacts (increased disturbance and congestion during construction and operation phase). The impact is therefore neutral.
» There would be an opportunity loss in terms of job creation, skills development and associated economic business opportunities for the local economy.

Foregoing the proposed development would not necessarily compromise the proposed development of the industrial area in the RBIDZ Phase 1F. However, the socio-economic benefits for local communities would be forfeited.

6.6. Conclusion and Recommendations

The SIA has primarily focused on the collection of primary data to identify and assess social issues and potential social impacts. Secondary data was collected and presented in a literature review and primary data was collected through consultations with key stakeholder and the public participation process. The environmental assessment framework for the assessment of impacts and the relevant criteria were applied to evaluate the significance of the potential impacts. A summary of the potential positive and negative impacts identified in the SIA for the construction and operation phase are presented in Tables 29 and 30 below. A summary of the decommissioning impacts are presented in Table 31 and the cumulative social impacts is also provided in Table 32.

Table 29: Summary of social impacts during construction phase

CONSTRUCTION PHASE		
Impact	**Significance without Mitigation/ enhancement**	**Significance with Mitigation/ enhancement**
Positive Impacts		
Direct employment and skills development	Medium (36)	Medium (44)
Economic multiplier effects	Low (24)	Medium (30)
Negative Impacts		
Influx of jobseekers	Low (24)	Low (18)
Impacts on daily living and movement patterns (Traffic Impacts)	Medium (30)	Low (24)

Safety and security risks	Low (14)	Low (7)
Nuisance impact (noise and dust)	Low (12)	Low (10)

Table 30: Summary of social impacts during operation phase

OPERATION PHASE		
Impact	**Significance without Mitigation/ enhancement**	**Significance with Mitigation/ enhancement**
Positive Impacts		
Direct employment and skills development at Mid-merit	Medium (32)	Medium (40)
Direct employment and skills development at Baseload	Medium (40)	Medium (48)
Economic multiplier effects	Low (24)	Medium (30)
Development of energy infrastructure	Medium (40)	Medium (40)
Negative Impacts		
Impacts on daily living and movement patterns (Traffic Impacts)- Mid-merit	Medium (36)	Low (20)
Impacts on daily living and movement patterns (Traffic Impacts)- Baseload	Medium (42)	Low (24)
Visual Impacts and sense of place impacts	Low (14)	Low (14)

Table 31: Summary of social impacts during decommissioning phase

CONSTRUCTION PHASE		
Impact	**Significance without Mitigation**	**Significance with Mitigation**
Negative Impact		
Social impacts associated with retrenchment including loss of jobs and source of income	Medium (36)	Low (28)

Table 32: Summary of cumulative social impacts

CUMULATIVE IMPACTS		
Cumulative Impact	**Overall impact of the proposed project considered in isolation**	**Cumulative impact of the project and other projects in the area**
Positive Cumulative Impacts		
Cumulative impacts from employment, skills and business opportunities	Low (27)	Medium (39)
Negative Cumulative Impacts		
Cumulative impacts on daily living and movement patterns (traffic impacts)	Low (24)	Medium (48)
Cumulative impacts with large-scale in-migration of people	Low (18)	Low (27)
Cumulative impacts on the sense of place and landscape	Low (16)	Low (24)

Key findings

From a social perspective it is concluded that the project is supported, but that mitigation measures should be implemented and adhered to. Positive and negative social impacts have been identified. The assessment of the key issues indicated that there are no negative impacts that can be classified as fatal flaws and which are of such significance that they cannot be successfully mitigated. Positive impacts could be enhanced by implementing appropriate enhancement measures and through careful planning. Based on the social assessment, the following general conclusions and findings have been made:

» The potential negative social impacts are primarily associated with the traffic impacts on daily living and movement patterns during the construction phase and operation phase; and can be reduced with the implementation of the mitigation measures proposed.
» Employment opportunities will be created in the construction and operation phase and the impact is rated as positive even if only a small number of individuals benefit in this regard.
» The proposed project could assist the local economy in creating entrepreneurial development, especially if local business could be involved in the provision of general material and services during the construction and operational phases.
» Capacity building and skills training among employees are critical and would be highly beneficial to those involved, especially if they receive portable skills to enable them to also find work elsewhere and in other sectors.

» The proposed development also represents an investment in infrastructure for the generation energy, which represents a positive social benefit for society as a whole.

Recommendations

The following recommendations are made on the basis of the SIA and a thorough review of the concerns and suggestions raised by stakeholders and interested and affected parties during the stakeholder engagement process. The proposed mitigation measures should be implemented to limit the negative impacts and enhance the positive impacts. Based on the social assessment, the following recommendations are made:

» The EPC contractor should appoint a designated staff member to assist with the management of social impacts and to deal with any community issues.
» In terms of employment related impacts, it is important to consider that job opportunities for the unskilled and semi-skilled in the study area could create competition among the local unemployed. Introducing an outside workforce will therefore most likely worsen local endeavours to obtain jobs and provoke discontent as well as put pressure on the local services available. It is imperative that local labour be sourced, wherever possible, to ensure that benefits accrue to the local communities. Efforts should be made to involve local businesses during the construction activities where possible. Local procurement of labour and services/products would greatly benefit the community during the construction and operational phases of the project.
» Local procurement of services and equipment where possible in order to enhance the multiplier effect. This would serve to mitigate other subsequent negative impacts such as those associated with the inflow of outsiders to the area, the increased pressure on the infrastructure and services in the area, as well as the safety and security concerns.
» Involve the community in the process as far as possible (encourage co-operative decision making and partnerships with local entrepreneurs).
» Implement mitigation measures to reduce and avoid negative impacts.
» It is important that the mitigation measures relating to traffic impacts (daily living and movement patterns) are implemented to reduce the negative impacts

Overall Conclusion

The proposed development and associated infrastructure is unlikely to result in permanent damaging social impacts. From a social perspective it is concluded that the project could be developed subject to the implementation of the recommended mitigation measures and management actions contained in the SIA report.

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APPENDIX A: SIA ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)-

Construction Phase

Direct employment and skills development

OBJECTIVE: Maximise local employment and skills opportunities associated with the construction phase	
Project component/s	» Construction of the power plant and associated infrastructure.
Potential Impact	» The opportunities and benefits associated with the creation of local employment and skills development to be maximised.
Activities/risk sources	» Construction procurement practice employed by the contractor » Proponent's investment plan
Enhancement: Target/Objective	» The proponent should aim to employ as many low-skilled and semi-skilled workers from the local area as possible. This should also be made a requirement for all contractors.

Mitigation: Action/control	**Responsibility**	**Timeframe**
If possible, employ local contractors that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria.	Proponent and Contractor	Pre-construction and construction phase
It is recommended that a local employment policy is adopted to maximise the opportunities made available to the local labour force (sourced from nearest towns/settlements).	Proponent and Contractor	Pre-construction and construction phase
The recruitment selection process should seek to promote gender equality and the employment of women wherever possible.	Contractor	Pre-construction and construction phase
Where feasible, training and skills development programmes are to be initiated prior to the commencement of the construction phase.	Proponent	Pre-construction and construction phase
A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process. The contractor should appoint a designated staff member to implement grievance procedures and address issues and complaints. A Public Complaints register must be maintained, by the Contractor to record all complaints and queries relating to the project and the action taken to resolve the issue.	Contractor	Pre-construction and construction phase

Performance Indicator	» Employment policy document that sets out local employment and targets completed before construction phase commences; » Employ as many local semi and unskilled labour as possible. » Training and skills development programme undertaken prior to the commencement of construction phase.
Monitoring and Reporting	» The proponent and contractor must keep a record of local recruitments and information on local labour to be shared with the ECO for reporting purposes.

Economic multiplier effects

OBJECTIVE: Maximise the local economic multiplier effect during construction phase

Project component/s	» Construction of the power plant and associated infrastructure.
Potential Impact	» Potential local economic benefits
Activity/risk source	» Proponent's procurement plan
Enhancement: Target/Objective	» Increase the procurement of goods and services especially within the local economy

Enhancement: Action/control	Responsibility	Timeframe
It is recommended that a local procurement policy is to be adopted to maximise the benefits to the local economy	Proponent and Contractor	Pre-construction and construction phase
Where feasible, develop a database of local companies, specifically Historically Disadvantaged (HD) which qualify as potential service providers (e.g. construction companies, security companies, catering companies, waste collection companies, transportation companies etc.) prior to the tender process and invite them to bid for project-related work where applicable	Proponent and Contractor	Pre-construction and construction phase
Where feasible, source as much goods and services as possible from the local area. Engage with local authorities and business organisations to investigate the possibility of procurement of construction materials, goods and products from local suppliers	Proponent	Pre-construction and construction phase

Performance Indicator	» Local procurement policy is adopted » Local goods and services are purchased from local suppliers where feasible
Monitoring	» The proponent must monitor indicators listed above to ensure that they have been met for the construction phase

Impacts from an influx of jobseekers

OBJECTIVE: Reduce the pressure on economic and social infrastructure and social conflicts from an influx of jobseekers during the construction phase

Project component/s
Potential Impact
Activity/risk source
Mitigation: Target/Objective

Mitigation: Action/control	**Responsibility**	**Timeframe**
A 'locals first' policy should be advertised for construction employment opportunities, especially for semi and low-skilled job categories.	Proponent and Contractor	Pre-construction and construction phase
Tender document should stipulate the use of local labour as far as possible	Contractor	Pre-construction and construction phase
Prior to construction commencing representatives from the local community (e.g. ward councillor, surrounding landowners) should be informed of details of the construction schedule and exact size of the workforce.	Proponent and Contractor	Pre-construction and construction phase
Recruitment of temporary workers at the gates of the proposed development should not be allowed. A recruitment office should be established by the contractor in a nearby town to deal with jobseekers.	Contractor	Pre-construction and construction phase
Have clear rules and regulations for access to the proposed site.	Contractor	Pre-construction and construction phase
Security company to be appointed and appropriate security procedures to be implemented	Proponent and Contractor	Pre-construction and construction phase
Establish procedures for the control and removal of loiterers at the construction site.	Contractor	Pre-construction and construction phase
A comprehensive employee induction programme should address issues such as HIV/ AIDS and sexually transmitted diseases. The induction should also address a code of conduct for employees that would align with community values.	Contractor	Pre-construction and construction phase

Performance Indicator	» Ensure 'locals first' policy is adopted/advertised » Ensure no recruitment takes place on site

	» Control/removal of loiters
Monitoring	» The proponent must keep a record of local recruitments and information on local labour to be shared with the EO and ECO for reporting purposes.

Impacts on daily living and movement patterns (traffic impacts)

OBJECTIVE: To avoid traffic disruptions, traffic congestion and reduce the impact on movement patterns of local community during the construction phase

Project component/s	» Construction of the power plant and associated infrastructure.
Potential Impact	» Increase in traffic disruptions, congestion, safety hazards and impacts on movement patterns of local community
Activity/risk source	» Construction activities affecting daily living and movement patterns
Mitigation: Target/Objective	» To avoid or minimise the potential impact on local communities and their livelihoods

Mitigation: Action/control	Responsibility	Timeframe
Develop and implement a traffic management plan (Refer to **Appendix E** of the associated EMPr for this project).	Contractor(s), (Transportation sub-contractor)	Duration of contract
All relevant permits for abnormal loads must be applied for from the relevant authority.	Contractor(s), (Transportation sub-contractor)	Duration of contract
Any traffic delays because of construction traffic must be co-ordinated with the appropriate authorities.	Contractor(s)	Duration of contract
Signage must be established at appropriate points warning of turning traffic and the construction site (all signage to be in accordance with prescribed standards). Signage must be maintained on an on-going basis.	Contractor(s)	Duration of contract
Signs must be placed along construction roads to identify speed limits, travel restrictions, and other standard traffic control information. All vehicles travelling on public roads must adhere to the specified speed limits and all drivers must be in possession of an appropriate valid driver's license.	Contractor(s)	Duration of contract
The R34 (John Ross Pkwy) access route to the IDZ 1F area should be utilised as much as possible.	Contractor	Construction phase
All vehicles must be road worthy and be inspected regularly to ensure their road safety worthiness.	Contractor	Duration of contract
Implement penalties for reckless driving for the drivers of heavy vehicles as a way to enforce compliance to	Contractor	Construction phase

Mitigation: Action/control	Responsibility	Timeframe
traffic rules.		
Appropriate road management strategies must be implemented on external and internal roads with all employees and contractors required to abide by standard road and safety procedures.	Contractor(s), (Transportation sub-contractor)	Duration of contract
The movement of all vehicles within the site must be on designated roadways.	Contractor(s)	Duration of contract
All hazardous substances must be transported in accordance with the relevant legislation and regulations.	Contractor(s)	Duration of contract
A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process. The EPC contractor should appoint a designated staff member to implement grievance procedures and address issues and complaints. A Public Complaints register must be maintained, by the Contractor and monitored by the ECO, to record all complaints and queries relating to the project and the action taken to resolve the issue.	Contractor	Pre-construction & construction phase

Performance Indicator	» Vehicles are roadworthy, inspected regularly and speed limits are adhered to » Roads are maintained or improved upon if disturbed from project activities
Monitoring	» The proponent and contractor must monitor the indicators listed above to ensure that they have been met for the construction phase.

Safety and security impacts

OBJECTIVE: To avoid or reduce the possibility of the increase in crime and safety and security issues during the construction phase

Project component/s	» Construction of the power plant and associated infrastructure.
Potential Impact	» Increase in crime due to influx of non-local workforce and job seekers into the area
Activity/risk source	» Safety and security risks associated with construction activities
Mitigation: Target/Objective	» To avoid or minimise the potential impact on local communities and their livelihoods

Mitigation: Action/control	Responsibility	Timeframe
Working hours should be kept to daylight hours during the construction phase, and/or as any deviation that is	Contractor	Construction phase

approved by the surrounding landowners.		
The perimeter of the construction site should be appropriately secured to prevent any unauthorised access to the site; the fencing of the site should be maintained throughout the construction periods.	Contractor	Pre-construction and construction phase
A security company is to be appointed and appropriate security procedures are to be implemented.	Contractor	Construction Phase
Access in and out of the site should be strictly controlled by a security company.	Contractor	Construction Phase
Provide workers with identity tags and prohibit the access of unauthorized people to the construction site.	Contractor	Construction Phase
Open fires on the site for heating, smoking or cooking are not allowed, except in designated areas.	Contractor	Construction phase
Provide adequate firefighting equipment on site and provide firefighting training to selected construction staff.	Contractor	Pre-construction and construction phase
A comprehensive employee induction programme to be developed and utilised to cover land access protocols, fire management and road safety	Contractor	Pre-construction and construction phase
Ensure roads utilised are either maintained in the present condition or restored if disturbed from project activities	Proponent and Contractor	Construction phase
Have a personal trained in first aid on site to deal with smaller incidents that require medical attention	Contractor	Pre-construction and construction phase
All vehicles must be road worthy and drivers must be qualified and made aware of the potential road safety issues and follow the speed limits.	Contractor	Pre-construction and construction phase
A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process. The EPC contractor should appoint a designated staff member to implement grievance procedures and address issues and complaints. A Public Complaints register must be maintained, by the Contractor and monitored by the ECO, to record all complaints and queries relating to the project and the action taken to resolve the issue.	Contractor	Pre-construction and construction phase

Performance Indicator	» Employee induction programme, covering land access protocols, fire management and road safety » The construction site is appropriately secured with a controlled access system » Ensure a security company is appointed and appropriate security

	procedures and measures are implemented
Monitoring	» The proponent and contractor must monitor the indicators listed above to ensure that they have been met for the construction phase.

Nuisance impacts (Noise and dust)

OBJECTIVE: To avoid or minimise the potential impacts of noise and dust from construction activities during the construction phase

Project component/s	Construction of the proposed power plant and associated infrastructure
Potential Impact	Heavy vehicles and construction activities can generate noise and dust impacts.
Activity/risk source	Construction activities
Mitigation: Target/Objective	To avoid and or minimise the potential noise and dust impacts associated with construction activities

Mitigation: Action/control	**Responsibility**	**Timeframe**
Vehicles used to transport sand and building materials must be fitted with tarpaulins or covers when travelling on roads.	EPC Contractor	Construction phase
Ensure all vehicles are road worthy, drivers are qualified and are made aware of the potential noise and dust issues	EPC Contractor	Construction phase
A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process. The EPC contractor should appoint a designated staff member to implement grievance procedures and address issues and complaints. A Public Complaints register must be maintained by the Contractor and monitored by the ECO to record all complaints and queries relating to the project and the action taken to resolve the issue.	EPC Contractor	Pre-construction & construction phase

Performance Indicator	» Dust suppression measures implemented for all heavy vehicles and construction vehicles that require such measures during the construction phase » Grievance mechanism and communication channel procedures
Monitoring	» The EPC contractor must monitor the indicators to ensure that they have been met for the construction phase

Operation Phase:

Direct employment and skills development during operation phase

OBJECTIVE: Maximise local employment and skills opportunities associated with the operation phase	
Project component/s	» Gas to power plant; and » Day to day operational activities associated with the power plant including maintenance etc.
Potential Impact	» Loss of opportunities to stimulate production and employment of the local economy.
Activity/risk source	» Labour practices employed during operations.
Mitigation: Target/Objective	» Maximise local community employment benefits in the local economy

Mitigation: Action/control	**Responsibility**	**Timeframe**
It is recommended that local employment policy is adopted to maximise the opportunities made available to the local community.	Proponent and contractor	Operation phase
The recruitment selection process should seek to promote gender equality and the employment of women wherever possible	Proponent and contractor	Operation phase
Establish vocational training programs for the local labour force to promote the proposed development of skills	Proponent	Operation phase

Performance Indicator	» Percentage of workers that were employed from local communities. » Number of people attending vocational training on an annual basis.
Monitoring and Reporting	» The proponent must keep a record of local recruitments and information on local labour to be shared with the ECO for reporting purposes

Economic multiplier effects during the operation phase

OBJECTIVE: Maximise the local economic multiplier effect during operation phase	
Project component/s	» Gas to power plant; and » Day to day operational activities associated with the power plant including maintenance etc.
Potential Impact	» Potential local economic benefits.
Activity/risk source	» Proponent's procurement plan.

Mitigation: Target/Objective	» Increase the procurement of goods and services especially within the local economy.

Mitigation: Action/control	Responsibility	Timeframe
Ensure that a local procurement policy is adopted by the proponent to maximise the benefits to the local economy for the operation phase.	Proponent and Contractor	Pre-construction & construction phase
Where feasible, for the operation phase, develop a database of local companies, specifically Historically Disadvantaged (HD) which qualify as potential service providers (e.g. security companies, catering companies, waste collection companies, transportation companies etc.) prior to the tender process and invite them to bid for project-related work where applicable	Proponent and Contractor	Prior to the operation phase

Performance Indicator	» Local procurement policy is adopted » Local goods and services are purchased from local suppliers where feasible
Monitoring and Reporting	» The proponent must monitor indicators listed above to ensure that they have been met for the construction phase

Impacts on daily living and movement patterns (traffic impacts)

OBJECTIVE: To avoid traffic disruptions, traffic congestion and reduce the impact on movement patterns of local community during the operation phase

Project component/s	» Operation of the power plant and associated infrastructure.
Potential Impact	» Increase in traffic disruptions, congestion, safety hazards and impacts on movement patterns of local community
Activity/risk source	» Operation activities affecting daily living and movement patterns
Mitigation: Target/Objective	» To avoid or minimise the potential impact on local communities and their livelihoods

Mitigation: Action/control	Responsibility	Timeframe
Develop and implement a traffic management plan (Refer to **Appendix E** of the associated EMPr for this project).	Contractor(s), (Transportation sub-contractor)	Duration of contract
All relevant permits for abnormal loads must be applied for from the relevant authority.	Contractor(s), (Transportation sub-contractor)	Duration of contract
All relevant permits for transportation of fuel (diesel/	Contractor(s),	Operation

Mitigation: Action/control	Responsibility	Timeframe
LNG) must be applied for from the relevant authority.	(Transportation sub-contractor)	
Any traffic delays because of operation traffic must be co-ordinated with the appropriate authorities.	Contractor(s)	Duration of contract
Ensure that signage placed during the pre-construction and construction phases are maintained on an on-going basis.	Contractor(s)	Duration of contract
Ensure that all vehicles travelling on public roads adhere to the specified speed limits and all drivers must be in possession of an appropriate valid driver's license.	Contractor(s)	Duration of contract
The R34 (John Ross Pkwy) access route to the IDZ 1F area should be utilised as much as possible.	Contractor	Duration of contract
Ensure that all vehicles are road worthy and be inspected regularly to ensure their road safety worthiness.	Contractor	Duration of contract
Continue with the implementation of penalties for reckless driving for the drivers of heavy vehicles as a way to enforce compliance to traffic rules.	Contractor	Duration of contract
Ensure that appropriate road management strategies proposed in the construction phase is implemented on external and internal roads with all employees and contractors required to abide by standard road and safety procedures during the operation phase as well.	Contractor(s), (Transportation sub-contractor)	Duration of contract
Ensure that the movement of all vehicles within the site must be on designated roadways.	Contractor(s)	Duration of contract
All hazardous substances must be transported in accordance with the relevant legislation and regulations.	Contractor(s)	Duration of contract
Maintain the Grievance Mechanism for complaints during the operational phase. The contractor should appoint a designated staff member to implement grievance procedures and address issues and complaints. A Public Complaints register must be maintained, by the Contractor and monitored by the ECO, to record all complaints and queries relating to the project and the action taken to resolve the issue.	Contractor	Pre-construction & construction phase

APPENDIX B: MINUTES OF MEETINGS DURING SIA STAKEHOLDER CONSULTATION PROCESS

Below are the minutes of the meetings that were undertaken during the social stakeholder consultation process. The minutes of the meetings that were undertaken during the Public Participation (PP) Process were also taken into consideration in the SIA. See minutes of the PP meetings and the Comments and Response Report as part of the EIA report.

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

RICHARDS BAY GAS TO POWER PLANT, KWAZULU-NATAL PROVINCE

SOCIAL IMPACT ASSESSMENT (SIA) PROCESS

NOTES OF THE MEETING
RICHARDS BAY INDUSTRIAL DEVELOPMENT ZONE - PERCY LANGA

HELD ON
FRIDAY 22 APRIL 2016 AT 08:30

VENUE
150A PIONEER ROAD

Savannah Environmental (Pty) Ltd
Contact: **Gabriele Wood**
Address: PO Box 148
Sunninghill, 2157
Tel: 011 656 3237
Fax: 086 684 0547
E-mail: gabriele@savannahsa.com

Notes for the Record prepared by:
Savannah Environmental
Please address any comments to Gabriele Wood at the above address.

RICHARDS BAY GAS TO POWER PLANT, KWAZULU-NATAL PROVINCE

Venue: 150A Pioneer Road
Date: Friday 22 April 2016
Time: 08:30

WELCOME AND INTRODUCTION

Candice Hunter of Savannah Environmental welcomed all in attendance and introduced herself as the Social Consultant from Savannah Environmental. She noted that Richards Bay Gas Power 2 (Pty) Ltd (a Special Purpose Vehicle (SPV) established for the project) is proposing the establishment of a gas to power plant and associated infrastructure on a site located within the Richards Bay Industrial Development Zone 1F. The power station will have a capacity of up to 400MW (300MW from the gas turbines, 150MW from the steam turbines) and will be developed in 2 phases to operate with a wide variety of fuels, including diesel and Liquefied Petroleum Gas (LPG) (phase 1 of the proposed development) and ultimately Liquid Natural Gas (LNG) / Natural Gas (NG) (phase 2 of the proposed development). She noted that the proposed site is situated within the uMhlathuze Local Municipality (ULM), which is located within the jurisdiction of the uThungulu District Municipality (UDM) in the KwaZulu-Natal (KZN) Province.

Candice Hunter thanked all in attendance for the opportunity to brief them about the proposed project. She noted that the purpose of the meeting was to present the background of the project, provide an overview of the environmental assessment process and discuss any potential social issues and concerns with the proposed developments.

MEETING ATTENDEES

Name	Organisation & Position
Percy Langa (PL)	RBIDZ – Environmental Manager
Joe Muller (JM)	RBIDZ
Candice Hunter (CH)	Savannah Environmental –Social Consultant

APOLOGIES

None

BACKGROUND & TECHNICAL ASPECTS REGARDING THE PROPOSED PROJECT

Candice Hunter discussed the background and introduction to the project and the Environmental Impact Assessment process. A Background Information Document (BID) and a map including the location of the proposed developments were presented.

DISCUSSION SESSION

Question / Comment	Response
JM: Are you presenting this project at ERC? Because the ERC is definitely a stakeholder in this process.	*CH:* Yes. Savannah and the developer will be attending the ERC meeting on the 17th May. Savannah is also arranging the public meeting on the same day.
JM: Will the EIA report be finalised at that stage?	*CH:* The draft EIA report would have been released into the public domain by then. The review period for the draft EIA Report is from the 10 May 2016 – 9 June 2016.
CH: What other developments are planned in the IDZ phase 1F?	*PL:* It will be general industrial development. A big titanium pigment plant on all the properties on the other side. Biomass has been allocated for these two sites next to the gas sites. A chemical plant is also planned for the area, as well as Element Chemicals and Light Metals. There might be additional developments.
CH: Do you have any justification documents stating how you chose this area for the IDZ? Do you have any feasibility document? What kind of developments would be in the area?	*JM:* There has been numerous social economic studies in the area. We didn't specifically look at what type of company should be in the IDZ. We looked at it from a general industrial point of view and the socio-economic impacts on the area. PL: If you look at existing Phase 1A, it is very much light, non-polluting estate while 1F is more general industry.
CH: There is a residential area close by, this IDZ may impact the local community.	*PL:* It will be general industry with minimal emissions. Even though it is general, the air quality will still be a critical factor.
CH: Do you have any documentation that	*JM:* No, we only get the land use in place,

Question / Comment	Response
explains the process for choosing the type of industries to be developed in the IDZ?	making sure that the land use can accommodate the type of industries. Although the social-economic study we did, does include the actual impacts that the companies would have but that study was done in 2014.
CH: How was the EIA conducted without knowing which companies would be developed in the IDZ?	*PL:* It was done for the infrastructure. It is difficult to anticipate the impacts as some of the companies might be very different.
CH: Have these EIAs started for the other industrial developments in the IDZ? Do you know who the consulting companies are?	*JM:* SRK Consulting is doing the EIA for the chemical plant. We have made the information available of all the specialist studies that was done.
JM: The issue of the gas infrastructure coming in to the site. In our engineering design, we've allowed for a gas corridor to enter the site internally. Percy will check, then he'll forward it to you. I informed Deon that if it isn't there, it should be included in this process. But we need to double check it. Where is your gas corridor coming from?	*CH:* The gas corridor will be assessed in a separate EIA process.
JM: The one issue which we've also raised to Deon is the water supply. Infrastructure can accommodate their requirement, but with the drought we can't guarantee the water supply. The infrastructure has been designed to meet their demand, but with the drought those demands cannot be guaranteed.	*CH:* Noted.
PL: You mentioned that you are also undertaking an ecological study?	*CH:* Yes. An ecological impact study is being undertaken.
PL: There are two wetlands identified on the site for the biomass projects. Joe will forward you the new layout where you can actually see the wetlands.	*CH: Noted*

WAY FORWARD AND CLOSURE

In closing Candice noted that the EIA Report will be made available for public review in the next few weeks and that Interested and Affected Parties could submit their written comments on the EIA process and proposed project to Savannah Environmental. She noted that the comments received would be included in the EIA Report that will be submitted to the Department of Environmental Affairs. She thanked all in attendance for the inputs which were provided. The meeting was closed at 09:30.

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

RICHARDS BAY GAS TO POWER PLANT, KWAZULU-NATAL PROVINCE

Savannah Environmental (Pty) Ltd
Contact: **Gabriele Wood**
Address: PO Box 148
Sunninghill, 2157
Tel: 011 656 3237
Fax: 086 684 0547
E-mail: gabriele@savannahsa.com

SOCIAL IMPACT ASSESSMENT (SIA) PROCESS

NOTES OF THE MEETING
CITY OF UMHLATHUZE MUNICIPALITY - WARD COUNCILLOR

HELD ON
FRIDAY 22 APRIL 2016 AT 10:00

VENUE
5 MARK STRASSE, RICHARDS BAY

Notes for the Record prepared by:
Savannah Environmental
Please address any comments to Gabriele Wood at the above address.

MEETING:

RICHARDS BAY GAS TO POWER PLANT, KWAZULU-NATAL PROVINCE

Venue: 5 Mark Strasse, Richards Bay
Date: Friday 22 April 2016
Time: 10:00

WELCOME AND INTRODUCTION

Candice Hunter of Savannah Environmental welcomed all in attendance and introduced herself as the Social Consultant from Savannah Environmental. She noted that Richards Bay Gas Power 2 (Pty) Ltd (a Special Purpose Vehicle (SPV) established for the project) is proposing the establishment of a gas to power plant and associated infrastructure on a site located within the Richards Bay Industrial Development Zone 1F. The power station will have a capacity of up to 400MW (300MW from the gas turbines, 150MW from the steam turbines) and will be developed in 2 phases to operate with a wide variety of fuels, including diesel and Liquefied Petroleum Gas (LPG) (phase 1 of the proposed development) and ultimately Liquid Natural Gas (LNG) / Natural Gas (NG) (phase 2 of the proposed development). She noted that the proposed site is situated within the uMhlathuze Local Municipality (ULM), which is located within the jurisdiction of the uThungulu District Municipality (UDM) in the KwaZulu-Natal (KZN) Province.

Candice Hunter thanked Mr Viljoen for the opportunity to brief them about the proposed project. She noted that the purpose of the meeting was to present the background of the project, provide an overview of the environmental assessment process and discuss any potential social issues and concerns with the proposed developments.

MEETING ATTENDEES

Name	Organisation & Position
Allen Viljoen (AV)	City of uMhlathuze Municipality – Ward 2 Councillor
Candice Hunter (CH)	Savannah Environmental –Social Consultant

APOLOGIES

None

BACKGROUND & TECHNICAL ASPECTS REGARDING THE PROPOSED PROJECT

Candice Hunter discussed the background and introduction to the project and the Environmental Impact Assessment process. A Background Information Document (BID) and a map including the location of the proposed developments were presented.

DISCUSSION SESSION

Question / Comment	Response
AV: Is this the same gas to power plant where they did a presentation a while ago? Yes.	*CH:* Are you referring to the ERC meeting? Yes, this is the same project. There is another meeting on 17 May 2016.
AV: Is this project within the IDZ?	*CH:* Yes. RBIDZ Phase 1F.
AV: North of the IDZ (approximately 2km) there is a planned mega housing development where there will be approximately 10 000 new houses in the area. It will be high density, 3-4 storey flats as well as houses. Semi-supported housing will also be there. There will be schools etc.	*CH:* Noted.
AV: Where will the gas pipeline come from?	*CH:* A separate EIA process for the gas pipeline will be undertaken at a later stage.
AV: What capacity of water will be required? There is no water, as this is the worst drought in a 100 years as well as incompetency from the municipality. The dam will be empty by the end of October if there isn't a drastic drop in consumption before that.	*CH:* Water quantity amount are being finalised. The developer will present these quantities at the ERC meeting. The amount of water required for the development will also be stipulated in the Draft EIA report which will be released for public review on the 10 May 2016.
AV: When you refer to two phases, is this referring to the different type fuel only that will be different?	*CH:* Yes, diesel or LPG will be used for the first phase, and LNG or natural gas will be utilised for the second phase.
AV: In terms of Ecology, that whole area there has been timber farms and is now basically used for industrial purposes.	*CH:* Noted.
AV: Regarding the traffic impact, we've just approved a weight restriction on construction vehicles. Here where the	*CH:* Noted. This will be taken into consideration in the SIA.

Question / Comment	Response
access road into the light industrial area will have a weight restriction of 10.9 tons. They will need to use the N2 and R34 road to access the IDZ area. The name of the road is North Central Arterial (R619) there is heavy traffic already and it becomes heavily congested. So the construction vehicles will need to divert there routes if they are planning to use the road with weight restriction. We would prefer if they use the N2 and the R34 (John Ross highway) into the industrial area.	
AV: How high will the gas power plant be?	*CH:* Maximum height of the infrastructure will be 15m.
AV: What about noise and vibration impacting the residential area close by?	*CH:* We have a letter from Morne de Jager, the noise specialist, stating that it won't be necessary to do a noise assessment. If it is a mid-merit plant, then there will only be noise during peak hours.
AV: Will the employment be more highly skilled personnel?	*CH:* The proposed development is likely to create approximately ~300-400 employment opportunities, depending on the final design. Of this approximately 25% of the opportunities will be available to low-skilled workers (construction labourers, security staff etc.), 35% will be available to semi-skilled workers (drivers, equipment operators etc.), and 40% will be available to skilled personnel (engineers, land surveyors, project managers etc.). Majority of low-skilled and semi-skilled opportunities are likely to be available to local workers (±25%).

WAY FORWARD AND CLOSURE

In closing Candice noted that the EIA Report will be made available for public review in the next few weeks and that Interested and Affected Parties could submit their written comments on the EIA process and proposed project to Savannah Environmental. She

noted that the comments received would be included in the EIA Report that will be submitted to the Department of Environmental Affairs. She thanked Mr Viljoen for the inputs which were provided. The meeting was closed at 11:00.

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

RICHARDS BAY GAS TO POWER PLANT, KWAZULU-NATAL PROVINCE

Savannah Environmental (Pty) Ltd
Contact: **Gabriele Wood**
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Sunninghill, 2157
Tel: 011 656 3237
Fax: 086 684 0547
E-mail: gabriele@savannahsa.com

SOCIAL IMPACT ASSESSMENT (SIA) PROCESS

NOTES OF THE MEETING
ADJACENT LANDOWNER – NDUMISO NGONGOMA (TATA STEEL)

HELD ON
FRIDAY 22 APRIL 2016 AT 12:00

VENUE
22 BRONZE BAR, KRUGERRAND

Notes for the Record prepared by:
Savannah Environmental
Please address any comments to Gabriele Wood at the above address.

MEETING:

RICHARDS BAY GAS TO POWER PLANT, KWAZULU-NATAL PROVINCE

Venue: 2 Bronze Bar, Krugerrand
Date: Friday 22 April 2016
Time: 12:00

WELCOME AND INTRODUCTION

Candice Hunter of Savannah Environmental welcomed all in attendance and introduced herself as the Social Consultant from Savannah Environmental. She noted that Richards Bay Gas Power 2 (Pty) Ltd (a Special Purpose Vehicle (SPV) established for the project) is proposing the establishment of a gas to power plant and associated infrastructure on a site located within the Richards Bay Industrial Development Zone 1F. The power station will have a capacity of up to 400MW (300MW from the gas turbines, 150MW from the steam turbines) and will be developed in 2 phases to operate with a wide variety of fuels, including diesel and Liquefied Petroleum Gas (LPG) (phase 1 of the proposed development) and ultimately Liquid Natural Gas (LNG) / Natural Gas (NG) (phase 2 of the proposed development). She noted that the proposed site is situated within the uMhlathuze Local Municipality (ULM), which is located within the jurisdiction of the uThungulu District Municipality (UDM) in the KwaZulu-Natal (KZN) Province.

Candice Hunter thanked Mr Ngongoma for the opportunity to brief him about the proposed project. She noted that the purpose of the meeting was to present the background of the project, provide an overview of the environmental assessment process and discuss any potential social issues and concerns with the proposed developments.

MEETING ATTENDEES

Name	Organisation & Position
Ndumiso Ngongoma (NN)	Adjacent Landowner – Tata Steel
Candice Hunter (CH)	Savannah Environmental –Social Consultant

APOLOGIES

None

BACKGROUND & TECHNICAL ASPECTS REGARDING THE PROPOSED PROJECT

Candice Hunter discussed the background and introduction to the project and the Environmental Impact Assessment process. A Background Information Document (BID) and a map including the location of the proposed developments were presented.

DISCUSSION SESSION

Question / Comment	Response
CH: Tata Steel was liquidated in September 2015. Who will be reopen it? Where are all the employees?	*NN:* A company from USA. It should start up in two months.
CH: Will the new company be doing the same operation?	*NN:* Yes, the same process will continue (Chrome).
NN: When are you anticipating to start the construction?	*CH:* We are currently in EIA phase of the project. We still need to get Environmental Authorisation, then the project needs to be bid in the gas bidding round. We are not sure when the bidding round will be.
CH: Will there be a public meeting?	*NN:* Yes, a public meeting will be held on the 17 May 2016. The venue and time is still to be confirmed.
NN: At this point in time, my main concern is regarding the wetlands. Surely this activity will require a water use licence. Once the EIA is out, then I'll be able to comment.	*CH:* The draft EIA report will be available on 10 May 2016.
CH: Do you have any concerns regarding the proposed development?	*NN:* No, it's within the IDZ area.

WAY FORWARD AND CLOSURE

In closing Candice noted that the EIA Report will be made available for public review in the next few weeks and that Interested and Affected Parties could submit their written comments on the EIA process and proposed project to Savannah Environmental. She noted that the comments received would be included in the EIA Report that will be submitted to the Department of Environmental Affairs. She thanked Mr Ngongoma for the inputs which were provided. The meeting was closed at 13:00.

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

RICHARDS BAY GAS TO POWER PLANT, KWAZULU-NATAL PROVINCE

Savannah Environmental (Pty) Ltd
Address: PO Box 148
Sunninghill, 2157
Tel: 011 656 3237
Fax: 086 684 0547
E-mail: gabriele@savannahsa.com

SOCIAL IMPACT ASSESSMENT (SIA) PROCESS

NOTES OF THE MEETING:
UTHUNGULU DISTRICT MUNICIPALITY

Held on:
FRIDAY 22 APRIL 2016 AT 14:00

Venue:
UTHUNGULU HOUSE, CBD, RICHARDS BAY

Notes for the Record prepared by:
Savannah Environmental
Please address any comments to Gabriele Wood at the above address.

MEETING:

RICHARDS BAY GAS TO POWER PLANT, KWAZULU-NATAL PROVINCE

Venue: uThungulu House, CBD, Richards Bay
Date: Friday 22 April 2016
Time: 14:00

WELCOME AND INTRODUCTION

Candice Hunter of Savannah Environmental welcomed all in attendance and introduced herself as the Social Consultant from Savannah Environmental. She noted that Richards Bay Gas Power 2 (Pty) Ltd (a Special Purpose Vehicle (SPV) established for the project) is proposing the establishment of a gas to power plant and associated infrastructure on a site located within the Richards Bay Industrial Development Zone 1F. The power station will have a capacity of up to 400MW (300MW from the gas turbines, 150MW from the steam turbines) and will be developed in 2 phases to operate with a wide variety of fuels, including diesel and Liquefied Petroleum Gas (LPG) (phase 1 of the proposed development) and ultimately Liquid Natural Gas (LNG) / Natural Gas (NG) (phase 2 of the proposed development). She noted that the proposed site is situated within the uMhlathuze Local Municipality (ULM), which is located within the jurisdiction of the uThungulu District Municipality (UDM) in the KwaZulu-Natal (KZN) Province.

Candice Hunter thanked all in attendance for the opportunity to brief them about the proposed project. She noted that the purpose of the meeting was to present the background of the project, provide an overview of the environmental assessment process and discuss any potential social issues and concerns with the proposed developments.

MEETING ATTENDEES

Name	Organisation & Position
W. Mpofu (WM)	uThungulu District Municipality - PNR Manager: Planning
Nontokozo Hlongwa (NH)	uThungulu District Municipality - Environmental Officer
Candice Hunter (CH)	Savannah Environmental – Social Consultant

APOLOGIES

None

BACKGROUND & TECHNICAL ASPECTS REGARDING THE PROPOSED PROJECT

Candice Hunter presented the background and introduction to the project and the Environmental Impact Assessment process. She presented a map including the location of the proposed development.

DISCUSSION SESSION

Question / Comment	Response
WM: How many megawatts are you proposing?	*CH:* 400MW (300MW from the gas turbines, 150MW from the steam turbines)
WM: Will it only be on these three properties in the IDZ area?	*CH:* Yes.
WM: Is this project part of the IPP Programme?	*CH:* Yes.
WM: Does this kind of activity have opportunities for recycling of water that has already been used?	*CH:* I would need to confirm this information.
WM: The air quality might be an issue. Because we had some issues with Tata Steel, Foskor and Mondi.	*CH:* The air quality specialist is currently undertaking an air quality impact assessment. The Draft EIA report will be available for review on 10 May 2016.
WM: So this project is still in the initial phase	*CH:* Yes, currently in the EIA phase.
WM: Are you interacting with anyone from the local municipality?	*CH:* Yes, we met with Sharon Govender and will be attending the ERC meeting on the 17 May.
WM: Is there a possibility of public meetings?	*CH:* Yes, a public meeting will be held on the 17 May 2016, the time and date is still to be confirmed.
NH: Will we be receiving a hard copy of the Draft EIA report?	*CH:* A CD of the Draft EIA report will be sent to the District Municipality. A hard copy will be available at the public library and the report will also be available on our website.
NH: Will the public meeting be in the evening?	*CH:* Approximately 6pm in Richards Bay.
WM: What about the rezoning of the properties?	*CH:* The area is zoned for general industry.
WM: In terms of fuel inputs, are you	*CH:* No. Fuel for phase 1 of the operation

Question / Comment	Response
planning to use the railway?	phase will transported to site via trucks.
WM: There is a lot of traffic on the R619. The road is majorly congested. It would be necessary for trucks to come into the IDZ from the south off the R34.	*CH:* Noted. The ward councillor has the same concern.
WM: Where will the fuel be coming from?	*CH:* It depends, but still needs to be confirmed.
WM: Please email Nontokoza the minutes for this meeting.	*CH:* Noted. The minutes will be distributed next week.

WAY FORWARD AND CLOSURE

In closing Candice Hunter noted that the EIA report will be released in the coming weeks and the public will have an opportunity to comment on the report. The comments received from the public review will then be incorporated into the final report and thereafter it will be submitted to the Department of Environmental Affairs (DEA). Candice Hunter thanked all in attendance for the inputs which were provided. The meeting ended at 14:30.

APPENDIX C: DECLARATION OF INDEPENDENCE AND CV

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	
NEAS Reference Number:	DEAT/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014

PROJECT TITLE

Proposed Gas to Power Plant and associated infrastructure within the Richards Bay Industrial Development Zone.

Specialist:	Candice Hunter		
Contact person:	Candice Hunter		
Postal address:	PO Box 148, Sunninghill		
Postal code:	2157	Cell:	
Telephone:	*(011) 656 3237*	Fax:	*086 684 0547*
E-mail:	candice@savannahsa.com		
Professional affiliation(s) (if any)			

Project Consultant:	Savannah Environmental (Pty) Ltd		
Contact person:	Jo-Anne Thomas / Karen Jodas		
Postal address:	PO Box 148, Sunninghill		
Postal code:	2157	Cell:	
Telephone:	*(011) 656 3237*	Fax:	*086 684 0547*
E-mail:	Joanne@savannahsa.com / Karen@savannahsa.com		

4.2 The specialist appointed in terms of the Regulations_

I, Candice Hunter ,

declare that --

General declaration:

» I act as the independent specialists 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 71 and is punishable in terms of section 24F of the Act.**

Signature of the specialist:

Savannah Environmental (Pty) Ltd

Name of company (if applicable):

29 April 2016

Date:

SIA SPECIALIST CV:

CURRICULUM VITAE
CANDICE HUNTER

Profession	:	Social Consultant
Specialisation	:	Social Impact Assessments (SIA)
Years' experience	:	2 years and 3 months

KEY RESPONSIBILITIES

Specific responsibilities as a Social Consultant involve conducting field research; socio-economic surveys; the management and analysis of data; undertaking stakeholder engagement and communication processes; socio-economic baseline data analyses and conducting general social research for a variety of projects. This includes managing and coordinating the Social Impact Assessment (SIA) processes and compiling SIA reports in line with the countries guidelines and legislation.

SKILLS BASE AND CORE COMPETENCIES

- Social Impact Assessments (SIA)
- EIA Legislation
- Data gathering and analysis
- Qualitative and quantitative social research
- Field research and socio-economic surveys
- Baseline socio-economic data analyses
- Stakeholder engagement
- Public participation process
- Communication and community facilitation
- Report writing and review
- Project administration

EDUCATION AND PROFESSIONAL STATUS

Degrees:

» M. A. Environmental Management: University of Johannesburg (2013)

» B.A. Honours Tourism Development (Cum Laude): University of Johannesburg (2010)

Courses:

» Advanced Certificate in Social Impact Assessment (SIA) (Cum Laude): University of Johannesburg (2013)

» Certificate in Global Reporting Initiative (GRI), Sustainability Reporting Process: Environmental & Sustainable Solutions CC (2012)

Publications:

Hunter, C. & Mearns, K. (2015). Assessing the sustainability reporting of selected tourism companies listed on the Johannesburg Stock Exchange (JSE). *African Journal of Hospitality, Tourism and Leisure, 4(1): 1-18.* Publication URL: http://www.ajhtl.com/uploads/7/1/6/3/7163688/article_51_vol.4__1__2015.pdf

EMPLOYMENT

- *January 2014 – Current:*
- Savannah Environmental (Pty) Ltd: Social Consultant

February 2011 – January 2013:

University of Johannesburg: Department of Geography, Environmental and Energy Studies & School of Tourism and Hospitality (STH): Student and Research Assistant.

PROJECT EXPERIENCE

Social Impact Assessment Reports:

» January 2014: Specialist SIA study for the proposed Gihon Solar Energy Facility & Associated Infrastructure Located near Bela-Bela, Limpopo Province (for Networx SA)
» March 2014: Specialist social scoping study for the proposed Exheredo Photovoltaic (PV) Solar Energy Facility and associated infrastructure located near Kenhardt, Northern Cape Province (for Kotulo Tsatsi Energy (Pty) Ltd)
» May 2014: Specialist social scoping study for the proposed Wolmaransstad Municipality Solar Energy Facility and associated infrastructure near Wolmaransstad, North West Province (for Bluewave Capital (Pty) Ltd)
» July 2014: Specialist SIA study for the proposed Newcastle Solar Energy Facility near Newcastle, KwaZulu-Natal (for Building Energy SpA)
» July 2014: Specialist SIA study for the proposed Pongola Solar Energy Facility near Pongola, KwaZulu-Natal (for Building Energy SpA)
» July 2014: Specialist SIA study for the proposed Senekal 1 Solar Energy Facility near Mkuze, KwaZulu-Natal (for Building Energy SpA)
» July 2014: Specialist SIA study for the proposed Senekal 2 Solar Energy Facility near Mkuze, KwaZulu-Natal (for Building Energy SpA)
» October 2014: Specialist SIA study for the proposed Kotulo Tsatsi Energy Concentrated Solar Power (CSP) Tower Plant 3 facility and associated infrastructure located near Kenhardt, Northern Cape Province (for Kotulo Tsatsi Energy (Pty) Ltd)
» November 2014: Specialist social scoping study for the proposed Lethabo Solar Energy Facility and associated infrastructure near Sasolburg, Free State Province (for Eskom Holdings (SOC) Limited)
» November 2014: Specialist social scoping study for the proposed Majuba Solar Energy Facility and associated infrastructure near Amesforort, Mpumalanga Province (for Eskom Holdings (SOC) Limited)
» November 2014: Specialist social scoping study for the proposed Tutuka Solar Energy Facility and associated infrastructure near Standerton, Mpumalanga Province (for Eskom Holdings (SOC) Limited)
» December 2014: Specialist social scoping study for the proposed 120MW CPV Facility and associated infrastructure near Upington, Northern Cape Province (for Lambrius Energy (Pty) Ltd)

Social Impact Assessment Reports:

- February 2015: Specialist SIA study for the proposed realignment of the N10 to facilitate access to the Ilanga CSP Facility site, east of Upington, Northern Cape Province (for SANRL)
- March 2015: Specialist social scoping study for the proposed Beaufort West Solar Power Plant 1 near Beaufort West, Western Cape Province (for Beaufort West Solar Company 1 (Pty) Ltd)
- March 2015: Specialist social scoping study for the proposed Beaufort West Solar Power Plant 2 near Beaufort West, Western Cape Province (for Beaufort West Solar Company 2 (Pty) Ltd)
- March 2015: Specialist social scoping study for the proposed Beaufort West Solar Power Plant 3 near Beaufort West, Western Cape Province (for Beaufort West Solar Company 3 (Pty) Ltd)
- June 2015: Specialist social scoping report for the proposed Buffels Solar 1 and Solar 2 Solar Energy Facilities, near Orkney, North West Province (for Kabi Solar (Pty) Ltd)
- July 2015: Specialist SIA study for the proposed Lethabo Solar Energy Facility and associated infrastructure near Sasolburg, Free State Province (for Eskom Holdings (SOC) Limited)
- July 2015: Specialist SIA study for the proposed Majuba Solar Energy Facility and associated infrastructure near Amesforort, Mpumalanga Province (for Eskom Holdings (SOC) Limited)
- July 2015: Specialist SIA study for the proposed Tutuka Solar Energy Facility and associated infrastructure near Standerton, Mpumalanga Province (for Eskom Holdings (SOC) Limited)
- August 2015: Specialist social scoping report for the proposed Paulputs CSP Tower Facility and associated infrastructure, near Pofadder, Northern Cape Province (for Abengoa Solar Power South Africa (Pty) Ltd)
- September 2015: Specialist SIA study for the proposed AEP Bloemsmond Solar 1 and Solar 2 PV Facilities, near Upington, Northern Cape Province (for AEP Bloemsmond Solar 1 (Pty) Ltd)
- October 2015: Specialist social scoping report for the proposed Woodhouse Solar 1 and Woodhouse Solar 2 PV Facilities, near Vryburg, North West Province (for Genesis Woodhouse Solar 1 (Pty) Ltd and Genesis Woodhouse Solar 2 (Pty) Ltd)
- October 2015: Specialist social scoping report for the proposed Saldanha Bay Netwrok Strengthening Project, Western Cape Province (for Eskom Holdings SOC Limited)
- October 2015: Specialist social scoping report for the proposed Karoshoek Solar Valley Park- Additional CSP Facilities, near Upington, Northern Cape Province (for FG Emvelo (Pty) Ltd)
- November 2015: Specialist social scoping report for the proposed Sol Invictus Solar Development and associated infrastructure near Aggeneys, Northern Cape Province (for Building Energy (Pty) Ltd)
- November 2015: Specialist social scoping report for the proposed Orkney Solar Development and associated infrastructure near Orkney, North West Province (for Genesis Orkney Solar (Pty) Ltd)
- November 2015: Specialist social scoping report for the proposed Gas to Power Plant on a site withnin the Richards Bay Industrial Development Zone, KwaZulu-Natal Province (for Richards Bay Gas to Power 2 (Pty) Ltd)

- December 2015: Specialist social scoping report for the proposed Noupoort Concentrated Solar Power (CSP) Project and associated infrastructure near Noupoort, Northern Cape Province (for Cresco Energy (Pty) Ltd)
- December 2015: Specialist social scoping study for the proposed Beaufort West PV 1 and PV 2 and associated infrastructure near Beaufort West, Western Cape Province (for Turquoise Hive Solar (Pty) Ltd)
- December 2015: Specialist social scoping study for the proposed Metals Industrial Cluster and associated infrastructure near Kuruman, Northern Cape Province (for the Northern Cape Department of Economic Development and Tourism)
- December 2015: Specialist social scoping study for the proposed Karoshoek Solar Valley Development- Additional CSP Tower Plant, near Upington, Northern Cape Province (for FG Emvelo (Pty) Ltd)
- December 2015: Specialist social scoping study for the proposed Karoshoek Solar Valley Development- Additional CSP Trough Plant, near Upington, Northern Cape Province (for FG Emvelo (Pty) Ltd)
- December 2015: Specialist social scoping study for the proposed Ilanga CSP 7 and 8 facilities and associated infrastructure within the Karoshoek Solar Valley Development, near Upington, Northern Cape Province (for Emvelo Eco Projects (Pty) Ltd)
- December 2015: Specialist social scoping study for the proposed Ilanga CSP 9 facility and associated infrastructure within the Karoshoek Solar Valley Development, near Upington, Northern Cape Province (for Emvelo Eco Projects (Pty) Ltd)
- January 2016: Specialist social scoping study for the proposed Semonkong Wind Farm near Semonkong, Lesotho (for Sun Clean Energy Technologies (Pty) Ltd)

Other Projects:

- June 2014: Screening and pre-feasibility report- Site assessment for the proposed Wind Energy Facility near Van Reenen, KwaZulu-Natal and Free State Provinces (for 4Green Development SA)
- October 2015: Environmental, Social and Governance (ESG) Due Diligence- Development of the Hilton Garden Inn by United African Group, Windhoek, Namibia (for Vantage Capital)
- September 2015 - February 2016: Preparation, Development and Gazetting of the Environmental Implementation Plan (EIP) 2015-2020. (for Gauteng Department of Agriculture and Rural Development)

APPENDIX D: EXTERNAL REVIEWER'S REPORT AND CV

Dr. Neville Bews & Associates
Social Impact Assessors

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05 May, 2016

Attention: Candice Hunter
Savannah Environmental Pty Ltd
5 Woodlands Drive Office Park
Cnr Woodlands Drive and Western Service Road
Woodmead

Re: Peer review of the Social Impact Specialists Report for the Proposed Richards Bay Gas to Power Plant KwaZulu-Natal Province

Having reviewed the above report I find that in essence it provides a description of the project and the social environment within which the project will unfold. It also provides an indication of the social impacts that are likely to arise as a result of the proposed project and suggests appropriate optimisation and mitigation measure.

Attached is a schedule, in accordance with Appendix 6 of the National Environmental Management Act, 1998 (ACT NO. 107 OF 1998). Environmental Impact Assessment Regulations, 2014, indicating the level of compliance of the report in respect of this regulation.

DECLARATION OF INDEPENDENCE

I, Neville Bews, as authorised representative of Dr Neville Bews & Associates hereby confirm my independence as a specialist and declare that neither I nor Dr Neville Bews & Associates have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which Dr Neville Bews & Associates was appointed as social impact assessment specialists in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), other than fair remuneration for work performed. This declaration is specifically in connection with the review of the Social Impact Report for the Proposed Richards Bay Gas to Power Plant and associated infrastructure located within the Richards Bay Industrial Development Zone 1F, in the uMhlathuze local and uThungulu district municipalities in KwaZulu-Natal Province.

Signed:  Date: 05 May 2016

Appendix 6: Specialist reports	**Check**	**Comment**
A specialist report prepared in terms of these Regulations must contain-		
(a) details of-		
(i) the specialist who prepared the report; and	Section 1.3 Page 15	
(ii) the expertise of that specialist to compile a specialist report including a curriculum vitae;	Section 1.3 Page 15 & Appendix C & D	
(b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	Appendices C & D	
(c) an indication of the scope of, and the purpose for which, the report was prepared;	Section 1.2 Page 14	Addressed under "Terms of Reference"
(d) the date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Not applicable	
(e) a description of the methodology adopted in preparing the report or carrying out the specialised process;	Section 2 Page 20-25	
(f) the specific identified sensitivity of the site related to the activity and its associated structures and infrastructure;	Section 4 & 5. Pages 45-64	
(g) an identification of any areas to be avoided, including buffers;	None	
(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;	Figure 1 Page 19 Figure 17 Page 64 Figure 18 Page 82	
(i) a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 2.5 Page 25-26	
(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;	Sections 6 Pages 65-92	

(k) any mitigation measures for inclusion in the EMPr;	Sections 6 Pages 65-92 & Appendix A.	
(I) any conditions for inclusion in the environmental authorisation;	None	
(m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;	None	
(n) a reasoned opinion-		
(i) as to whether the proposed activity or portions thereof should be authorised; and	Section 6.5 & 6.6 Pages 89-92	
(ii)if the opinion is that the 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;	Sections 6 Pages 65-92 & Appendix A.	See mitigation measures, key findings and recommendations.
(o) a description of any consultation process that was undertaken during the course of preparing the specialist report;	Sections 2.3 Page 23 & Appendix B	
(p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Appendix B	
(q) any other information requested by the competent authority.	None	

EXTERNAL REVIEWER'S CV:

NEVILLE BEWS
CURRICULUM VITAE

Details and Experience of Independent Consultant

Qualifications:
University of South Africa: B.A. (Honours) – 1984
Henley Management College, United Kingdom: The Henley Post-Graduate Certificate in Management – 1997
Rand Afrikaans University: M.A. (cum laude) – 1999
Rand Afrikaans University: D. Litt. et Phil. – 2000

Projects:
The SIA for the Gautrain Rapid Rail Link; The impact assessment for the Australian – South African sports development programme; SIA for Kumba Resources, Sishen South Project; Evaluation of a Centre for Violence Against Women for The United Nations Office on Drugs and Crime; SIAs for the following Exxaro Resources Ltd.'s mines, Leeuwpan Coal Mine Delmas, Glen Douglas Dolomite Mine Henley-on-Klip, Grootegeluk Open Cast Coal Mine Lephalale; SIA for the South African National Road Agency Limited (SANRAL) on Gauteng Freeway Improvement Project (GFIP); SIA for SANRAL on the N2 Wild Coast Toll Highway; Research into research outputs of the University for the University of Johannesburg; SIA for Waterfall Wedge housing and business development in Midrand Gauteng; SIA for the Environmental Management Plan for Sedibeng District Municipality; Social and Labour Plan for the Belfast Project on behalf of Exxaro Resources Ltd; SIA for the Transnet New Multi-Product Pipeline (Commercial Farmers) on behalf of Golder Associates Africa (Pty) Ltd; SIA for the Proposed Vale Moatize Power Plant Project in Mozambique on behalf of Golder Associates Africa (Pty) Ltd; SIA for Kumba Resources Ltd.'s proposed Dingleton Resettlement Project at Sishen Iron Ore Mine on behalf of Water for Africa (Pty) Ltd; SIA for Gold Fields West Wits Project for EcoPartners; SIA for the Belfast Project for Exxaro Resources Ltd; SIA for Eskom Holdings Ltd.'s Proposed Ubertas 88/11kV Substation on behalf of KV3 Engineers (Pty) Ltd; SIA for the Mokolo and Crocodile River (West) Water Augmentation Project (MCWAP) for the Department of Water Affairs on behalf of Nemai Consulting and the Trans Caledonian Water Authority; Assisted Octagon Consulting with the SIA for Eskom's Nuclear 1 Power Plant on behalf of Arcus GIBB Engineering & Science. SIA for the 150MW Photovoltaic Power Plant and Associated Infrastructure for Italgest Energy (Pty) Ltd, on behalf of Kalahari Survey Solutions cc. SIA for Eskom Holdings Limited, Transmission Division's Neptune-Poseidon 400kV Power Line on behalf of Nemai Consulting. Ncwabeni Off-Channel Storage Dam for security of water supply in

Umzumbe, KwaZulu-Natal. Social Impact assessment for Eskom Holdings Limited, Transmission Division, Forskor-Merensky 275kV±130km Powerline and Associated Substation Works in Limpopo Province. Social impact assessment for the proposed infilling of the Model Yacht Pond at Blue Lagoon, Stiebel Place, Durban. ABC Prieska Solar Project; Proposed 75 MWp Photovoltaic Power Plant and its associated infrastructure on a portion of the remaining extent of ERF 1 Prieska, Northern Cape. Sekoko Wayland Iron Ore, Molemole Local Municipalities in Limpopo Province. Langpan Chrome Mine, Thabazimbi, Limpopo; Jozini Nodal Expansion Implementation Project, KwaZulu-Natal, on behalf of Nemai Consulting; SIA for Glen Douglas Dolomite Burning Project, Midvaal Gauteng, on behalf of Afrimat Limited; SIA for Lyttelton Dolomite mine Dolomite Burning Project, Marble Hall Limpopo on behalf of Afrimat Limited. Tubatse Strengthening Phase 1 – Senakangwedi B Integration for Eskom Transmission on behalf of Nsovo Environmental Consulting; Department of Water and Sanitation, South Africa (2014). Environmental Impact Assessment for the Mzimvubu Water Project: Social Impact Assessment DWS Report No: P WMA 12/T30/00/5314/7.

Regularly lecture in the Department of Sociology at the University of Johannesburg and collaborated with Prof. Henk Becker of Utrecht University, the Netherlands, in a joint lecture to present the Social Impact Assessment Masters course via video link between the Netherlands and South Africa and regularly lecture on this course. Presented papers on Social Impact Assessments at both national and international seminars. Published on both a national and international level.

Affiliation:
The International Association for Impact Assessment Southern Africa.

Registered on the database for scientific peer review of iSimangaliso GEF project outputs.