APPENDIX E11 – Socio-Economic Impact Assessment

SOCIO-ECONOMIC IMPACT ASSESSMENT STUDY FOR THE PROPOSED 750MW COMBINED CYCLE GAS TURBINE POWER PLANT IN RICHARDS BAY, KWAZULU NATAL

14 September 2026

Report prepared by:

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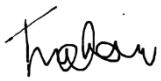
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I, Tinotenda Makoni, declare that –

- I act as an independent specialist in this application.
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant.
- I declare that there are no circumstances that may compromise my objectivity in performing such work.
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity.
- I will comply with the Act, Regulations and all other applicable legislation.
- I have no and will not engage in, conflicting interests in the undertaking of the activity.
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing – any decision to be taken with respect to the application by the competent authority; and – the objectivity of any report, plan, or document to be prepared by myself for submission to the competent authority.
- All the particulars furnished by me in this form are true and correct.
- I realise that a false declaration is an offence in terms of Regulation 49 A and B and is punishable in terms of the Act.

Name	Signature	Date
Tinotenda Makoni		14/09/2026

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I, Stephen Karombe, declare that –

- I act as an independent specialist in this application.
- I will perform the work relating to the application objectively, 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.
- I realise that a false declaration is an offence in terms of Regulation 49 A and B and is punishable in terms of the Act.

Name	Signature	Date
Stephen Karombe		14/09/2026

It is declared that Urban-Econ Development Economists has contributed independently during this study and the completion thereof.

SPECIALIST REPORT CHECKLIST

A specialist report prepared in terms of the Environmental Impact Regulations of 2014 (as amended) must contain:	**Relevant section in report**
Details of the specialist who prepared the report	Pg i & ii, Annexure II pg. 38
The expertise of that person to compile a specialist report including a curriculum vitae	Pg i & ii
A declaration that the person is independent in a form as may be specified by the competent authority	Pg i & ii
An indication of the scope of and the purpose for which, the report was prepared	1
An indication of the quality and age of base data used for the specialist report	1
A description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change	7
The duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment	N/A
A description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used	1
Details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternative	N/A
An identification of any areas to be avoided, including buffers	N/A
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	N/A
A description of any assumptions made and any uncertainties or gaps in knowledge	1
A description of the findings and potential implications of such findings on the impact of the proposed activity or activities	7
Any mitigation measures for inclusion in the EMPr	7
Any conditions for inclusion in the environmental authorisation	N/A
Any monitoring requirements for inclusion in the EMPr or environmental authorisation	N/A
A reasoned opinion as to whether the proposed activity or portions thereof should be authorised	9
Regarding the acceptability of the proposed activity or activities; and	9
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	7
A description of any consultation process that was undertaken during the course of carrying out the study	N/A
A summary and copies if any comments that were received during any consultation process	N/A
Any other information requested by the competent authority.	N/A

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LIST OF ABBREVIATIONS

AOI	Area of Impact
BOP	Balance of Plant
CAPEX	Capital Expenditure
CBD	Central Business District
CCGTPP	Combined Cycle Gas Turbine Power Plant
CCPP	Combined Cycle Power Plant
CO2	Carbon Dioxide
DMRE	Department of Mineral Resources and Energy
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
EMPr	Environmental Management Programme
GASIPPPP	Gas Independent Power Producer Procurement Programme
GDP	Gross Domestic Product
GMP	Gas Master Plan
GUMP	Gas Utilisation Master Plan
GVA	Gross Value Added
HRSG	Heat Recovery Steam Generator
IDP	Integrated Development Plan
IEA	International Energy Agency
IPP	Independent Power Producer
IRP	Integrated Resource Plan
KCDM	King Cetshwayo District Municipality
KZN	KwaZulu-Natal
kV	Kilovolt
kWh	Kilowatt-hour
LNG	Liquefied Natural Gas
MES	Minimum Emissions Standards
MW	Megawatt
NDP	National Development Plan
NEMA	National Environmental Management Act
NOx	Nitrogen Oxides
OPEX	Operating Expenditure
PGDP	Provincial Growth and Development Plan
PPA	Power Purchase Agreement
RBIDZ	Richards Bay Industrial Development Zone
S&EIR	Scoping and Environmental Impact Reporting
SAM	Social Accounting Matrix
SDF	Spatial Development Framework
SEIA	Socio-Economic Impact Assessment
SOx	Sulphur Oxides
STG	Steam Turbine Generator

StatsSA	Statistics South Africa
WEF	Wind Energy Facility

1. INTRODUCTION

Urban-Econ Development Economists has been commissioned by Nemai Consulting (Pty) Ltd on behalf of Mabasa Energy and Fuels (Pty) Ltd (the Applicant) to undertake a Socio-Economic Impact Assessment (SEIA) for the proposed construction of a 750-megawatt (MW) Combined Cycle Gas Turbine Power Plant (CCGTPP) in Richards Bay, within the City of uMhlathuze Local Municipality, KwaZulu-Natal (KZN) Province.

The study forms part of the Scoping and Environmental Impact Reporting (S&EIR) process as prescribed in the Environmental Impact Assessment (EIA) Regulations of 2014, promulgated under the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998), as amended. The SEIA is undertaken as part of the EIA process managed by Nemai Consulting (Pty) Ltd.

This report seeks to assess the potential socio-economic impacts associated with the proposed development and provides recommendations to enhance positive impacts while mitigating potential adverse effects.

1.1. Scope of Study

The SEIA contains information that allows assessment of the project from a sustainable development perspective and assists in identifying "the most practicable environmental option" that provides the "most benefit and causes the least damage to the environment as a whole, at a cost acceptable to society", in the long-term and the short-term. It is the systematic analysis usually used during an EIA to identify and evaluate the potential socio-economic impacts of a proposed development on the lives and circumstances of people, their families and their communities (Agelebe, Prityi, J, & Nielsen, 2019). If such potential impacts are significant and adverse, a SEIA can assist the developer and other parties to find ways to reduce, remove or prevent these impacts from happening. In light of the above and in line with the EIA Regulations of 2014, the purpose of the socio-economic impact assessment is to ensure that the project, if approved, provides for justifiable social and economic development outcomes.

Based on the understanding of the project's objectives, the methodology employed in conducting the study comprised the steps illustrated in the figure below and unpacked thereafter.

Figure 1: Study Approach and Methodology



i. Engage with the environmental practitioner (EAP) other specialists on the team and the client to gain the necessary background on the project.
ii. Determine the assumptions for the study as well as possible limitations.
iii. Determine the data required to assess potential impacts and review secondary data available to determine the suitability of the data for the analysis and the data gaps.
iv. Delineate the area of impact (AOI) in consultation with other specialists on the team.
v. Determine the affected communities and economic activities located in the AOI and identify sensitive receptors and beneficiaries within the delineated study areas, i.e., people, land uses

and economic activities that could be directly or indirectly negatively affected by the proposed project or benefit from it.

vi. Assess the sensitivities of the identified sensitive receptors relative to the proposed development and analyse potential positive and negative social and economic effects of the proposed development on the local and regional economic activities.

vii. Create a socio-economic profile of the potentially affected and benefiting environment, which would then represent a description of the existing impacts exerted on the AOI and would be used to assess the potential changes that ensued from the proposed project.

viii. Evaluate the potential positive and negative impacts.

ix. Assess cumulative effects of the project given the existing and planned developments in the area.

x. Develop a mitigation plan by proposing mitigation measures for negative effects and enhancement measures for positive impacts.

xi. Provide recommendations on whether the proposed project should be authorised and whether the associated activities are acceptable from the socio-economic perspective.

In addition to the above methodology, the following key aspects should be noted as indicated in table below.

Table 1. Key Information regarding the assessment

Aspect	Description

Information Sources	In order to document the socio-economic context of the study area, a number of documents or sources of information were reviewed, referenced and used to inform the SEIA. These documents include, but are not limited to:
	• National (South Africa):
	  ○ National Energy Act (34 of 2008)
	  ○ National Development Plan (NDP) 2030
	  ○ Integrated Resource Plan for Electricity (IRP) 2010-2030
	  ○ Gas Utilisation Master Plan (GUMP)
	  ○ Draft Gas Master Plan (GMP) 2024
	• Regional (KZN Province):
	  ○ Provincial Growth and Development Plan (PGDP) (2021-2030)
	• Local Policy and planning context
	  ○ King Cetshwayo District Municipality Integrated Development Plan (IDP) 2024/25
	  ○ City of uMhlathuze Municipality Integrated Development Plan (IDP) (2023/24)
	  ○ City of uMhlathuze 5th Generation Spatial Development Framework (SDF) (2022/2023 – 2026/2027)
	  ○ City of uMhlathuze Climate Change Strategy
	Other sources used for the baseline profiling of the study area include:
	• StatsSA Census 2022.
	• Quantec Regional Standardised Data 2026 database.

Quality and Age of Data	The latest available stats from the StatsSA including Census 2022 data at local municipal level are used as the primary source of data. Where possible, this has been augmented with data obtained from the Quantec

Aspect	Description
	Standardised Regional Dataset which contains some of the most widely accepted projections of StatsSA data up to 2024. It must be noted that at the time of developing this report the Census 2022 data was not yet available at local area/subplace level.

1.2. Project Assumptions and Limitations

This section highlights the key assumptions that form the basis of the assessment and discussions of the study. These assumptions are in line with known gaps in the knowledge as well as limitations present within the study and are as follows:

- All information provided to the specialist by the EAP and the project proponent is presumed to be accurate and reliable.
- While the secondary data sources used to develop socio-economic baseline (including demographic information and economic dynamics) are not exhaustive, they are considered indicative of the broader trends within the study area.
- The study was conducted with the information available to the specialist within the time frame specified.
- Predicting potential impacts and stakeholder responses to these impacts with complete accuracy is inherently challenging even under similar conditions. These forecasts are derived from extensive research and professional experience considering the unique circumstances of the study.

The limitations for the study include the following:

- The latest available stats at local municipal level and sub place were used as the primary source of data. Where possible, this has been augmented with data obtained from the Quantec Standardised Regional Dataset which contains some of the most widely accepted projections of StatsSA data up to 2024. It must be noted that at the time of developing this report the Census 2022 data was not yet available at local area/ subplace level.
- This report is mainly based on the use of secondary data sources and limited primary research. As such, the findings and conclusions presented are limited by the availability, accuracy and timeliness of publicly accessible and published information.

1.3. Report Structure

The report is structured into the following sections.

Table 2: Report Structure

No.	Section Title	Description
1.	**Introduction**	Provides the project background, purpose of the report and key objectives of the socio-economic assessment.
2.	**Project Description and Location**	Describes the project's design, implementation phases, location and study area delineation.
3.	**Policy Review**	Reviews relevant national, provincial and local policies.
4.	**Literature Review**	Summarizes key academic and industry literature on gas to power plants and socioeconomic impacts.

No.	Section Title	Description
5.	**Baseline Socio-Economic Profile**	Details socio-economic and demographic characteristics of the study area, including land use, population and economic activities.
6.	**Stakeholder Engagement**	Outlines the insights of the Project stakeholders and the findings thereof.
7.	**Socio-Economic Impact Assessment**	Assesses potential social and economic impacts during the construction and operational phases, including mitigation strategies.
8.	**Need and Desirability Assessment**	Evaluates the project's contribution to national, regional and local development goals, with reference to energy security and economic growth.
9.	**Conclusion and Reasoned Opinion**	Summarises the study findings, presenting a reasoned opinion on the project's viability and recommendations for implementation.

2. PROJECT DESCRIPTION AND LOCATION

2.1. Project Description

The proposed Combined Cycle Power Plant (CCPP) Module will consist of a 750MW power block. A Module consists of two (2) Gas Turbines each having capacity of 250 MW along with Electrical Generators, two (2) Heat Recovery Steam Generators (HRSGs) and one (1) Steam Turbine Generator (STG) having capacity of 250 MW. The CCPP is based on the latest state of art heavy duty industrial type Gas Turbines GE 9FA, which is suitable for base load and cyclic load operation in both simple (open) cycle and combined cycle mode.

The Combustion Turbines can fire on a variety of fuels however most commonly natural gas or light distillate oil. The combustion system installed on the units will be configured for natural gas fuel.

The Plant will comprise of the following key equipment:

- Two (2) General Electric Frame 9 (model 9F.03) combustion turbines and generators
- Two (2) triple-pressure, 3-drum, natural circulation Heat Recovery Steam Generators (HRSG)
- One (1) condensing steam turbine and generator
- One (1) de-aerating surface condenser
- One (1) induced draft cooling tower
- Balance of plant (BOP) equipment consisting of Pumps, Heat Exchangers, Transformers, Power Electrics, etc.
- One (1) integrated plant distribution control system
- 275kV Switchyard comprising of three (3) x 15kV to 275kV step-up transformers and one (1) station auxiliary transformer (the rating to be defined during detailed design).
- Ancillary Charge per kWh

The proposed power plant will have a generation capacity of 500 MW in Simple Cycle operation and 750 MW in Combined Cycle operation. Under normal base operations, the facility will generate 500 MW when operating in Simple Cycle mode and 750 MW when operating in Combined Cycle mode. The plant is designed to operate continuously on twenty-four hours a day, seven-days-a-week basis, ensuring consistent electricity generation and supply.

The project will be implemented in two phases. Phase I will involve the development of the Simple Cycle component with a capacity of 500 MW, with first power expected within 12 months of project commencement. Phase II will involve the conversion and expansion to Combined Cycle operation with a capacity of 750 MW, with first power anticipated 12 months after the first power of Phase I.

The Applicant intends to bid under the Gas Independent Power Producers Procurement Programme (GASIPPPP)[1] and the proposed development forms part of the broader national strategy to enhance energy security and diversify the electricity generation mix.

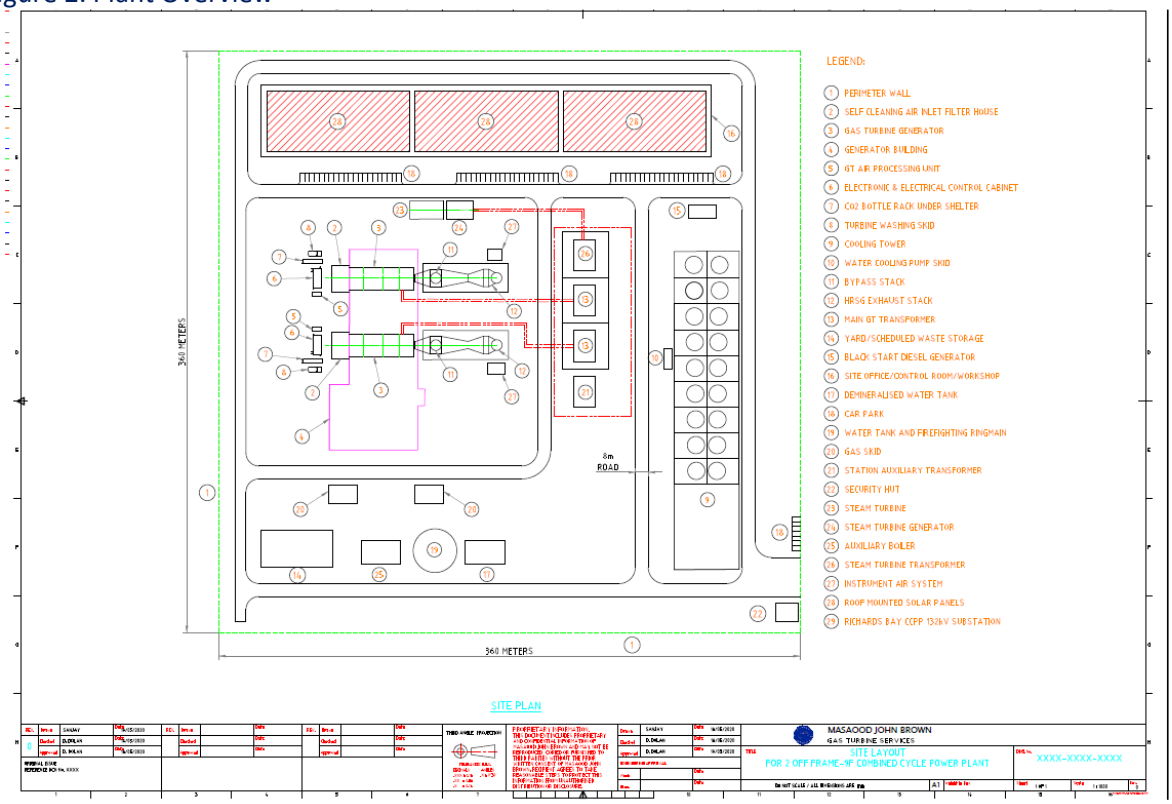
[1] The Gas IPP Procurement Programme (GASIPPPP) is government's dedicated framework for procuring privately developed gas-fired power generation capacity in line with the allocations in the Integrated Resource Plan. Under this programme, Independent Power Producers (IPPs) are invited, through competitive bid windows, to develop, finance, build, own and operate gas-to-power plants and sell electricity to the grid under long-term power purchase agreements.

Electricity generated by the plant will be sold under a 20-year Power Purchase Agreement (PPA). The tariff structure will consist of a total tariff per kilowatt-hour (kWh) and will include several components, namely a capacity charge per kWh, an energy charge per kWh and an ancillary charge per kWh.

The designated off taker for the electricity generated by the facility will be Eskom, with procurement taking place through the Gas Independent Power Producer (IPP) Bid Programme.

The figure below shows the plant overview.

Figure 2. Plant Overview



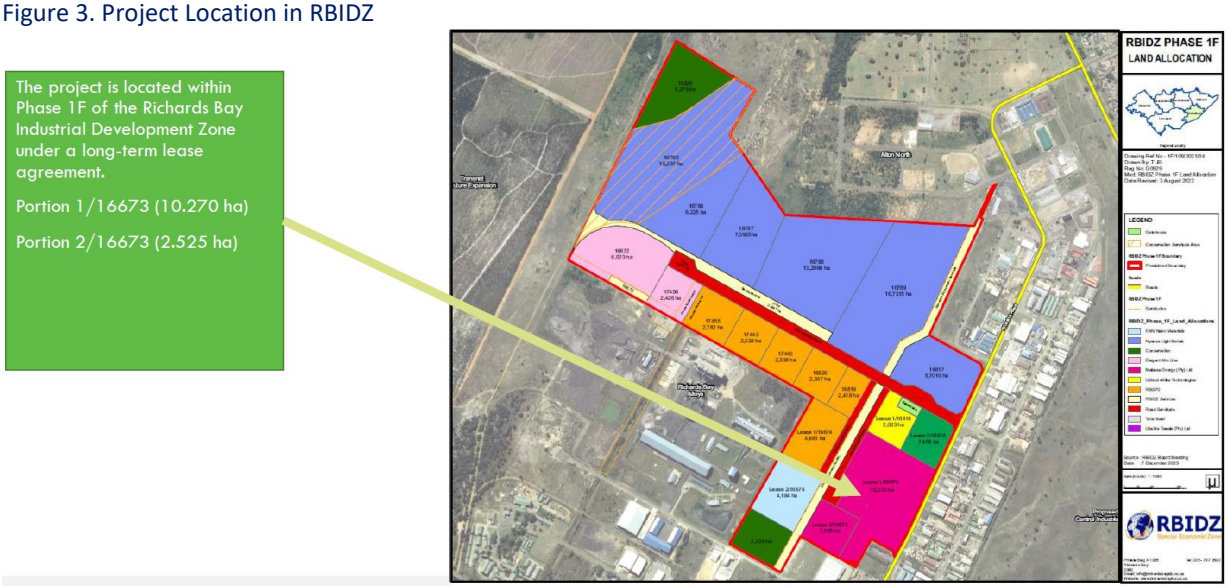
Source: Richards Bay Mabasa Energy and Fuels (Pty) Ltd Project Overview 2026

2.2. Project Location

The project will be located in Richards Bay, which falls within the city of uMhlathuze Local Municipality in King Cetshwayo District Municipality in KZN. Richards Bay is known for its industrial and economic significance, largely due to its deep-water harbour, which is one of the largest in the southern hemisphere. The town is a major hub for mining, aluminium smelting and paper manufacturing industries.

The site is located on Erf 16673 in the Richards Bay Industrial Development Zone (RBIDZ) as shown in Figure 3.

Figure 3. Project Location in RBIDZ



Richards Bay Mabasa Energy and Fuels (Pty) Ltd Project Overview 2024

The earmarked site is located on Portion of Erf 16673 in Phase 1F of the RBIDZ as shown in the figure below.

Figure 4. Proposed Site Location for the 750MW CCPP Power Plant within the RBIDZ



Source: Richards Bay Mabasa Energy and Fuels (Pty) Ltd Project Overview 2024

The gas will be transported to the site from the Richards Bay harbour terminal through a gas pipeline. The project site can be accessed via Alumina Alle Street through R34, as well as via Crystal Bond and Chroomstang Streets. The site is strategically positioned to leverage the transportation and logistical advantages provided by the nearby harbour and extensive rail and road networks.

Moreover, the proposed plant forms part of a cluster of gas-to-power and gas-infrastructure projects planned or underway in and around Richards Bay, including the Richards Bay Gas-to-Power Plant 2,

the ZET LNG import facility at Berth 207, the RBIDZ Gas Hub and several private small-scale LNG and gas-reticulation upgrades. Together, these initiatives are aimed at creating a more diversified and resilient regional natural gas supply network that can serve both electricity generation and industrial users. The figure below shows some of the gas to powerplants developments in Richards Bay.

Figure 5. Other Gas to power plants developments near the proposed project.



Source: Global Energy Monitor, 2026

The following are the areas surrounding the site area listed in the table below.

Table 3:Areas in Proximity to the Proposed Site

Area	Distance From Project Site (km)	Type	Description
Alton	0.1km	Industrial	Located in the northeast of the Alton industrial area in Richards Bay. Houses various businesses and industries, contributing to the overall industrial landscape of Richards Bay.
Richards Bay IDZ	5.3km	Industrial	Located to the south of the proposed site. RBIDZ is aimed at promoting industrial and economic development.
Richards Bay CBD	2.3km	CBD	Located in the east of the proposed site in Richards Bay. The commercial and administrative heart of the town provides essential services and amenities to residents and businesses in the area.
Port of Richards Bay	8km	Harbour	Located on the southeast of the proposed site. The port has extensive facilities to handle bulk cargo, including coal, ores, woodchips and agricultural products. It is a critical economic driver, contributing significantly to the local and national economy through trade, employment and

Area	Distance From Project Site (km)	Type	Description
			industrial activity. The gas to be used in the CCPP is piped from the Transnet portal at the port.
Brackenham	2km	Residential	A residential suburb situated to the north of the proposed site. A mix of residential properties, schools and recreational facilities.
Arboretum	3.5km	Residential	A residential suburb situated to the east of the proposed site. A mix of residential properties, schools and local businesses.
Empangeni	14.5km	Light Industrial	Located in the west of Richards Bay. Empangeni is a prominent neighbouring town with residential areas, commercial centres and some light industrial activities.
Nseleni A	9.6km	Residential	A residential suburb situated to the north of the proposed site. A mix of residential properties, schools and recreational facilities.
Esikhawini	15.3km	Residential	In the southeast of Richards Bay. predominantly residential area, home to a diverse population and features a mix of housing developments, from formal housing to informal settlements.
Alton	0.1km	Industrial	Located in the northeast of the Alton industrial area in Richards Bay. Houses various businesses and industries, contributing to the overall industrial landscape of Richards Bay.

Source: Google Maps (2026)

2.3. Sensitive Receptors

The following table outlines the land uses and sensitive receptors in Richards Bay, describing each area in relation to the project location.

Table 4. Sensitive receptors

Land use / Sensitive receptor	Description and Sensitivity
Alton	While the Alton area is not a residential zone, the presence of numerous businesses means that the construction and operational impacts of the proposed 750MW CCPP may have an impact on this area.
RBIDZ	The construction and operations of the proposed development may have an impact on the operations of the RBIDZ due to it being located in the RBIDZ.
Formal housing 1. Arboretum 2. Brackenham 3. Wild En Weide 4. Empangeni	Although the infrastructure associated with the project does not affect residential areas directly, nearby remain relevant in the context of indirect socio-economic and environmental impacts. These areas are not expected to experience some disruption. On the other hand, it is anticipated that

Land use / Sensitive receptor	Description and Sensitivity
5. Empembeni 6. Aquadene 7. Birdswood 8. Veld En Vlei 9. Meer En See 10. Richards Bay 11. Ntshingimpisi	labour for the project will likely be sourced not only from these suburban areas but also from nearby higher-density settlements such as Empangeni and surrounding township areas. These communities represent an important component of the available labour pool and may also benefit from economic spinoffs associated with the project, including enterprise development and skills training.
Richards Bay Central Business District (CBD)	The CBD may be sensitive to air quality, traffic congestion and any disruptions affecting businesses or public services. However, due to its distance from the proposed site low impacts are expected.
Other Public Amenities: 1. Richards Bay Public Library 2. Richards Bay Clinic 3. Melomed Richards Bay Private Hospital 4. Netcare The Bay Hospital 5. Mandlanzini Sports Field	While the project infrastructure does not directly traverse these facilities, their relevance lies in their role as sensitive receptors, particularly concerning changes in air quality and regional service delivery. However, given the distance between these public amenities and the core project footprint, direct impacts are expected to be minimal. Cumulative or indirect effects may affect the functioning of some services, but this is likely to be limited and minimal.
Port of Richards Bay	The port may benefit from the proposed developments' energy supply and industrial synergies. As more power is generated, the port may benefit from increased industrialisation. On the other hand, the port may be sensitive to traffic and emissions. There may be need to consider emissions management near port workers and operations. However, considering the already industrial nature of the port activities, minimal direct impacts are anticipated.
John Ross Highway	It is a major transport artery serving Richards Bay and the surrounding areas. It is likely to be sensitive to increased traffic volumes during the construction and operation phases of the project. In particular, logistics activities and the delivery of construction materials for the proposed 750MW CCPP may place additional pressure on this route.
Transnet Freight Rail network (feeds into the harbour)	The rail line plays a critical role in supporting bulk freight and logistics operations, particularly servicing the Port of Richards Bay and surrounding industrial areas. Given its strategic function, the rail infrastructure is moderately sensitive to increased congestion or disruptions that may arise during the construction and operational phases of the proposed development. The transportation of equipment and materials related to the proposed 750MW CCPP may influence rail operations. Therefore,

Land use / Sensitive receptor	Description and Sensitivity
	coordinated planning and mitigation measures are required to ensure the safe co-existence of the power infrastructure and existing rail operations.
ZET gas distribution supply take-off point (Not yet functional, but it has been proposed)	The gas distribution point is a vital component of the energy supply system for the proposed 750MW CCPP. It will serve as the interface between the incoming gas and the transmission infrastructure. The proposed CCPP development will place increased operational demand on the distribution point, requiring enhancements to capacity, safety monitoring and pressure regulation systems.

2.4. Study Area Delineation

Study area delineation depends on the type of economic activity that is analysed and the perceived spread of economic impacts expected to be generated from the Project during the construction and operation phases.

The establishment of a CCPP will have various zones of influence, impacting the immediate and broader regions in several ways. As such, the following zones are the potential extent of these impacts of influence:

2.4.1.Primary Area of Impact

The primary or direct area of impact refers to the immediate location of where the proposed project is located where direct effects on the economy and local communities are expected. It typically includes the project site and its surroundings where construction and operational activities will directly occur. The primary AOI delineation assumes that the people, communities and businesses immediately surrounding the Project are likely to experience the greatest socio-economic impacts because of the proposed project's construction and operation.

The direct or immediate socio-economic AOI of the proposed 750MW CCPP is Richards Bay, where the plant and the grid connection are to be located.

2.4.2.Secondary Area of Impact

The secondary area of impact extends beyond the immediate project site to encompass the broader municipality. In this case, it includes communities and economies that may experience indirect impacts due to the project, such as increased economic activity, infrastructure development, or service demands. In the context of the socio-economic impact assessment, the City of uMhlathuze is identified as the secondary area of impact.

This designation means that while the proposed project’s direct effects will be felt most immediately within its primary location, Richard Bay, its influence will also extend throughout the municipality. As the secondary area of impact, City of uMhlathuze is expected to experience broader socio-economic benefits and some indirect impacts, including potential job creation, increased demand for local services and enhanced economic activity associated with the project’s construction and operation.

2.4.3.Tertiary Area of Impact

The tertiary impact refers to the widest area of influence, often at the provincial or national level. Impacts at this level are generally more diffuse and can include regional economic growth, energy

security and contributions to national development goals, such as job creation, industrialisation and the transition toward a more reliable and diversified energy supply. This tertiary impact helps to capture the larger-scale implications of the project, highlighting its role in advancing provincial and national priorities.

For the purposes of this assessment, the tertiary area of impact encompasses the broader KZN province and South Africa as a whole. While the proposed project's direct and secondary impacts are localised, its influence at the provincial and national levels contributes to far-reaching socio-economic and infrastructural benefits.

3. POLICY REVIEW

Developing a CCPP power plant in Richards Bay involves navigating a complex landscape of policies, documents, legislation and frameworks. Compliance with these regulatory instruments ensures that the project is legally compliant, environmentally sustainable and socially responsible. A policy review is essential in determining whether a project aligns with the socio-economic objectives set out by the various spheres of government. This broad overview serves as an early warning system for assessing whether the proposed project and its anticipated consequences advance the objectives of national, provincial and local governments' developmental policies, allowing possible red flags or issues to be identified and appropriate recourse to be undertaken to avoid costly delays.

The following table outlines the key South African policies and legislation relevant to the proposed development, drawn from national, provincial and local government frameworks. It summarises their objectives and assesses the extent to which the proposed project aligns with the applicable planning and policy context.

Table 5. Policy Review

POLICY	DESCRIPTION	ALIGNMENT OF THE PROJECT
National Policies		
National Energy Act (No. 34 of 2008)	The National Energy Act (No. 34 of 2008) provides the overarching legislative framework for South Africa's energy sector. Its purpose is to ensure that the country has diverse, affordable, reliable and environmentally sustainable forms of energy in support of economic growth and poverty alleviation. The Act promotes integrated energy planning, efficient and optimised supply and use of energy, increased access to modern energy services for all South Africans and the development of renewable and other clean energy sources, while also requiring that energy-related activities take account of environmental management and climate-change considerations.	The proposed plant is broadly aligned with the objectives of the National Energy Act, as it would enhance energy diversity and reliability by adding dispatchable capacity at a key industrial node, supporting economic growth and energy security. Its use of efficient CCGT technology offers potential improvements in fossil-fuel efficiency, particularly if it complements renewable energy and displaces more carbon-intensive generation. However, as a fossil-fuel facility, its long-term alignment with environmental and climate objectives will depend on effective emissions management, sustained efficiency and integration into a broader low-carbon energy framework.
Integrated Resource Plan for Electricity 2010-2030 (IRP)	The Integrated Resource Plan (IRP) is South Africa's statutory electricity roadmap, setting out the least-cost, diversified generation mix needed to 2030 and beyond. The original IRP 2010–2030 already called for a more balanced mix, with significant new gas capacity	Within this policy context, the proposed plant is consistent with the intent of the IRP. It would increase gas' dispatchable capacity thereby supporting grid reliability as older coal-fired stations are decommissioned and complementing variable renewable

POLICY	DESCRIPTION	ALIGNMENT OF THE PROJECT
	alongside coal, nuclear and renewables. It envisaged around 6.3 gigawatt (GW) of gas-turbine capacity (about 2.4 GW combined-cycle and 3.9 GW open-cycle) by 2030, on the basis that gas-fired plant could provide relatively fast-to-build, flexible and efficient mid-merit and peaking supply. The Draft IRP 2018 updated these assumptions, extended planning to 2050 and reinforced the shift away from a coal-dominated system towards greater shares of wind, solar PV and gas, under an overall CO_2 emissions constraint. These proposals were then consolidated into the promulgated IRP 2019, which maintains the core objectives of security of supply, affordability and emissions reduction and provides for substantial new renewables together with several gigawatts of new gas/diesel capacity by 2030. In parallel, Ministerial determinations and the GASIPPPP give effect to this plan, tasking the Department of Mineral Resources and Energy with procuring 3 126 MW of new gas-fired generation in the 2019–2025 period to support system adequacy and flexibility.	energy sources. Provided that it is integrated within the IRP procurement framework and operated in a manner that prioritises the displacement of more carbon-intensive coal and diesel generation, rather than entrenching additional fossil-fuel dependence, the plant would contribute positively to a more balanced and resilient energy mix.
Gas Utilisation Master Plan (GUMP)	The GUMP was developed as a high-level roadmap for establishing a gas economy in South Africa, with the aim of supporting the diversification of the national energy mix and guiding the expansion of natural gas infrastructure. It envisages gas playing a growing role in electricity generation, industrial process heat and broader economic development and was intended to complement the IRP by identifying how gas-to-power could be developed in a phased manner over roughly a 30-year horizon. In this framework, gas supply is	The proposed plant is consistent with the intent of GUMP, as it would help establish substantial gas-fired power demand, support investment in LNG and contribute to the longer-term development of a gas economy in South Africa.

POLICY	DESCRIPTION	ALIGNMENT OF THE PROJECT
	expected to come from a combination of indigenous resources and imports via pipelines and liquefied natural gas (LNG), with coastal hubs such as Richards Bay identified as important nodes for LNG import and gas distribution. GUMP recognises several constraints to realising this vision, including limited domestic gas reserves, the historic lack of large, anchor gas demand and inadequate import, storage and pipeline infrastructure.	
Draft Gas Master Plan (GMP) 2024	The earlier GUMP set out a high-level roadmap for developing a gas economy in South Africa, focusing on regional pipeline links and using gas-to-power and industrial demand to anchor investment in gas infrastructure. The Draft Gas Master Plan (GMP) 2024 is the updated, more detailed framework that effectively supersedes and operationalises GUMP, with a stronger emphasis on security of supply, least-cost infrastructure planning and regulatory certainty. It aims to develop South Africa's gas economy by ensuring secure, sustainable and affordable access to gas, reducing dependence on coal, diversifying the national energy mix and promoting investment in gas import, transmission and power-generation infrastructure. The GMP positions natural gas as an important but carefully managed, transitional component of the energy system: a flexible, dispatchable fuel that complements variable renewables and supports industrial heat demand, while acknowledging growing reliance on imported LNG and regional pipeline gas and the need to manage price, supply and carbon lock-in risks. Coastal industrial nodes such as Richards Bay are	The proposed project is aligned with the Draft GMP, as it is located within a designated coastal gas hub, uses higher-efficiency CCGT technology and would provide dispatchable capacity to support the national grid and local energy-intensive industries, thereby underpinning utilisation of planned LNG and pipeline infrastructure. This alignment is, however, conditional on the plant being integrated into the wider Richards Bay gas-hub strategy, primarily displacing higher-emitting coal and diesel generation rather than expanding overall fossil-fuel dependence and being planned and operated with due regard to the supply, price and transition risks acknowledged in the GMP.

POLICY	DESCRIPTION	ALIGNMENT OF THE PROJECT
	identified as key gas demand centres where LNG import facilities, pipelines and gas-fired power plants should be spatially clustered to form efficient gas hubs that strengthen energy security and industrial competitiveness.	
National Development Plan 2030 (NDP)	The National Development Plan (NDP) 2030 sets out South Africa's long-term vision to reduce poverty and inequality, with reliable, affordable and sustainable energy identified as a key enabler of inclusive economic growth. In the electricity sector, the NDP calls for a more diversified energy mix that reduces over-reliance on coal, incorporates a greater share of renewable energy and makes use of natural gas where appropriate to support security of supply and lower the emissions intensity of power generation. The Plan notes that imported LNG and associated infrastructure could play an important role in expanding gas use and that combined-cycle gas turbines offer valuable operational flexibility to complement variable renewable energy and stabilise the power system. Although the NDP's indicative timelines for LNG infrastructure and early gas-to-power projects have not been met in practice, its underlying direction remains clear: diversifying the energy mix, strengthening grid reliability and using cleaner, more flexible technologies such as CCGTs and renewables to support development and the transition to a lower-carbon economy.	The proposed CCPP is broadly aligned with the NDP's strategic direction. It supports diversification of the energy mix away from an exclusive dependence on coal. It is intended to operate using imported gas routed through a coastal hub consistent with the NDP's LNG vision and would provide flexible, dispatchable capacity that can stabilise the grid and support industrial activity in a key economic node. At the same time, because the plant is a large fossil-fuel installation, its long-term consistency with the NDP's emphasis on sustainable, lower-carbon development will depend on effective emission controls, ongoing efficiency optimisation and its role within a broader transition that progressively increases the share of renewable energy in the national system.
Provincial Policies		
KZN Provincial Growth and Development Plan (PGDP)	The PGDP provides a strategic framework for inclusive economic growth, infrastructure development, environmental sustainability and spatial equity. Similar to the NDP, the PGDP aims	The CCPP aligns with the PGDS by contributing to strategic infrastructure and job creation supporting the province's development goals. It also represents a major infrastructure

POLICY	DESCRIPTION	ALIGNMENT OF THE PROJECT
	to curb poverty, inequality and achieve shared growth. The plan states that alternative sources of energy are a priority and must be realised. The PGDP highlights the importance of reliable energy supply as a foundation for industrial expansion, investment attraction and job creation and notes the need to diversify and strengthen the province's energy base through alternative sources beyond Eskom's existing coal fleet. In earlier iterations, this included reference to bringing additional gas- and diesel-fired capacity online to support provincial energy security.	investment in a key economic node and is expected to enhance the reliability of electricity supply needed to sustain and expand manufacturing and logistics activity in the City of uMhlathuze.
Local Policies		
King Cetshwayo District Municipality Integrated Development Plan (IDP) 2024/25	The King Cetshwayo District Municipality Integrated Development Plan (IDP) 2024/2025 sets out the district's strategy for inclusive and sustainable development, with a strong focus on bulk and social infrastructure provision, spatial integration, environmental stewardship and economic growth. It emphasises the need to strengthen economic nodes such as Richards Bay and to ensure reliable basic services and infrastructure, including electricity, as key enablers of industrial development, job creation and improved quality of life for communities in the district.	The proposed CCPP project is aligned with the IDP's strategic priorities by reinforcing energy infrastructure in a core economic hub of the district, supporting regional energy security and improving the reliability of electricity supply required for manufacturing, logistics and services. The project is expected to stimulate local economic activity and employment during construction and operation and thereby contributes to the IDP's objectives of inclusive growth and strengthened regional competitiveness.
City of uMhlathuze Municipality Integrated Development Plan (IDP) Fifth Generation 2022/2023–2026/2027	The uMhlathuze Integrated Development Plan (Fifth Generation IDP 2022/2023–2026/2027) is the municipality's central development strategy, outlining priorities such as economic development, service delivery improvements, infrastructure upgrades, spatial transformation and environmental sustainability. The IDP recognises the City's role as a major industrial and logistics hub and highlights	The CCPP is consistent with these priorities in that it would enhance the security and reliability of electricity supply within the municipality, underpinning industrial expansion and investment in and around Richards Bay. The project supports the IDP's intent to consolidate uMhlathuze as a leading regional economic centre while improving service delivery and

POLICY	DESCRIPTION	ALIGNMENT OF THE PROJECT
	the importance of reliable electricity supply, bulk infrastructure investment and a conducive business environment to support industrial growth, investment attraction and job creation.	creating employment opportunities for local residents.
City of uMhlathuze Spatial Development Framework (SDF) (Fifth Generation 2022/2023–2026/2027)	The Spatial Development Framework (SDF) serves as a strategic guide for spatial planning and development within the municipality over a five-year horizon. It provides direction on land use management, infrastructure investment and economic development to promote sustainable and coordinated spatial growth. It identifies and consolidates industrial zones such as Alton and the wider Richards Bay industrial area as strategic economic nodes, prioritising them for infrastructure upgrades, logistics functions and value-adding industrial activity, while promoting more efficient, sustainable and coordinated spatial growth.	The development does not contradict existing land use designations or spatial priorities outlined in the SDF. Instead, it complements the intended land use and reinforces the area's strategic role in regional economic development. The proposed project is situated within RBIDZ, adjacent a designated industrial zone as per the SDF, aligning with the municipality's vision of supporting industrial expansion and energy infrastructure development in this area. The site is appropriately located in an area earmarked for strategic economic activities, including energy generation, manufacturing and logistics. Therefore, the project is consistent with the spatial objectives and growth trajectory envisaged in the SDF and supports the municipality's long-term vision for sustainable development.
City of uMhlathuze Climate Change Strategy 2010	The City of uMhlathuze Climate Change Strategy, adopted in 2010, is the municipality's overarching framework for responding to climate risks and reducing emissions. It was developed off a vulnerability assessment that profiled local climate risks and is built around the twin principles of mitigation and adaptation. The Strategy has since been incorporated as a sector plan of the IDP and is implemented primarily through the Climate Change Action Plan (CCAP) adopted in 2018, which sets out practical interventions across key sectors such as coastal management, water and stormwater management, open space	The proposed plant is partially aligned with the City's climate objectives. On the one hand, by using natural gas in high-efficiency CCGT technology, the plant has the potential to reduce local air-quality impacts and carbon intensity relative to older coal or diesel generation and it creates opportunities to coordinate with municipal energy-, air-quality- and resilience initiatives under the CCAP (for example around energy management, air quality monitoring and climate-resilient infrastructure design). On the other hand, it remains a large fossil-fuel installation that will add substantial

POLICY	DESCRIPTION	ALIGNMENT OF THE PROJECT
	and biodiversity, waste management, energy management, integrated transport, spatial planning and land use, vulnerable communities and air quality management.	greenhouse-gas emissions to the municipal inventory and it is in an already industrialised, climate-vulnerable coastal area. Its consistency with the Climate Change Strategy therefore depends on the strength of its mitigation and adaptation measures such as stringent emission controls, ongoing efficiency optimisation, consideration of future lower-carbon fuels where feasible.

The policy review indicates that the proposed 750 MW CCPP is broadly aligned with national and sub-national energy and development frameworks, albeit with important considerations related to its fossil-fuel profile.

At the national level, the GMP (and GUMP), IRP and NDP collectively position natural gas, particularly at coastal nodes such as Richards Bay, as a flexible, dispatchable complement to renewable energy, supporting industrial competitiveness and energy security. The proposed plant is consistent with this approach, introducing high-efficiency gas capacity within a designated industrial hub and, if appropriately integrated, offering potential to displace more carbon-intensive coal and diesel generation.

At the provincial and local levels, the PGDP, King Cetshwayo District Municipality and City of uMhlathuze IDPs and the City's SDF emphasise the role of Richards Bay as a strategic industrial and logistics hub supported by reliable infrastructure. The proposed development aligns with this spatial and economic vision and is expected to generate positive socio-economic impacts, including construction and operational employment, as well as downstream business activity.

However, alignment with the City's Climate Change Strategy and broader sustainability objectives remains conditional. The project will add to greenhouse gas emissions within an already industrialised airshed. Its long-term policy acceptability therefore depends on the implementation of stringent emission controls, high operational efficiency and climate-resilient design, as well as its contribution to a managed energy transition that supports a gradual shift toward lower-carbon generation rather than reinforcing long-term fossil-fuel dependence.

4. LITERATURE REVIEW

The energy economy is a critical aspect of the global landscape, driving economic activities and influencing long-term development trajectories. It encompasses the production, distribution and consumption of energy resources and remains central to policy and investment decisions aimed at balancing rising energy demand with environmental sustainability. In recent years, global energy markets have been increasingly shaped by geopolitical instability, including conflicts in key energy-producing regions such as the Middle East. Escalating tensions involving major actors such as the United States, Israel and Iran contributes to volatility in global oil and liquefied natural gas (LNG) markets, with direct implications for energy-importing countries such as South Africa through higher fuel costs and electricity tariff pressures.

4.1. South Africa's Energy Economy and Development of CCPPs in South Africa

South Africa has long grappled with significant challenges in maintaining energy security (Baker, 2020). Frequent power outages and load shedding have historically disrupted economic activity and undermined investor confidence. While there have been periods of improved generation performance and reduced load shedding in recent years, system stability remains fragile and heavily dependent on improved maintenance cycles and diesel-intensive peaking support (Eskom, 2026). These challenges are largely driven by an ageing power generation fleet, which is approaching the end of its operational life, with several power stations scheduled for decommissioning by the late 2020s (DMRE, 2023). These stations are plagued by operational inefficiencies, maintenance backlogs and financial constraints, further undermining their reliability.

The country relies heavily on coal, which accounts for more than 80% of its electricity generation (DMRE, 2023). While historically critical to South Africa's industrial development, this dependence now poses serious environmental and health risks. Coal-fired power plants significantly contribute to greenhouse gas emissions and release harmful byproducts such as particulate matter (PM), nitrogen oxides (NOx) and sulphur oxides (SOx), which degrade air quality in surrounding areas (Filonchyk et al., 2026, Vernova. 2024). These emissions also place South Africa under increasing international pressure to decarbonise, particularly in the context of tightening climate finance conditions and trade-related carbon measures.

Except for the Kusile Power Station, which is still under construction, most existing coal-fired stations do not meet the Minimum Emissions Standards (MES), resulting in widespread applications for legal postponements to continue operating (Department of Mineral Resources and Energy, 2022). This reinforces the urgency of transitioning to a more sustainable and diversified energy mix.

Efforts to address these challenges have included the implementation of the Independent Power Producers (IPP) programme, particularly in renewable energy. While this has introduced cleaner capacity into the system, it has not yet fully offset declining coal performance or future decommissioning requirements (Baker, 2020). At the same time, electricity tariffs have continued to increase, most recently with an approved tariff adjustment of approximately 8.76%, placing additional pressure on households, municipalities and energy-intensive industries and reinforcing the need for cost-competitive and reliable generation capacity.

In response, there is growing recognition of the need for reliable non-coal-based capacity. A 2018 study by the Council for Scientific and Industrial Research (CSIR) found that South Africa's electricity

demand could be met predominantly through renewable energy, provided it is supported by flexible and dispatchable generation. Gas is not a renewable source; however, it plays a critical enabling role, as gas plants can be rapidly dispatched when renewable generation is unavailable. The study identified natural gas-fired power, particularly CCPPs, as a viable complement to renewables (CSIR, 2018).

In light of South Africa's persistent supply constraints, the development of CCPPs represents a strategic opportunity to stabilise the electricity grid, support the transition to a lower-carbon energy mix and strengthen energy security. The development of CCPPs is therefore increasingly recognised as a pragmatic response to current system risks (Eskom, 2023; DMRE, 2023).

4.2. Key Perspectives on Gas-To-Power in the Energy Transition

A central theme in the gas versus renewables debate is whether natural gas should be treated as a comparatively "clean" transition option or as a fossil fuel that prolongs carbon lock-in.

The slow pace of renewable energy integration continues to constrain the supply side of South Africa's electricity market. While renewable energy projects under the REIPPPP have expanded capacity, they have not yet fully stabilised the system, particularly given transmission constraints and variability in generation (DMRE, 2023). High shares of variable renewable energy require complementary sources of flexibility, including fast-ramping generation, storage and demand-side management.

Analyses by the International Energy Agency (IEA) highlight that combined-cycle gas turbine (CCGT) plants provide operational flexibility through rapid start-up and efficient load-following capabilities, supporting system stability in renewable-intensive grids (IEA, 2019). Modern CCPPs achieve higher thermal efficiency (typically 55–60%) than coal-fired stations, resulting in lower carbon dioxide (CO_2) emissions per unit of electricity generated when displacing coal or diesel (IEA, 2019).

However, the literature does not support an unconstrained expansion of gas-fired generation. The Centre for Environmental Rights (CER) (2022) emphasises that gas-related impacts should be assessed on a full lifecycle basis. This includes upstream extraction, transport and downstream use. Methane leakage across the gas value chain remains a critical concern, with the potential to significantly erode the emissions advantage of gas (IEA, 2017).

In addition, South Africa's reliance on imported gas exposes the economy to global price volatility. Recent geopolitical developments, including conflicts affecting global energy markets, have demonstrated how quickly LNG prices can escalate, with direct implications for electricity generation costs and tariffs. There is also a risk of long-term carbon lock-in and stranded assets if gas infrastructure investments are not aligned with decarbonisation pathways (CER, 2022). Accordingly, gas-to-power is most appropriately positioned as a transitional and complementary solution, rather than a long-term substitute for renewable energy expansion.

4.3. South Africa's Gas Economy

South Africa's gas economy is undergoing a strategic shift aimed at diversifying the energy mix and enhancing grid resilience (DMRE: Gas Master Plan, 2024). The Gas Master Plan and gas-to-power programme seek to expand infrastructure and increase the role of gas in electricity generation, with approximately 3,126 MW allocated to gas in the medium term.

However, the sector faces significant constraints. Domestic supply is declining, with the Mossel Bay gas fields nearing depletion (DMRE, 2024), while planned upstream developments have been delayed. As a result, South Africa is increasingly dependent on imports, particularly from Mozambique.

Statistics South Africa data indicate a sharp rise in the energy dependency ratio for natural gas, reaching near-total import dependence in recent years. This creates significant exposure to external supply disruptions and international price volatility. The anticipated decline in supply from Mozambique by the late 2020s has raised concerns regarding a potential "gas cliff," with implications for both industrial users and future power generation (Yelland, 2024).

These risks are further compounded by global market volatility. International gas markets have experienced sustained price fluctuations due to geopolitical tensions and supply chain disruptions, reinforcing the importance of supply diversification and infrastructure investment.

In this context, while gas presents an opportunity to support energy security, it simultaneously introduces new risks that must be carefully managed in project-level decision-making.

4.4. Concluding Remarks

South Africa's electricity sector remains constrained by ageing coal infrastructure, supply shortfalls and rising costs. While recent operational improvements have provided temporary relief, the system remains structurally vulnerable. Continued tariff increases and exposure to global energy price shocks underscore the urgency of securing reliable and cost-effective generation capacity.

CCPPs offer a credible near- to medium-term solution by providing flexible, lower-emission and dispatchable power that can support renewable energy integration and reduce reliance on diesel-based generation. However, their long-term viability is contingent on secure gas supply, cost stability and alignment with decarbonisation objectives.

At the same time, increasing reliance on imported gas introduces significant risks, including price volatility, supply insecurity and potential misalignment with climate commitments.

Taken together, the literature indicates that CCPPs can play a strategic but conditional role in South Africa's energy transition. Their development is justified where they enhance system reliability and support renewable integration, but careful consideration must be given to gas supply security, lifecycle impacts and long-term policy alignment.

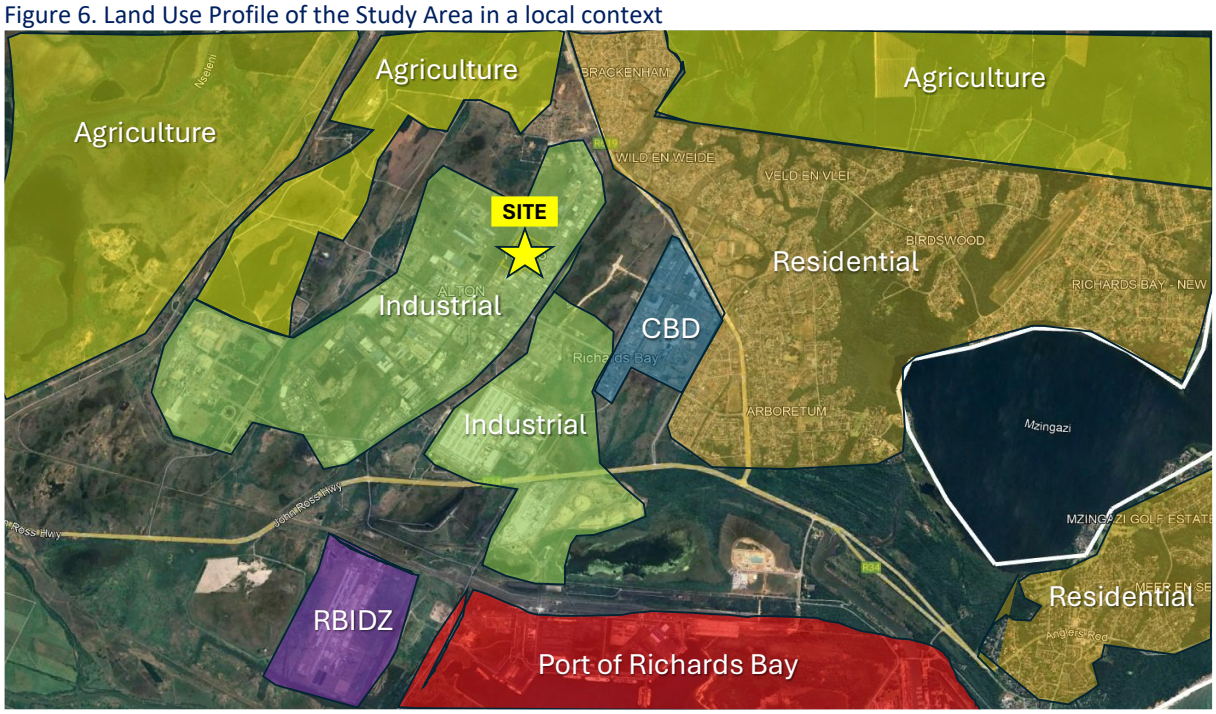
5. BASELINE SOCIO-ECONOMIC PROFILE

This section provides an analysis of the existing socioeconomic conditions within the study area, serving as the foundational baseline for assessing the potential impacts of the proposed project.

5.1. Land Use Profile

The accompanying map of Richards Bay highlights the city's diverse and dynamic character, illustrating its industrial strength, commercial vitality and strategic significance as a port city. Importantly, it illustrates the different land uses surround the site of the proposed 750 MW CCGP.

Figure 6. Land Use Profile of the Study Area in a local context



Source: Google Earth Pro & Urban-Econ, 2024

5.2. Social Landscape

This subsection analyses the demographics in the primary impact area and the secondary impact area. The goal is to gain insights into the population composition in the affected region, providing a more accurate assessment of how various groups may be impacted by the proposed development.

5.2.1.Population and Households

The table below summarises key population and household statistics for Richards Bay, the City of uMhlathuze and the King Cetshwayo District Municipality (KCDM), offering a comparative view of household composition and overall population distribution across the region.

Table 6: Demographic Statistics-Study Area, 2024

	Richards Bay	City of uMhlathuze	KCDM
Population	77 205	412 075	1 021 344
Number of Households	23 346	100 441	205 739
Average Household size	3.3	4.1	5.0
Males	47.9%	50.8%	47.3%

	Richards Bay	City of uMhlathuze	KCDM
Females	52.1%	49.2%	52.7%

Source: Stats SA Census 2022

As shown in the table above, the Richards Bay area accommodates 77 205 residents and 23 346 households. In contrast, the City of uMhlathuze and King Cetshwayo District Municipality (DM) are housing 412 075 and 1 021 344 residents respectively. The population of Richards Bay accounts for approximately 18.7% of the total population of the City of uMhlathuze and approximately 7.6% of the total population of the King Cetshwayo district municipality. This highlights Richards Bay's importance within the local and district municipalities, indicating its role as a substantial urban centre in the region. Given this strategic urban significance, the proposed project is well-positioned to leverage local capacity and contribute meaningfully to regional socio-economic development.

5.2.2.Age

The table below illustrates the age distribution in the study area.

Table 7: Age Distribution in Impact Area, 2024

Age Group	Description	Richards Bay	City of uMhlathuze	KCDM
Youth	**0 – 14 years**	20.4%	25.5%	29.5%
Working Age	**15 – 64 years**	73.1%	69.8%	65.0%
Elderly	**65+ years**	6.2%	4.6%	5.5%

Source: Quantec Standardised Regional Data, 2026

The data reveals that most of the population in the study area falls within the working age group. The big percentage of the working age population illustrates the availability of labour for the proposed development. The remaining population consists of individuals outside the working-age range, relying on the working population for economic support.

Richards Bay contributes approximately 27.1% to the economically active population of the City of uMhlathuze and about 14.7% of the economically active population of the King Cetshwayo DM. This highlights its importance as an economic centre within the municipality and the district. There is a large local labour pool that can support the proposed project. Priority should be given to this area for employment opportunities, particularly during construction, when the working-age population is likely to benefit from increased job creation.

5.2.3.Skills Level

Skill levels often correlate directly with and influence the workforce's capacity to engage in various economic activities. The following table shows the skills levels available in the AOI.

Table 8: Skills Levels for the KCDM and the City of uMhlathuze, 2024[2]

	City of uMhlathuze	KCDM
Low Skilled	25.7%	29.4%
Semi-skilled	44.7%	43.2%
Skilled	29.4%	27.4%

Source: Quantec Standardised Regional Data, 2026

[2] Please note that the skills levels are presented only up to the municipal level, thus specific data for Richards Bay is not available.

The majority of the population in both the district and local municipalities is composed of semi-skilled individuals with 43.2% in the district and 44.7% at the local municipality level. There is also a substantial presence of low-skilled workers which could indicate a large labour pool, especially for construction jobs, which typically require labour that does not need high skill levels.

5.2.4.Employment

The table below summarises the proportion of individuals who are employed, unemployed, or not economically active across Richards Bay, the City of uMhlathuze and KCDM.

Table 9: Employment Status of Population Ages 15-64 in Study Area, 2024

	City of uMhlathuze	KCDM
Unemployment Rate	29.1%	32.9%
Labour Force Participation Rate	60.3%	45.9%
Labour Absorption Rate	42.7%	30.8%

Source: Quantec Standardised Regional Data, 2026

The labour market indicators suggest that the City of uMhlathuze is performing relatively better than the broader district, although unemployment remains a significant concern in both areas. The unemployment rate of 29.1% in the City of uMhlathuze indicates that a significant proportion of the labour force remains without work, pointing to ongoing pressure within the local economy to generate sufficient employment opportunities. This suggests that, despite the economic importance of the area, a large number of individuals who are willing and available to work are still unable to access employment.

At the same time, the labour force participation rate of 60.3% shows that a relatively large share of the working-age population is economically active, meaning that many individuals are either employed or actively seeking employment. The labour absorption rate of 42.7% indicates that just under half of the working-age population is employed. This highlights that a considerable share of the working-age population remains outside of employment. Taken together, these indicators point to the need for continued economic development and employment creation initiatives that can improve labour market outcomes and broaden access to income-generating opportunities within the City of uMhlathuze.

The proposed development is anticipated to create a number of temporary employment opportunities during the construction phase, thereby stimulating local labour force participation and generating short-term income gains for surrounding households. While these opportunities will not resolve underlying structural unemployment challenges, they are likely to provide meaningful, albeit temporary, relief to unemployed and underemployed individuals in the region. In the operational phase, the project is expected to support a smaller number of permanent positions. Although these jobs will be fewer relative to the construction phase, they will offer more stable and sustained employment over the long term.

5.2.5.Household Income

The table below highlights the varying degrees of income inequality and economic vulnerability present in the region.

Table 10: Income Levels of Study Area, 2024

Category	Income Level	Richards Bay	City of uMhlathuze	KCDM
No Income	No Income	11.9%	15.2%	13.5%
Very Low Income	R1-R4 800	1.4%	4.4%	4.8%
	R4 801-R9 600	2.7%	8.0%	9.2%
	R9 601-R19 200	5.6%	13.7%	20.2%
Low Income	R19 201-R38 400	6.6%	15.5%	21.1%
	R38 401-R76 800	9.0%	11.9%	11.5%
	R76 801-R153 600	13.9%	11.1%	8.0%
Middle Income	R153 601-R307 200	20.9%	10.1%	6.0%
	R307 201-R614 400	18.8%	7.2%	4.1%
	R614 401-R1 228 800	7.0%	2.2%	1.2%
High Income	R1 228 801-R2 457 600	1.2%	0.5%	0.3%
	R2 457 601+	0.8%	0.3%	0.2%

Source: Quantec Standardised Regional Data, 2026

Richards Bay has a higher concentration of its population in the middle-income brackets indicating greater wealth and economic stability. In contrast, the City of uMhlathuze and King Cetshwayo DM show higher percentages in the lower-income brackets with the City of uMhlathuze having the highest percentage in the lowest income categories.

This suggests that while Richards Bay enjoys relative affluence, there is a need for economic upliftment and support in the broader municipality and district to address income inequalities. The income levels highlight a need for more ways for people to earn money and earn a satisfactory living monthly income. Considering this, the proposed development could play a meaningful role in boosting employment and, as a result, improving monthly incomes for people in these regions. The project has the potential to contribute to short-term economic upliftment, especially through construction-phase job opportunities. These conditions also highlight a broader need for targeted socio-economic interventions where the project could act as a catalyst for local economic development. Furthermore, communities with lower income levels may hold high expectations for job creation and economic relief, making it essential to manage these expectations through effective stakeholder engagement.

5.2.6.Access to Basic Services

Access to basic services such as water and energy is a key indicator of living standards and overall well-being in the study area. Understanding the provision and quality of these services helps to contextualise the socio-economic environment in which communities live and informs potential project impacts and opportunities for local development. The following table gives an indication of the access to basic services in the study area.

Table 11: Access to Basic Services in the Study Area, 2024

	Richards Bay	City of uMhlathuze	KCDM
WATER			
Inside dwelling	85.6%	54.2%	36.3%
Inside yard	9.1%	38.1%	38.5%

	Richards Bay	City of uMhlathuze	KCDM
Community stand	3.9%	7.2%	22.6%
None	1.4%	0.5%	2.6%
ENERGY			
Electricity	96.2%	99.2%	97.6%
Candles	3.0%	0.5%	1.8%
Gas	0.2%	0.1%	0.2%
Paraffin	0.1%	0.0%	0.1%
Solar	0.4%	0.0%	0.0%
None	0.2%	0.1%	0.2%

Source: Quantec Standardised Regional Data, 2026

The baseline service profile indicates that Richards Bay and the City of uMhlathuze are characterised by relatively strong *access* to core municipal services (notably water and electricity), reflecting the area's urbanised nature. However, access does not necessarily equate to reliable service performance. Available evidence suggests that infrastructure is under considerable strain, potentially due to inadequate maintenance and delayed upgrades, with recurring failures and periodic disruptions to water and electricity supply reported (eNCA, 2026; Independent Online, 2026).

Against this context, the proposed project's interaction with municipal systems becomes a key socio-economic consideration. The project will rely on municipal water handling during construction and operations, which means that the project's water requirements need to remain aligned with confirmed supply availability so that it does not contribute to localised supply stress or competition with other users during peak demand or drought conditions.

In relation to electricity, while the plant will feed into the national grid rather than creating a guaranteed, direct local supply benefit to the immediate area of influence, it can still be described as contributing indirectly to regional and local socio-economic resilience through improved overall system adequacy and reliability, which supports industrial performance and investment confidence in the Richards Bay industrial complex. However, the extent of this benefit will be influenced by the existing condition and performance of local grid infrastructure, as ongoing constraints related to maintenance, capacity and reliability may limit the degree to which improved system adequacy translates into consistent supply at the local level.

5.3. Economic Landscape

The fundamental activities that shape an economy involve the development, distribution and consumption of goods and services. The assessment of the value of goods and services produced within a specific region, industry, or sector is determined through the metric of gross value added (GVA). It is calculated as the difference between output and intermediate consumption. The table below highlights the municipal contributions to GVA.

Table 12: Municipal Contributions to the Provincial GVA, 2024

	Contribution to Provincial GVA	Contribution to District GVA
KCDM	8.5%	
City of uMhlathuze	6.0%	71.1%

Source: Quantec Standardised Regional Data, 2026

KCDM contributes 8.5% to the provincial GVA, with the City of uMhlathuze contributing 6.0%. Notably, the City of uMhlathuze accounts for 71.1% of the District GVA, highlighting its critical role in the KCDM's economy.

Table 13: Contribution to GVA By Sector, 2024

Sector	City of uMhlathuze	KCDM
Primary sector	11.0%	16.8%
Secondary sector	46.8%	40.5%
Tertiary sector	42.2%	42.7%

Source: Quantec Standardised Regional Data, 2026

While KZN's economy is predominantly driven by the tertiary sector, KCDM and City of uMhlathuze show a more balanced distribution across secondary and tertiary sectors. The table below shows the per industry contributions to GVA in the City of uMhlathuze and KCDM.

Table 14: Per industry GVA Contributions to the City of uMhlathuze and KCDM economies, 2024

Economic Industry	City of uMhlathuze	KCDM
Agriculture	4.2%	10.7%
Mining	6.8%	6.1%
Manufacturing	40.7%	34.4%
Electricity and water	2.6%	2.5%
Construction	3.5%	3.6%
Wholesale and retail trade	8.5%	8.3%
Transport services	11.4%	10.1%
Financial services	11.4%	10.9%
General government services	4.3%	5.2%
Community services	6.6%	8.1%

Source: Quantec Standardised Regional Data, 2026

The GVA contributions across economic sectors in the City of uMhlathuze and KCDM highlight the dominance of manufacturing, transport and financial services, with manufacturing contributing significantly at 40.7% and 34.4%, respectively, in these regions. Agriculture is more prominent in KCDM, contributing 10.7% compared to 4.2% in uMhlathuze, while sectors such as construction, wholesale and retail and electricity and water maintain comparable contributions across both areas.

The socio-economic context demonstrates that Richards Bay functions as a key economic hub within the region, playing a vital role in shaping broader socio-economic dynamics. Despite its strategic importance, challenges such as high youth unemployment and low household income levels persist within the district municipality. In this context, the proposed gas-to-power project holds the potential to contribute meaningfully by supporting skills development, improving employment prospects and enhancing household income, thereby addressing some of the prevailing socio-economic challenges.

6. STAKEHOLDER ENGAGEMENT

This section provides an overview of the stakeholder consultation process and a summary analysis thereof.

6.1. Engagement Approach

The stakeholder consultation process for the SEIA was guided by the principle of inclusive and meaningful participation, particularly among those anticipated to be directly or indirectly affected by the proposed 750 MW CCGP. The process was structured around three main objectives:

- To understand stakeholder perceptions, concerns and expectations regarding the proposed project;
- To inform the identification and assessment of socio-economic impacts; and
- To support the formulation of appropriate mitigation and enhancement measures.

The engagement process aimed to capture the socio-economic dynamics of the area, including concerns and perceived risks or opportunities associated with the project. The stakeholder input is integrated into the broader impact analysis to ensure that mitigation and enhancement strategies are responsive to local priorities.

6.1.1. Survey Administration

The stakeholder engagement process utilised a mixed-method approach, drawing on both an email-based survey distribution and targeted telephonic engagements with key stakeholders.

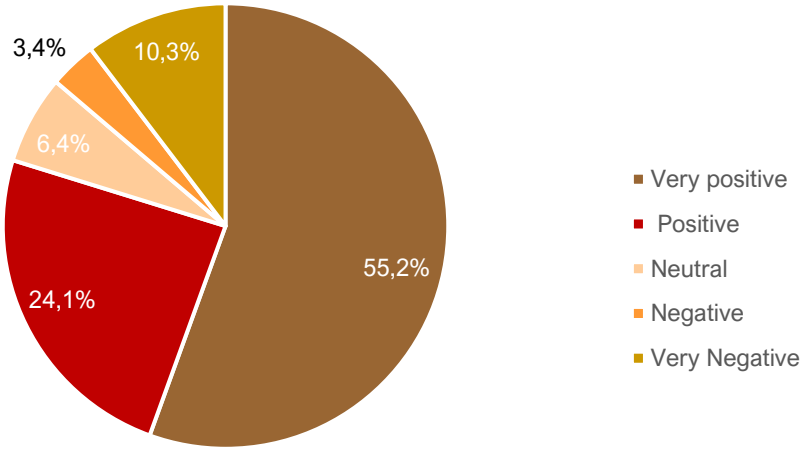
A stakeholder database provided by the project developer formed the basis of the primary survey distribution. From this database, completed survey responses were received with a response rate of 30.8%.

In parallel, a targeted telephonic engagement process was undertaken with 13 strategically identified stakeholders considered essential to the development process. These included representatives from local and provincial government structures, the RBIDZ, Eskom, public health stakeholders in the Richards Bay area and selected policy-influencing institutions. However, none of the targeted institutional stakeholders were available to complete the telephonic survey within the engagement period.

Accordingly, the results presented in this report are based on the responses obtained through the email survey process. The findings therefore represent the perspectives of stakeholders within the broader database at the time of the survey and provide relevant indicative evidence base for analysis within the SEIA process.

6.2. Summary of Stakeholder Insights

Figure 7. Respondents' perception of the project



Stakeholder responses indicate that overall perception is broadly favourable in view of the proposed project. A strong majority of respondents (79.3%) expressed a positive sentiment, with 55.2% describing their perception as very positive and a further 24.1% as positive. This reflects a high level of support for the project at its current stage. A smaller proportion of respondents (6.4%) indicated that they are neutral or unsure, suggesting that while they do not oppose the project, they may require additional information or assurance. However, 13.7% expressed a negative perception, with 3.4% reporting a negative view and 10.3% a very negative stance.

Perceived Opportunities

Stakeholders identified the following potential benefits associated with the project:

i. Energy Security and System Stability: A dominant theme across responses is the project's contribution to energy reliability and stability, both at a national level and within the KZN region. The development is seen as supporting industrial activity and reducing energy constraints.

ii. Economic Development and Investment: Respondents highlighted the role of the project in:
   - Attracting investment into the Richards Bay industrial hub
   - Supporting broader economic growth within the region
   - Enhancing the strategic positioning of the RBIDZ as a gas to power hub

iii. Employment Creation and Local Economic Participation: Job creation emerged as a key anticipated benefit, through direct and indirect opportunities linked to local procurement and service provision. Stakeholders emphasised the importance of local employment and enterprise development, particularly for youth and small businesses.

Development Priorities Identified

Stakeholders identified the following priorities to enhance project outcomes:

- Local employment, particularly for youth
- Skills development and training programmes

- Strengthened local procurement frameworks
- Strategic industrial clustering to unlock economic efficiencies
- Improved environmental management and monitoring

Perceived Concerns

Stakeholders raised the following concerns associated with the project:

i. Air Quality and Cumulative Pollution Impacts: The most prominent concern relates to air quality deterioration in an already heavily industrialised environment. Respondents noted that:
   - Richards Bay is currently subject to emissions from multiple industrial sources
   - Additional emissions from the proposed facility may exacerbate existing pollution levels
   - There is a risk of cumulative impacts affecting residential areas, particularly under specific wind conditions

ii. Proximity to Residential Areas: Concerns were raised regarding the location of the facility particularly that it is in an urban set up, with potential implications for:
   - Public health: There are concerns that continued exposure to industrial emissions, noise and general activity, particularly when considered cumulatively with existing sources, could increase the risk of respiratory conditions, stress-related health effects and overall health vulnerability, especially among sensitive groups such as children, the elderly and individuals with pre-existing conditions
   - Quality of life: Perceived and actual changes in environmental conditions, including noise, visual intrusion, traffic and air quality, may reduce residential amenity, leading to increased annoyance, reduced comfort and a diminished sense of well-being for nearby communities
   - Property values: The proximity of additional large-scale industrial infrastructure may influence market perceptions of the area, potentially reducing demand for residential properties, affecting property values and dampening future residential investment in adjacent areas

iii. Major Hazard Installation Risks: Given the nature of gas-to-power infrastructure, stakeholders expressed concern regarding:
   - Risks associated with gas leaks, explosions and emergency response capacity
   - The adequacy of local disaster management and fire response systems

iv. Marine and Environmental Risks: Some respondents highlighted potential risks to:
   - Harbour activities and livelihoods particularly in the event of gas leaks or operational failures.

v. Cumulative Industrial Development Pressure: Stakeholders noted that the area is already characterised by high industrial concentration, raising concerns about:
   - Overburdening of municipal infrastructure
   - Environmental degradation
   - Reduced resilience of local systems

vi. Inclusion of Local SMMEs: A recurring concern relates to the limited participation of local small businesses, with perceptions that:
   - Large firms tend to dominate procurement opportunities

- Local enterprises may not fully benefit without targeted interventions

Recommendations from Stakeholders

Stakeholders provided the following recommendations to maximise benefits and mitigate risks:

- Prioritise local labour and procurement with explicit targets where possible
- Implement skills development and training initiatives particularly in the gas-to-power value chain
- Ensure transparent and continuous stakeholder engagement throughout the project lifecycle
- Strengthen air quality monitoring and emissions control systems
- Consider alternative site configurations or buffers to reduce impacts on residential areas
- Enhance emergency response capacity, particularly in relation to Major Hazard Installation risks
- Actively support SMME development and inclusion in project-related opportunities

7. SOCIO ECONOMIC IMPACT ASSESSMENT

This section outlines the socio-economic impacts relating to the proposed development.

7.1. Impact Rating Methodology

Direct, indirect and cumulative impacts are assessed in this section. The impact rating methodology used for the socio-economic impact assessment is as described and explained below. The components of the impact rating methodology are:

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

Table 15. Extent of Impact

Extent	Score
Site	1
Local	2
Regional	3
National	4
International	5

- The **duration**, wherein it will be indicated whether:
  - the lifetime of the impact will be of very short duration (0–1 years) – assigned a score of 1
  - the lifetime of the impact will be of short duration (2-5 years) - assigned a score of 2
  - medium-term (5–15 years) – assigned a score of 3
  - long term (> 15 years) - assigned a score of 4 or
  - permanent - assigned a score of 5

Table 16. Duration of Impact

Duration	Description	Score
Very Short Duration	0–1 year	1
Short Duration	2–5 years	2
Medium Term	5–15 years	3
Long Term	> 15 years	4
Permanent	Permanent impact	5

The **magnitude**, quantified on a scale from 0-10, where a score is assigned:

- 0 is small and will not affect the environment
- 2 is minor and will not result in an impact on processes
- 4 is low and will cause a slight impact on processes
- 6 is moderate and will result in processes continuing but in a modified way
- 8 is high (processes are altered to the extent that they temporarily cease)
- 10 is very high and results in destruction of patterns and permanent cessation of processes

Table 17. Magnitude of Impact

Magnitude	Description	Score
0	Small (No effect on the environment)	0
2	Minor (No impact on processes)	2
4	Low (Slight impact on processes)	4
6	Moderate (Processes continue but in a modified way)	6
8	High (Processes are altered to the extent that they temporarily cease)	8
10	Very High (Destruction of patterns, permanent cessation)	10

» The **probability** *of occurrence*, which shall describe the likelihood of the impact occurring. The probability will be estimated on a scale of 1–5, where 1 is very improbable (probably will not happen), 2 is improbable (some possibility, but low likelihood), 3 is probable (a distinct possibility), 4 is highly probable (most likely) and 5 is definite (impact will occur regardless of any prevention measures).

Table 18. Probability of Occurrence

Probability	Description	Score
Very Improbable	Probably not happen	1
Improbable	Some possibility, but low likelihood	2
Probable	Distinct possibility	3
Highly Probable	Most likely	4
Definite	Will occur regardless of prevention measures	5

» the **significance**, which shall be determined through a synthesis of the characteristics described above and can be assessed as low, medium or high.

Table 19. Significance of Impact

Significance Level	Description
Low	Low significance
Medium	Medium significance
High	High significance

» the **status**, which will be described as either positive, negative or neutral.

Table 20. Status of Impact

Status	Description
Positive	The impact results in an improvement in environmental, social, or economic conditions. It benefits either the ecosystem, human health, or the socio-economic landscape. Positive impacts are often desirable outcomes of development projects or policies.
Negative	The impact results in a degradation of environmental, social, or economic conditions. It harms ecosystems, human health and socio-economic well-being. These impacts are often unwanted and require mitigation to reduce their severity.
Neutral	The impact results in no significant change to environmental, social, or economic conditions. It neither improves nor worsens the current state, implying that the project or action has minimal or no noticeable effects.

» Additional Considerations

Additional considerations will made on the degree to which the impact can be reversed, the degree to which the impact may cause irreplaceable loss of resources and the *degree* to which the impact can be *mitigated.*

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

S=(E+D+M) P

Where:

S = Significance weighting
E = Extent
D = Duration
M = Magnitude
P = Probability

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

» < 30 points: Low (i.e. where this impact would not have a direct influence on the acceptability of the development footprint, or the decision process to develop in the area).
» 30-60 points: Medium (i.e. where the impact could influence the acceptability of the development footprint, or the decision process to develop in the area unless it is effectively mitigated),
» > 60-90 points: High (i.e. where the impact must have an influence on the acceptability of the development footprint, or the decision process to develop in the area).
» > 90 points: Very High (i.e. where the impact must have an influence on the acceptability of the development footprint, or the decision process to develop in the area and may constitute a fatal flaw where motivated by a specialist consultant).

Practicable mitigation and optimisation measures are recommended and impacts are rated in the prescribed way both without and with the assumed effective implementation of mitigation and optimisation measures. Mitigation and optimisation measures are either:

- **Essential**: measures that must be implemented and are non-negotiable; and
- **Best Practice:** recommended to comply with best practice, with adoption dependent on the proponent's risk profile and commitment to adhere to best practice, which must be shown to have been considered and sound reasons provided by the proponent if not implemented.

7.2. Economic Modelling Methodology

Economic issues and potential impacts are assessed using a recognised qualitative impact assessment methodology namely a Social Accounting Matrix (SAM).

It is important to understand that most new investments can take two different forms. There is an initial capital expenditure (CAPEX) which typically includes the construction of a new building on vacant land, the modification of an existing structure, or the purchase of a new capital asset; and there is an annual operating expenditure (OPEX) made to maintain/ operate the investment.

The model uses the CAPEX for the proposed 750MW CCPP installation and OPEX associated with the operation of the plant to model the economic impact of the development. Operational economic impacts, unlike capital expenditure economic impacts are sustainable as they occur on a periodic basis

and thus are calculated as an annual impact based OPEX for a given year. It is important to note that economic modelling focuses on expenditures within South Africa, excluding any costs related to imported materials or equipment, as the economic benefits from these imports will accrue to the exporting countries.

To quantify the effects of the most likely economic impacts of the proposed Project, three types of economic impact can be measured, viz. direct, indirect and induced (multiplicative) impacts. The SAM model thus provides a comprehensive view of how the project influences the broader economy over time.

Direct impacts relate to the initial investment and employment generated by the project itself. The direct impacts are the changes in the economy occurring as a direct result or consequence of public or private sector CAPEX, in this case relating to the proposed 750MW CCPP construction. This impact would be felt by first-round contractors (first-round suppliers) for the proposed Project.

The multiplicative effects can be grouped into two distinct categories, indirect and induced

Indirect impacts refer to the economic activity generated through the project's supply chain. This includes spending on materials, construction services, engineering support, transport, security, environmental services and other specialised inputs required for plant installation. When suppliers respond to this demand, they may experience short-term expansion in activity, resulting in new business turnover, temporary employment opportunities and increases in household and company income. Although the overall scale of these indirect impacts is modest relative to major energy infrastructure projects, they remain meaningful for local contractors and service providers in the study area.

Induced impacts arise from increased household spending by workers involved directly or indirectly in the project. Wages earned during construction circulate back into the local economy through purchases such as food, transport, accommodation and retail goods. This spending creates a secondary wave of economic stimulation across a range of local sectors. Given the relatively short construction period and limited operational workforce, induced impacts are expected to be moderate but still contribute positively at community and municipal levels.

Four different impacts can be measured in this analysis, as described below:

Production Effect (business output), which indicates the number of additional sales or transactions which occur directly because of the assessed factor. This includes new sales by businesses, new sales by linked businesses as a result, new sales by businesses linked to these and all new business sales continually as a result.

Gross Domestic Product (GDP)[3] Effect, which provides a measure of the total, sectoral economic activity happening on an annual basis within a particular area. It reflects the market value in Rands of all final goods and services produced and sold within the economy.

Employment Effect, which measures the number of full-time equivalent employment (FTE) opportunities[4] created from the impacting factor. Where this is calculated through the SAM model, it is based on a typical average number of jobs created in each sector, as a result of every Rand spent in the applicable sectors. These could be casual, part-time, temporary or permanent opportunities, although, for CAPEX, the jobs created tend to represent short-term employment opportunities only available during the construction phase, whereas, for OPEX, the jobs created tend to present more long-term employment opportunities as these reflect ongoing operations.

Employment impacts are calculated in terms of full-time equivalent (FTE) employment positions, which is the same as an FTE job or one man-year of work. This does not directly translate into the headcount of people employed or in new job opportunities. Generally, one FTE man-year is equal to one person working for 40 hours per week for about 50 weeks per year; however, it could vary depending on the industry. An FTE man-year means that if one person worked only 20 hours per week for 50 weeks in a year, its FTE equivalent would be 0.5; if two people worked for 20 hours per week for 50 weeks in a year, the combined workload would be estimated as one FTE man-year or one FTE job. In the short term, an increase in FTE employment positions could be absorbed by the existing workforce, either by working overtime or if the labour resources are underutilised in the industry.

Income[5] Effect, which tabulates the total income increase because of the CAPEX and OPEX on the businesses and households that receive either employment opportunities or who benefit from the increased business sales stimulation. Direct income is the total income generated because of expenditure in the supplying businesses and indirect income reflects secondary income generated by the secondary expenditure of households and businesses has benefited from the proposed development's CAPEX and OPEX.

7.2.1.Inputs into the SAM Model

The construction phase will require a CAPEX estimated at approximately R12.45 billion. The operational phase costs are estimated at R670 million per annum. This is shown in table below.

Table 21: Project Costs[6]

CAPEX	R12.45 billion
OPEX per annum	R 670 million

Source: Mabasa Energy and Fuels, 2026

3 GVA is a measurement of GDP, with the relationship defined as follows: GDP = GVA + Taxes – Subsidies. Because the total aggregates of taxes and subsidies on products are only available at the scale of the whole economy, GVA is used to measure Gross Regional Domestic Product. GVA is the difference between output and intermediate consumption for any given sector/ industry.

4 This means, for example, one full-time job for one person for 10 years or 10 full-time jobs for 10 people for one year.

5 Aggregate personal income rises as pay levels rise and/or additional workers are hired. Either or both conditions can occur due to business revenue growth. If nearly all of the affected workers live in the Study Area and subregion, this is a reasonable measure of a project or programme's personal income benefit.

6 Values calculated from US Dollar to South African rand using March 2026 exchange rates

These investment figures are applied within SAM modelling framework to estimate the wider economic spin-offs, with assumptions and methodology outlined in Subsection 7.2.

7.2.2.Economic Modelling Results

7.2.2.1. *Economic Impacts of CAPEX*

The table below presents the estimated economic impact of CAPEX capturing the direct, indirect and induced effects on production, GDP, employment and household income.

Table 22: CAPEX impact results

CAPEX impact on:	Direct	Indirect	Induced	Total
Production *(R millions)*	R12 450.00	R 14 190.68	R 6 671.90	R 33 312.57
GDP *(R millions)*	R 2 784.66	R 4 933.56	R 2 549.42	R 10 267.65
Employment *(Number)*	300[7]	24 301	9 510	34 111
Income *(R millions)*	R 1 622.33	R 2 205.81	R 1 020.83	R 4 848.97

Source: Urban-Econ Modelling, 2026; Mabasa Energy and Fuels, 2026

The following table shows the expected skills distribution of employment created during the construction of the proposed plant based on the SAM modelling.

Table 23: Skills Distribution of jobs created by the proposed project's construction

	Construction Phase Distribution
Skilled	40.1%
Semi-skilled	45.0%
Unskilled	14.9%

Source: Urban-Econ Modelling, 2026

7.2.2.2. *Economic Impacts of OPEX*

The table below presents the estimated annual economic impact of OPEX capturing the direct, indirect and induced effects on production, GDP, employment and household income.

Table 24: OPEX impact results (per annum)

OPEX impact on:	Direct	Indirect	Induced	Total
Production *(R millions)*	R 670.00	R 396.31	R 353.23	R 1 419.54
GDP *(R millions)*	R 331.79	R 146.55	R 135.27	R 613.61
Employment *(Number)*	50[8]	595	501	1 332
Income *(R millions)*	R 120.50	R 62.72	R 54.15	R 237.37

Source: Urban-Econ Modelling, 2026; Mabasa Energy and Fuels, 2026

The following table shows the expected skills distribution of employment created during the operation of the proposed plant based on the SAM modelling.

Table 25. Skills Distribution of jobs created by the proposed project

	Operation Phase Distribution
Skilled	54.2%
Semi-skilled	37.9%

[7] Direct employment figures provided by the developer

[8] Direct employment figures provided by the developer

	Operation Phase Distribution
Unskilled	7.9%

Source: Urban-Econ Modelling, 2026

7.3. Impact Assessment

7.3.1.Construction Phase

The following impacts have been identified as likely to arise during the construction phase of the proposed CCPP and are discussed and assessed below.

7.3.1.1. *Temporary increase in Production*

Nature: **Temporary increase in Production**

Impact Description: The initial capital investment in the Project will inject new business sales (production) into the economy, with multiplier effects benefitting related sectors. Based on the SAM modelling, approximately R33.3 billion in total production output across the economy is expected to be generated by the CAPEX. This total impact comprises the direct production generated by contractors and suppliers working on the Project, as well as the indirect and induced impacts that arise along the supply chain and through additional household spending, together forming the overall multiplier effect.

The spatial distribution of this impact will depend on where goods and services are procured. While some sectors in and around Richards Bay may benefit directly, the bulk of higher-value manufacturing and engineering activity is expected to be captured by established national supply chains rather than being confined to the immediate municipal area. Most of the production output will likely accrue to those parts of the South African economy with the industrial and service capacity to support large-scale power infrastructure for example, major metros and industrial hubs such as Gauteng and eThekwini, alongside activity in Richards Bay and the City of uMhlathuze linked to on-site construction, logistics and support services.

To maximise local benefits and deepen the positive production impact at regional and local level, it will be important to prioritise local procurement with a deliberate focus on contracting small and emerging businesses in and around the host area wherever this is technically and commercially feasible.

	Rating	Motivation	Significance (S=(E+D+M) P
Before Mitigation/Enhancement			
Duration	Short-term (2)	This impact is confined to the 3-year construction period therefore it is short term in nature.	**Medium Positive (40)**
Extent	National (4)	Most of the production output will likely accrue to those parts of the South African economy with the industrial and service capacity to support large-scale power infrastructure developments such as the major metros and industrial hubs like Gauteng and eThekwini.	
Magnitude	Minor (2)	The impact magnitude within the AOI will therefore be limited by the spatial distribution of the impact.	

Nature: **Temporary increase in Production**			
Probability	Definite (5)	The impact is considered definite because it arises directly from the project's capital expenditure. The resulting production effect is therefore expected to occur with certainty, provided the project proceeds.	
Mitigation/Enhancement Measures			
Enhancement measures: » Prioritise local procurement for direct construction activities as well as for support services where feasible. » Where feasible, encourage main contractors to sub-contract to local businesses for construction goods and services required.			
Post Mitigation/Enhancement Measures			
Duration	Short-term (2)	Unchanged as the enhancement measures do not influence this aspect of the impact.	**Medium Positive (50)**
Extent	National (4)	The extent remains national because the project will rely heavily on specialised inputs, technical services and supply chains that extend beyond the AOI.	
Magnitude	Low (4)	Magnitude rises to a limited extent as proposed enhancement measures increase the likelihood that a greater share of project-related expenditure will circulate within the AOI thus can improve local capture of construction-related production benefits.	
Probability	Definite (5)	Unchanged as the enhancement measures do not influence this aspect of the impact.	

7.3.1.2. *Temporary increase in GDP*

Nature: **Temporary increase in GDP**
Impact Description: During the construction phase, the capital investment is expected to generate a temporary increase in GDP (value added) within the economy. The stimulus will be driven by heightened demand for goods and services in sectors such as construction, materials supply, logistics, accommodation, catering and other services. The SAM modelling results indicate that the capital expenditure is projected to result in a total GDP impact of approximately R10.27 billion across the South African economy. This total impact comprises the direct value added created by contractors and suppliers working on the Project, as well as the indirect and induced impacts that arise along the supply chain and through additional household spending, together forming the GDP multiplier effect. As with production, local firms in Richards Bay and the City of uMhlathuze will benefit from construction, logistics and service contracts but it is likely that a portion of the GDP impact will accrue to national industrial and service hubs (e.g. Gauteng, eThekwini and other major metros) where large engineering contractors, fabricators and professional service firms are based. The Project thus provides a positive but distributed GDP stimulus, with benefits felt at national, provincial and municipal levels rather than being confined solely to the immediate AOI.

Nature: **Temporary increase in GDP**			
To maximise the retention of GDP benefits in the host region, it will be important to prioritise local procurement and contracting with a deliberate focus on small and emerging businesses that are based in or near the AOI where technically and commercially feasible.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P**
Before Mitigation/Enhancement			
Duration	Short-term (2)	This impact is confined to the 3-year construction period therefore it is short term in nature.	**Medium Positive (40)**
Extent	National (4)	Most of the GDP output will likely accrue to those parts of the South African economy with the industrial and service capacity to support large-scale power infrastructure developments such as the major metros and industrial hubs like Gauteng and eThekwini.	
Magnitude	Minor (2)	The impact magnitude within the AOI will be limited by the spatial distribution of the impact.	
Probability	Definite (5)	The impact is considered definite because it arises directly from the project's capital expenditure. The resulting GDP effect is therefore expected to occur with certainty, provided the project proceeds.	
Mitigation/Enhancement Measures			
Enhancement measures: » Prioritise local procurement for direct construction activities as well as for support services where feasible.			
Post Mitigation/Enhancement Measures			
Duration	Short-term (2)	Unchanged as the enhancement measures do not influence this aspect of the impact.	**Medium Positive (40)**
Extent	National (4)	The extent remains national because the project will rely heavily on specialised inputs, technical services and supply chains that extend beyond the AOI.	
Magnitude	Minor (2)	Unchanged as, while the proposed enhancements may improve local participation to some extent, they are not expected to materially alter the magnitude of the GDP impact.	
Probability	Definite (5)	Unchanged as the enhancement measures do not influence this aspect of the impact.	

7.3.1.3. *Temporary Employment Creation*

Nature: **Temporary Employment Creation**
Impact Description: The construction phase of the proposed CCPP will generate temporary employment over an estimated three-year construction period. Based on information provided by the developer, approximately 300 direct jobs will be created on-site comprising construction workers, technical personnel and subcontractors under the supervision of MJB International. (Mabasa Energy and Fuels, 2026). Due to the technical nature of the proposed project, the employment profile will be skewed toward skilled (40.1%) and semi-skilled (45.0%) labour with a smaller share of low-skilled opportunities (14.9%).

Nature: **Temporary Employment Creation**			
In addition to direct employment, the project is expected to support indirect and induced employment across the broader economy. These employment effects arise through supply chain linkages and increased household spending associated with construction activities. While a portion of specialised roles may be filled by workers sourced beyond the immediate area, the extent of local participation will depend on recruitment practices and the availability of required skills. Notwithstanding this, opportunities for local employment and income generation are expected, particularly in semi-skilled and support roles, where local labour is more likely to be competitively positioned since according to the socio-economic profile most of the residents are low-semiskilled. The impact is positive and significant in scale but inherently temporary with employment levels ceasing upon completion of construction.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P**
Before Mitigation/Enhancement			
Duration	Short-term (2)	This impact is confined to the 3-year construction period therefore it is short term in nature.	**Medium Positive (60)**
Extent	National (4)	Employment opportunities likely to extend to those parts of the South African economy with the skills capacity to support large-scale power infrastructure developments such as the major metros and industrial hubs like Gauteng and eThekwini.	
Magnitude	Moderate (6)	While these opportunities will not resolve underlying structural unemployment challenges, they are expected to provide meaningful, albeit temporary, relief to unemployed and underemployed individuals in the region.	
Probability	Definite (5)	The impact is considered definite because the construction of the plant infrastructure will necessarily require labour inputs.	
Mitigation/Enhancement Measures			
Enhancement measures: » Prioritise local hiring as far as possible especially from nearby settlements within Richards Bay and in high-density settlements such as Empangeni and surrounding township areas. » Encourage use of local subcontractors and suppliers where feasible to improve indirect and induced employment.			
Post Mitigation/Enhancement Measures			
Duration	Short-term (2)	Unchanged as the enhancement measures do not influence this aspect of the impact.	**Medium Positive (60)**
Extent	National (4)	The extent remains national because the project will rely heavily on specialised skills and technical services that extend beyond the AOI.	
Magnitude	Moderate (6)	Unchanged as the enhancement measures improve local capture of employment benefits but not enough to materially shift labour market conditions at a wider local economy scale, especially against a high-unemployment baseline.	

Nature: **Temporary Employment Creation**			
Probability	Definite (5)	Unchanged as the enhancement measures do not influence this aspect of the impact	

7.3.1.4. *Temporary increase in Household Income*

Nature: Temporary increase in Household Income			
Impact Description: The capital investment is expected to generate a temporary increase in household income. This impact arises from increased wages and salaries paid to workers directly employed on the Project, as well as additional income generated indirectly through firms in the supply chain and induced effects as households spend part of their additional income in the local economy. The short-term increase in household income will therefore not only support immediate consumption needs but also generate wider multiplier effects as income accrues to households and circulates through local businesses and service providers. The SAM modelling results indicate that the domestic capital expenditure associated with the Project is projected to result in a total household income impact of approximately R4.4 billion across the South African economy. The spatial distribution of these gains will reflect the origin of contractors and workers. Prioritisation of local recruitment will ensure that households in Richards Bay and the City of uMhlathuze (where a substantial share of residents are middle to low-income earners) can benefit from temporary employment and income opportunities during the construction period.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P**
Before Mitigation/Enhancement			**Medium Positive (60)**
Duration	Short-term (2)	This impact is confined to the 3-year construction period therefore it is short term in nature.	
Extent	National (4)	Since the procurement and employment effects will extend across local, regional and national economies the household income impact will mirror it as this production and employment is renumerated.	
Magnitude	Moderate (6)	While this improvement will not resolve underlying structural poverty and household income challenges, they are expected to provide meaningful, albeit temporary, relief to households in the region.	
Probability	Definite (5)	The impact is considered definite because it arises directly from the project's capital expenditure. The resulting income effect is therefore expected to occur with certainty, provided the project proceeds.	
Mitigation/Enhancement Measures			
Enhancement measures: » Where feasible, prioritise local recruitment from communities in and around the City of uMhlathuze for suitable construction and support roles, to ensure a larger share of income accrues to local households.			
Post Mitigation/Enhancement Measures			

Nature: Temporary increase in Household Income			
Duration	Short-term (2)	Unchanged as the enhancement measures do not influence this aspect of the impact.	**Medium Positive (60)**
Extent	National (4)	The extent remains national because the procurement and employment effects will extend beyond the AOI.	
Magnitude	Moderate (6)	Unchanged as the enhancement measures improve local capture of employment benefits but not enough to materially shift household income conditions at a wider local economy scale, especially against a low-income baseline.	
Probability	Definite (5)	Unchanged as the enhancement measures do not influence this aspect of the impact.	

7.3.1.5. *Temporary increase in Tax Income*

Nature: Temporary increase in Tax Income			
Impact Description: During the construction phase of the CCPP, tax revenues will be generated through several channels. The most immediate impact will be from value-added tax (VAT) on construction materials, equipment and services purchased for the development. Additionally, corporate income tax will be levied on the profits of construction firms and subcontractors involved in the project. Income tax will also be collected from the wages paid to the local labour force, contributing to the overall tax revenue. These tax benefits will be time-bound and associated primarily with the period of active construction.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P)**
Before Mitigation/Enhancement			**Low positive (40)**
Duration	Short-term (2)	This impact is confined to the 3-year construction period therefore it is short term in nature.	
Extent	National (4)	The impact is rated at national scale as the tax benefits associated with CAPEX will accrue to the national fiscus rather than being confined to the local or regional economy.	
Magnitude	Minor (2)	The tax revenue generated through project CAPEX will contribute positively to the national fiscus, but the scale of this contribution is expected to be limited relative to total national tax revenues.	
Probability	Definite (5)	The impact is considered definite because it arises directly from the project's capital expenditure. The resulting tax effect is therefore expected to occur with certainty, provided the project proceeds.	
Mitigation/Enhancement Measures			
Enhancement measures:			

» Where feasible, prioritise local recruitment and procurement to reduce tax leakages out of the local economy.			
Post Mitigation/Enhancement Measures			
Duration	Short-term (2)	Unchanged as the enhancement measures do not influence this aspect of the impact.	**Medium Positive (40)**
Extent	National (4)	The extent remains national because the project expenditure will extend beyond the AOI.	
Magnitude	Minor (2)	Unchanged as enhancement measures not expected to increase the taxable expenditure associated with the project.	
Probability	Definite (5)	Unchanged as the enhancement measures do not influence this aspect of the impact.	

7.3.1.6. *Temporary increase in noise, visual disruption and dust associated with construction activities*

Nature: **Temporary increase in noise, visual disruption and dust associated with construction activities**

Impact Description: During the construction phase of the CCPP, there is expected to be an increase in noise, visual disruption and dust associated with construction activities. Dust generation from site preparation, excavation and the movement of materials can also temporarily reduce air quality in the immediate vicinity, affecting nearby land uses and potentially causing health impacts such as respiratory issues. These air quality concerns are further exacerbated by the wind-carrying dust beyond the construction site. Although the site's existing industrial context reduces the potential for severe visual disruptions there may experience a diminished visual experience as the industrial activities increase during this phase due to the presence of construction machinery, materials and temporary structures.

However, these impacts are not expected to be significant due to the industrialised nature of the RBIDZ. This assessment is supported by the findings of the Atmospheric Impact Report undertaken by uMoya-NILU Consulting which states that, the increase in level of air pollution, noise pollution and negative visuals from the proposed development during construction are not expected to be major since the site is in a well-developed industrial area. Furthermore, the findings and recommendations of the Visual Impact Assessment undertaken by Scientific Aquatic Services (SAS) also confirm that the visual impact will be low. The assessment is also supported by the Noise Study for Environmental Impact Assessment conducted by Enviro-Acoustic Research (2026) which states that there is low noise impact in the construction phase.

	Rating	**Motivation**	**Significance (S=(E+D+M) P)**
Before Mitigation/Enhancement			
Duration	Short-term (2)	This impact is confined to the 3-year construction period therefore it is short term in nature.	**Low Negative (24)**
Extent	Local (2)	Only areas close to the site will be impacted.	
Magnitude	Low (4)	The increase in level of air pollution, noise pollution and negative visuals from the proposed development are not expected to	

Nature: **Temporary increase in noise, visual disruption and dust associated with construction activities**			
		be major since the site is in a well-developed industrial area.	
Probability	Probable (3)	There is a distinct likelihood that the impact could occur without mitigation.	
Mitigation Measures: » Apply dust suppression measures in active work areas especially during dry and windy conditions. » Apply Implement visual screening (e.g. hoarding, fencing, or temporary barriers) around active construction areas » Optimise site layout and material storage to reduce visual clutter » Maintain good housekeeping practices to minimise debris and disorder » Limit height and prominence of temporary structures where feasible » Use neutral colours for temporary infrastructure where practical			
Post Mitigation/Enhancement Measures			
Duration	Short-term (2)	Unchanged as the mitigation measures do not influence this aspect of the impact.	**Low Negative (18)**
Extent	Local (2)	Unchanged as the mitigation measures do not influence this aspect of the impact	
Magnitude	Minor (2)	Following mitigation, the significance is rated as low because the recommended measures are expected to substantially reduce the significance of the impact.	
Probability	Probable (3)	Unchanged as the mitigation measures do not influence this aspect of the impact.	

7.3.1.7. *Short-term Traffic Congestion and associated disturbances*

Nature: **Short-term Traffic Congestion and associated disturbances**
Impact Description: During the construction phase, the proposed development is expected to result in temporary increases in traffic volumes within the area of influence. Construction activities will generate an increase in vehicle movements, particularly heavy-duty trucks transporting materials and equipment to and from the site. This may place additional pressure on existing road infrastructure and contribute to short-term traffic congestion. Although the project is located within an established industrial zone that already experiences a relatively high volume of heavy vehicles, construction-related transport and associated activities (including road works, excavations, trenching and ancillary construction operations) are likely to generate periods of localised congestion and delays. These effects may result in short-term disruptions to traffic flow, restricted access and general inconvenience for businesses and road users in the vicinity along key construction routes. Given the short-term and temporary nature of the construction phase, traffic conditions are expected to return to normal once construction is complete and construction traffic ceases. The Updated Traffic Impact Assessment for Richards Bay Industrial Development Zone Phase 1F (2024), shows that some intersections exhibit high congestion levels during peak hours and others maintain acceptable traffic levels indicating sufficient capacity for current traffic volumes. Traffic congestion can also be reduced to an acceptable level through the implementation of appropriate traffic management measures, route planning and scheduling of heavy vehicle movements.

Nature: **Short-term Traffic Congestion and associated disturbances**			
	Rating	**Motivation**	**Significance (S=(E+D+M) P)**
Before Mitigation/Enhancement			
Duration	Short-term (2)	This impact is confined to the 3-year construction period therefore it is short term in nature.	**Medium Negative (40)**
Extent	Local (2)	Effects are confined to roads and access points in the immediate vicinity of the site.	
Magnitude	Moderate (6)	The impact is considered moderate as increased heavy vehicle movements may place additional pressure on roads in the Richards Bay area, where freight and industrial traffic already contribute to congestion and infrastructure strain.	
Probability	Highly Probable (4)	Highly probable as construction activities will require regular transport of materials and equipment. High probability of negative traffic impact from increased traffic volumes.	
Mitigation Measures: » Implement temporary traffic control measures where required at site access points and areas of excavation or trenching. » Maintain ongoing communication with affected businesses and stakeholders, providing advance notice of any road works, noise, lane closures or abnormal load movements.			
Post Mitigation/Enhancement Measures			
Duration	Short-term (2)	Unchanged as the mitigation measures do not influence this aspect of the impact.	**Medium Negative (32)**
Extent	Local (2)	Unchanged as the mitigation measures do not influence this aspect of the impact.	
Magnitude	Low (4)	Effective traffic management measures may reduce congestion and improve flow efficiency.	
Probability	Highly Probable (4)	Unchanged as the mitigation measures do not influence this aspect of the impact.	

7.3.1.8. *Short-term influx of work seekers due to construction activities*

Nature: **Short-term influx of work seekers due to construction activities**
Impact Description: Large-scale developments such as the proposed project are typically associated with expanded employment opportunities, which can, in turn, influence local demographic dynamics. In the case of the proposed development, a degree of in-migration of work seekers to the project area is anticipated, including individuals originating from outside the host municipality. These individuals are likely to be attracted by the prospect of temporary construction employment as well as ancillary informal economic activities, such as informal trading in proximity to the site and along key transport routes. If not appropriately managed, even a moderate influx of job seekers may give rise to a range of secondary socio-economic impacts. These may include increased competition for a limited number of employment opportunities, potential dissatisfaction or unrest where recruitment processes are

***Nature:* Short-term influx of work seekers due to construction activities**			
perceived to lack transparency or fairness and an elevated risk of opportunistic crime, petty theft and conflict associated with informal trading activities. In addition, a transient or semi-permanent population increase may exert pressure on existing local services and infrastructure, including public transport systems, healthcare facilities and waste management services. There may also be associated public health considerations, such as an increased risk of communicable diseases, as well as alcohol- and substance-related incidents. Overall, while the proposed development may result in some short-term demographic and social pressures, these effects are expected to be moderate and manageable and broadly commensurate with the scale and duration of construction-related employment opportunities. The increase in population numbers must be mitigated to avoid a situation where there is added pressure on limited resources.			
	Rating	**Motivation**	**Significance (S=(E+D+M)P**
Before Mitigation/Enhancement			
Duration	Short-term (2)	This impact is confined to the 3-year construction period therefore it is short term in nature.	**Low Negative (24)**
Extent	Local (2)	Effects are concentrated within the project area and surrounding communities, including nearby settlements and service nodes.	
Magnitude	Low (4)	The anticipated influx is expected to be low relative to project scale but may still create localised social and service pressures if unmanaged.	
Probability	Probable (3)	Large construction projects typically attract work seekers making some level of in-migration likely.	
Mitigation/Enhancement Measures			
Mitigation measures: » Prioritise local recruitment where feasible to limit unnecessary in-migration » Engage regularly with local communities and stakeholders to communicate employment opportunities and requirements » Enforce access control at the site to discourage unauthorised job-seeking presence » Implement a transparent and well-communicated recruitment process to manage expectations and reduce perceptions of unfairness			
Post Mitigation/Enhancement Measures			
Duration	Short-term (2)	Unchanged as the mitigation measures do not influence this aspect of the impact.	**Low Negative (18)**
Extent	Local (2)	Unchanged as the mitigation measures do not influence this aspect of the impact.	
Magnitude	Minor (2)	The anticipated influx after mitigations is expected to be minor if effectively managed.	
Probability	Probable (3)	Unchanged as the mitigation measures do not influence this aspect of the impact.	

7.3.2.Operational Phase

The following impacts have been identified as likely to arise during the operational phase of the proposed CCPP and are discussed and assessed below.

7.3.2.1. *Sustained increase in Production*

***Nature:* Sustained increase in Production**			
Impact Description: During the operational phase, the proposed development will generate a sustained increase in economic production over an estimated 25-year lifespan. Ongoing expenditure on operations and maintenance (O&M) will support continuous business activity, resulting in increased output (production) within the South African economy. Based on the SAM modelling, total production impacts of approximately R1.42 billion per annum are anticipated, reflecting direct output from firms contracted to operate and maintain the facility, as well as indirect and induced effects across the supply chain. While the City of uMhlathuze and the Richards Bay area will benefit from on-site operations and local service provision, a significant share of specialised maintenance, engineering and professional services is likely to be sourced from established industrial and service hubs elsewhere in the country. As such, the production benefits will extend beyond the immediate locality to the broader national economy. It is also important to note that LNG fuel inputs are expected to be fully imported and are therefore treated as economic leakage, limiting the extent of domestic production gains. Nevertheless, the operational-phase impact is positive and recurring over the long term, contributing to sustained economic activity, supply chain linkages and overall economic output throughout the plant's lifespan.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P**
Before Mitigation/Enhancement			
Duration	Long-term (4)	Impact persists over the full operational life of the plant (±25 years), reflecting continuous O&M expenditure.	**Medium Positive (50)**
Extent	National (4)	Benefits will likely be distributed across national supply chains, including regional and major industrial hubs where specialised services are located. As such, the production benefits will extend beyond the immediate locality to the broader national economy.	
Magnitude	Minor (2)	Although production is sustained, the domestic impact is moderated by reliance on imported LNG.	
Probability	Definite (5)	The impact is considered definite because it arises directly from the project's operational expenditure. The resulting production effect is therefore expected to occur with certainty over the plant's lifespan.	
Mitigation/Enhancement Measures			
Enhancement Measures: » Maximise local procurement for O&M where feasible to strengthen regional production linkages » Support development of local supplier capacity to capture a greater share of O&M expenditure			

***Nature:* Sustained increase in Production**			
Post Mitigation/Enhancement Measures			
Duration	Long-term (4)	Unchanged as the enhancement measures do not influence this aspect of the impact.	**Medium Positive (50)**
Extent	National (4)	The extent remains national because the project will rely heavily on specialised inputs, technical services and supply chains that extend beyond the AOI.	
Magnitude	Minor (2)	Unchanged as a substantial portion of operational expenditure is expected to be associated with LNG imports, meaning that much of the expenditure will not circulate meaningfully within the local or domestic economy.	
Probability	Definite (5)	Unchanged as the enhancement measures do not influence this aspect of the impact.	

7.3.2.2. *Sustained increase in GDP*

***Nature:* Sustained increase in GDP**			
Impact Description: During the operational phase, the proposed development will generate a sustained increase in GDP over its estimated 25-year lifespan. Ongoing O&M expenditure will support continuous economic activity with SAM modelling indicating a total GDP impact of approximately R613.61 million per annum. This includes direct value added from firms operating and maintaining the facility, as well as indirect and induced effects across the supply chain and through household spending. While a portion of these benefits will accrue locally within the City of uMhlathuze, a significant share will flow to regional and national economic centres where specialised engineering, technical and professional services are based. The extent of local benefit can be enhanced through targeted localisation of O&M activities, supplier development and skills programmes, particularly where these support the inclusion of small and emerging enterprises within the area of influence.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P**
Before Mitigation/Enhancement			
Duration	Long-term (4)	Impact persists over the full operational life of the plant (±25 years), reflecting a sustained increase in GDP.	**Medium Positive (50)**
Extent	National (4)	Although a portion of benefits will accrue locally within the City of uMhlathuze, most of the GDP effects will extend to regional and national economic centres through procurement of specialised engineering, technical and professional services.	
Magnitude	Minor (2)	While the absolute GDP contribution is material in project terms, it remains small relative to the overall size of the local, provincial and national economies, indicating a minor macroeconomic effect.	
Probability	Definite (5)	The impact is considered definite because it arises directly from the project's operational expenditure. The resulting GDP effect is therefore expected to occur with certainty over the plant's lifespan.	
Mitigation/Enhancement Measures			

Nature: **Sustained increase in GDP**			
Enhancement Measures: » Prioritise inclusion of SMMEs in O&M contracting where commercially viable » Maximise local procurement and value retention within the host municipality where feasible			
Post Mitigation/Enhancement Measures			
Duration	Long-term (4)	Unchanged as the enhancement measures do not influence this aspect of the impact.	**Medium Positive (60)**
Extent	National (4)	The extent remains national because the project will rely heavily on specialised inputs, technical services and supply chains that extend beyond the AOI.	
Magnitude	Low (4)	The magnitude increases from minor to low due to enhanced local participation in O&M activities, improved SMME inclusion and increased local multiplier effects, resulting in stronger local economic spillovers and value retention.	
Probability	Definite (5)	Unchanged as the enhancement measures do not influence this aspect of the impact.	

7.3.2.3. *Sustained Employment Opportunities*

Nature: **Sustained employment opportunities**			
Impact Description: During the operational phase, the proposed development will support sustained employment over an estimated 25-year lifespan. Direct employment will comprise 54.2% skilled, 37.9% semi-skilled and 7.9% unskilled. Indirect employment will arise in sectors supplying goods and services to the facility, while induced employment will result from expenditure by workers in the broader economy. According to the project information provided by Mabasa Energy and Fuels (Pty) Ltd (2024), during the commissioning and operational phases, approximately 50 local personnel will be employed and provided with hands-on training in power plant operations and maintenance. Throughout the 25 years, it is projected that around 300 highly trained operations and maintenance professionals will graduate from the on-site training program facilitated by Mabasa Energy in partnership with MJB (Mabasa Energy and Fuels (Pty) Ltd, 2024). Due to the specialised nature of combined-cycle gas plant operations, a portion of employment is likely to be sourced from established industrial and service centres outside the AOI. Nonetheless, the City of uMhlathuze and surrounding region will benefit from some stable, long-term employment opportunities and associated income flows. The impact is therefore positive, sustained and partially localised, with scope to enhance local employment outcomes through targeted skills development and localisation initiatives.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P**
Before Mitigation/Enhancement:			
Duration	Long-term (4)	Impact persists over the full operational life of the plant (±25 years), reflecting a sustained increase in employment generation.	**Medium Positive (50)**

***Nature:* Sustained employment opportunities**			
Extent	National (4)	A portion of employment is likely to be sourced from established industrial and service centres outside the AOI due to the highly specialised nature of plant operations.	
Magnitude	Minor (2)	Operational job creation is expected to be limited in scale, with only a relatively small number of direct jobs likely to be generated during the operational phase. In addition, some of the required skills and services may need to be sourced from established industrial and service centres outside the AOI, which will further limit the extent of local employment benefit.	
Probability	Definite (5)	Impact is considered definite because the operation of the facility will necessarily require labour inputs for plant operation, maintenance and support functions.	
Mitigation/Enhancement Measures			
Enhancement Measures: » Prioritise local hiring as far as possible especially from nearby settlements within Richards Bay and in high-density settlements such as Empangeni and surrounding township areas. » Encourage use of local subcontractors and suppliers where feasible to improve indirect and induced employment.			
Post Mitigation/Enhancement Measures			
Duration	Long-term (4)	Unchanged as the enhancement measures do not influence this aspect of the impact.	**Medium Positive (50)**
Extent	National (4)	The extent remains national because the project will rely heavily on specialised skills and technical services that extend beyond the AOI.	
Magnitude	Minor (2)	Unchanged as the enhancement measures improve local capture of employment benefits but not enough to materially shift labour market conditions at a wider local economy scale, especially against a high-unemployment baseline.	
Probability	Definite (5)	Unchanged as the enhancement measures do not influence this aspect of the impact.	

7.3.2.4. *Increase in Household Income*

Nature: Increase in Household Income
Impact Description: During the operational phase, the proposed development will generate a sustained increase in household income over its estimated 25-year lifespan. Based on the OPEX modelling, total income impacts of approximately R260.95 million per annum are expected to be supported across the economy. This includes direct income earned by employees at the plant, as well as indirect and induced income generated through supply chain activities and additional household spending. Direct income will accrue to workers employed at the facility, while indirect income will benefit employees of firms providing goods and services to the plant. Induced income

Nature: Increase in Household Income			
effects will arise as increased earnings are spent within the economy, supporting further economic activity. As with other economic impacts, a portion of these income benefits will accrue outside the immediate project area due to the specialised nature of services required. However, local households within the City of uMhlathuze will benefit from stable, long-term income opportunities associated with direct employment and supporting services. The impact is therefore positive, recurring and distributed across local, regional and national economies, with potential for greater local retention through targeted localisation and skills development initiatives.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P**
Before Mitigation/Enhancement			**Medium Positive (60)**
Duration	Long-term (4)	Impact persists over the full operational life of the plant (±25 years), reflecting a sustained increase in household income.	
Extent	National (4)	Income benefits are distributed across local, regional and national economies in line with employment and supply chain linkages.	
Magnitude	Low (4)	Annual income impact is meaningful but moderated by the likely high levels of external sourcing of labour and procurement.	
Probability	Definite (5)	The impact is considered definite because it arises directly from the project's operational expenditure. The resulting income effect is therefore expected to occur with certainty over the plant's lifespan.	
Mitigation/Enhancement Measures			
Enhancement Measures: » As far as possible, prioritise local recruitment with clear targets for hiring residents from the City of uMhlathuze and surrounding areas where possible so that a larger share of income accrues to local households.			
Post Mitigation/Enhancement Measures			
Duration	Long-term (4)	Unchanged as the enhancement measures do not influence this aspect of the impact.	**Medium Positive (60)**
Extent	National (4)	The extent remains national because the procurement and employment effects will extend beyond the AOI.	
Magnitude	Low (4)	Unchanged as the enhancement measures improve local capture of employment benefits but not enough to materially shift household income conditions at a wider local economy scale, especially against a low-income baseline and the limited direct employment opportunities.	

Nature: Increase in Household Income			
Probability	Definite (5)	Unchanged as the enhancement measures do not influence this aspect of the impact.	

7.3.2.5. *Increased Electricity Generation*

Nature: **Increased electricity generation**
Impact Description: The plant is expected to add a block of dispatchable generation capacity to the national grid. In principle, this additional capacity can contribute to a more stable and reliable electricity supply, particularly during periods of high demand and can help to reduce the frequency and severity of load shedding. In the City of uMhlathuze where manufacturing accounts for roughly 40.7% of GVA, reliable electricity is a critical input into production. According to IGUA-SA, industries in Richards Bay and Empangeni currently face recurring constraints stemming from limited gas availability, ageing infrastructure and unstable supply from upstream networks (IGUA-SA, 2024). In this context, the CCPP can play an important role in supporting energy-intensive manufacturing and logistics activities, limiting production losses due to power interruptions and providing a more predictable environment for investment and operations. However, the actual scale of the benefit will depend on how the plant is integrated and operated within the broader power system. If high gas prices or grid constraints limit its utilisation, the improvement in security of supply may be smaller than the installed capacity suggests. Additionally, as a gas-fired plant, the CCPP will add to South Africa's fossil fuel generation portfolio which will need to be managed within the country's long-term energy transition and emissions-reduction commitments. While gas is often positioned as a "transition fuel", long-term reliance on imported LNG could expose the system to fuel price volatility, foreign exchange risk and future carbon-policy constraints. On balance, the impact of the CCPP on energy security and regional production capacity is assessed as positive but conditional. It can make a meaningful contribution to system reliability and industrial performance, particularly in a manufacturing-heavy region such as uMhlathuze, but the scale of this benefit will depend on how it is dispatched and how fuel and transition risks are managed.

	Rating	**Motivation**	**Significance (S=(E+D+M)P**
Before Mitigation/Enhancement			
Duration	Long-term (4)	Impact persists over the full operational life of the plant (±25 years) through sustained electricity generation.	**High Positive (80)**
Extent	National (4)	Additional generation capacity contributes to the national grid, with benefits extending across regions connected to the system.	
Magnitude	High (8)	The addition of 750 MW of dispatchable capacity provides a meaningful contribution to grid stability and supports energy-intensive industries.	

Nature: **Increased electricity generation**			
Probability	Definite (5)	The plant will generate electricity as part of normal operations, although the extent of system benefit depends on dispatch and fuel conditions.	
Mitigation/Enhancement Measures			
Enhancement: » Optimise plant dispatch and integration with the grid to prioritise operation during peak demand periods and system constraints, thereby maximising its contribution to energy security and reliability.			
Post Mitigation/Enhancement Measures			
Duration	Long-term (4)	Unchanged as the enhancement measures do not influence this aspect of the impact.	**High Positive (80)**
Extent	National (4)	Unchanged as the enhancement measures do not influence this aspect of the impact.	
Magnitude	High (8)	While enhancement measures improve system integration and operational efficiency, the scale of the benefit cannot be significantly increased beyond a certain threshold by the enhancement measures.	
Probability	Definite (5)	Unchanged as the enhancement measures do not influence this aspect of the impact.	

7.3.2.6. *Operational Noise Impact*

Nature**: Operational Noise Impact**			
During operation, the plant will generate continuous mechanical and process noise from turbines, generators, cooling systems, transformers and ancillary equipment. According to the Noise Study for Environmental Impact Assessment conducted by Enviro-Acoustic Research (2026) Plant noise may increase general annoyance levels, particularly at night or in locations where several noisy activities occur simultaneously. However, because the plant is located in an already noisy industrial environment and residential areas lie further away, material impacts on community amenity in residential neighbourhoods are not expected, provided that plant noise is kept within licensed limits. According to the Noise Study for Environmental Impact Assessment conducted by Enviro-Acoustic Research (2026), ambient sound levels in the area are generally elevated and often exceed typical thresholds for residential environments, largely due to the concentration of industrial operations and transport activities associated with the Port of Richards Bay and the RBIDZ. Within this context, the addition of noise from a new plant is unlikely to result in a clearly perceptible increase in overall ambient noise levels, provided that appropriate design measures and operational controls are implemented. Accordingly, operational noise impacts are expected to be localised in extent and of low significance, largely confined to the industrial area and not materially affecting the broader surrounding community.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P)**
Before Mitigation/Enhancement			

***Nature*: Operational Noise Impact**			
Duration	Long-term (4)	Noise is a continuous by-product of plant operations and will persist throughout the ±25-year operational lifespan.	**Low Negative (24)**
Extent	Local (2)	Noise effects are largely confined to the immediate industrial area, with limited propagation to distant residential receptors due to separation distance and existing background noise levels.	
Magnitude	Minor (2)	Incremental noise from the plant is small relative to already elevated ambient noise levels in the industrial zone, resulting in limited perceptible change.	
Probability	Probable (3)	There is some possibility, but with low likelihood	
Mitigation/Enhancement Measures			
Mitigation: » Incorporate noise control measures in the plant design. » Design and operate the plant to comply with applicable noise guidelines.			
Post Mitigation/Enhancement Measures			
Duration	Long-term (4)	Unchanged as the mitigation measures do not influence this aspect of the impact.	**Low Negative (24)**
Extent	Local (2)	Unchanged as the mitigation measures do not influence this aspect of the impact.	
Magnitude	Minor (2)	Unchanged as mitigation measure may reduce noise emissions but the relative change to ambient conditions remains marginal and cannot eliminate operational noise.	
Probability	Probable (3)	Unchanged as the mitigation measures do not influence this aspect of the impact.	

7.3.2.7. *Accidental gas release, fire or explosion risk during operation*

***Nature*: Accidental gas release, fire or explosion risk during operation**			
During the operational phase an unintended gas release could occur due to equipment failure, corrosion, human error, poor maintenance or third-party interference. Although such events are generally low probability, they are high consequence. Given that the immediate surrounding land use is predominantly industrial and commercial the principal socio-economic receptors are therefore workers, businesses, logistics operations and industrial assets, rather than sensitive residential receptors. In this context, the most material socio-economic consequences would relate to occupational health and safety (injury or fatality risk), temporary shutdown of plant operations and adjacent businesses, access restrictions within the industrial precinct, disruption to supply chains and freight movement and direct and indirect financial losses. Even where physical impacts are contained within an industrial footprint, a major incident can create broader economic and reputational effects by reducing confidence in the precinct's safety, affecting investor perceptions and placing short-term pressure on local emergency and health services.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P)**
Before Mitigation/Enhancement			

***Nature*: Accidental gas release, fire or explosion risk during operation**			
Duration	Long-term (4)	The risk persists for the entire operational lifespan of the plant (±25 years).	**Low Negative (14)**
Extent	Site (1)	Potential impacts would be largely contained within the plant footprint and immediate industrial surroundings.	
Magnitude	Minor (2)	While consequence severity can be high in the event of an incident, the *expected magnitude* is rated low due to the very low likelihood of occurrence and containment within an industrial setting with limited sensitive receptors.	
Probability	Improbable (2)	Accidental releases, fires or explosions are low-probability events under standard operating conditions, particularly where modern plant design and safety protocols are applied.	
Mitigation/Enhancement Measures			
Mitigation: » Ensure robust early detection and rapid response systems are in place to enhance preparedness. » Maintain exclusion zones and controlled access around high-risk infrastructure.			
Post Mitigation/Enhancement Measures			
Duration	Long-term (4)	Unchanged as the mitigation measures do not influence this aspect of the impact.	**Low Negative (14)**
Extent	Site (1)	With improved controls, any incident is expected to remain confined to the site or immediate industrial area, with minimal off-site effects.	
Magnitude	Minor (2)	Unchanged as enhanced safety systems, monitoring and response protocols reduce the potential scale and consequences of an incident, but residual risk remains inherent to gas-based operations.	
Probability	Improbable (2)	Unchanged as the mitigation measures do not influence this aspect of the impact.	

7.3.2.8. *Degradation of Air Quality*

***Nature*: Degradation of Air Quality**
Impact Description: Degradation of air-quality will arise from the combustion of natural gas, which releases a mix of pollutants into the atmosphere. Although gas is cleaner than coal and heavy fuel oil, the plant will still emit nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOCs) and, to a lesser extent, sulphur dioxide (SO_2) and particulate matter (PM). Given the long-term nature of plant operations and the cumulative effect of emissions in an already industrialised airshed, the Atmospheric Impact Report (uMoya-NILU Consulting, 2026) shows a risk of localised worsening of air quality, particularly in relation to NO_2. Under unmitigated conditions, modelled NO_x levels could exceed legal air-quality limits just beyond the site boundary, especially during start-up events and in parts of the industrial area that are most often downwind of the plant (Belelie, et. Al, 2019). In addition, climate change and environmental degradation act as "threat multipliers" in coastal contexts, where declining air quality and broader ecological stressors can indirectly undermine food availability, affordability and nutritional outcomes, particularly for

***Nature*: Degradation of Air Quality**			
fisheries-dependent and low-income households. Fisheries-dependent and low-income households are particularly affected as declining marine ecosystem health reduces fish stocks and catches, while rising costs and reduced availability of affordable protein sources further strain already limited household incomes and food security. From a socio-economic and health perspective, this matters because elevated NO_2 levels can irritate the lungs and worsen existing respiratory conditions, such as asthma or chronic bronchitis. Small-scale and subsistence fishers in and around the Port of Richards Bay are particularly vulnerable, as cumulative exposure to air pollution can compromise their respiratory health and reduce their capacity to work, while interacting environmental stressors linked to climate change further threaten fish stocks, thereby undermining both their livelihoods and the affordability and availability of a key food source. The Atmospheric Impact Report undertaken by uMoya-NILU Consulting states that, the increase in level of air pollution from the proposed development during operation are not expected to be major since the site is in a well-developed industrial area .The Atmospheric Impact Report indicates that concentrations of CO, VOCs, SO_2 and PM are expected to remain within guideline values and that residential areas, schools and medical facilities are unlikely to experience material deterioration in air quality as a result of the plant (uMoya-NILU Consulting, 2026). Therefore, the people most likely to be affected are not the general public in distant suburbs, but those who spend long periods in the industrial area for example, employees at nearby plants and other workers who are exposed repeatedly over time. It is therefore more of a localised nuisance and occupational issue than a community-wide health concern. Overall, in an already industrialised airshed, the operational emissions from the CCPP are expected to have a negative but generally low to moderate socio-economic impact, concentrated mainly on workers and businesses within the industrial area rather than on surrounding residential communities. The significance of this impact is strongly dependent on how effectively emission controls, operational practices and ongoing compliance monitoring are implemented over the life of the plant. If these are well managed, air-quality and health risks should remain moderate and manageable.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P)**
Before Mitigation/Enhancement			
Duration	Long-term (4)	The impact persists for the entire operational lifespan of the plant (±25 years).	**Medium Negative (52)**
Extent	Regional (3)	Impact contributes to a broader regional industrial airshed affecting nearby receptors.	
Magnitude	Moderate (6)	Direct impacts occur locally but contribute to a broader industrial airshed affecting nearby receptors.	
Probability	Highly Probable (4)	Emissions will occur as an inherent result of plant operation.	
Mitigation/Enhancement Measures			
Mitigation:			

***Nature*: Degradation of Air Quality**			
» Implement advanced emission control technologies (e.g. low-NOx burners, high-efficiency turbines) » Install and maintain Continuous Emissions Monitoring Systems (CEMS) » Ensure strict compliance with NAAQS and emission standards » Optimise operational efficiency to minimise fuel use and emissions intensity			
Post Mitigation/Enhancement Measures			
Duration	Long-term (4)	Unchanged as the mitigation measures do not influence this aspect of the impact.	**Medium Negative (44)**
Extent	Regional (3)	Unchanged as the mitigation measures do not influence this aspect of the impact.	
Magnitude	Low (4)	Emissions reduced to within regulatory limits and managed effectively with mitigation.	
Probability	Highly Probable (4)	Unchanged as the mitigation measures do not influence this aspect of the impact.	

7.3.3. Decommissioning Phase

In this phase, the plant would be shut down at the end of its useful life and decommissioning activities undertaken over an estimated period of up to 12 months after shutdown. Considering the nature of the CCPP, it is unlikely that a complete decommissioning of the project will occur in the foreseeable future. Instead, specific components or sections of the plant are more likely to undergo periodic upgrades, modifications, or redesigns over time to enhance operational efficiency or adopt new technologies. In such instances, the potential impacts associated with these activities would closely mirror those experienced during the initial construction phase, as the same types of infrastructure and processes would be involved. This would be followed by a cessation of operational jobs at the facility and a decline in associated indirect and induced employment in the local supply chain.

In the event of a partial or total decommissioning of the CCPP the following associated socioeconomic impacts are likely to arise.

7.3.3.1. *Increased Waste Generation and Disposal Risks*

Nature: Increased Waste Generation and Disposal Risks

Impact Description: During the decommissioning phase, the dismantling and removal of plant infrastructure will generate substantial volumes of waste, including scrap metal, construction debris and potentially hazardous materials such as oils, lubricants and chemical residues. These materials will require appropriate handling, storage, transport and disposal in accordance with applicable regulations. If not effectively managed, these activities may pose environmental and health risks, including soil and water contamination, exposure to hazardous substances and improper disposal practices. In addition, the scale of waste generated may place temporary pressure on local and regional waste management infrastructure, particularly licensed hazardous waste facilities.

Notwithstanding these risks, a significant proportion of materials, particularly metals, can be recovered and recycled, reducing the volume of waste sent to landfill and generating secondary economic value. The overall impact is therefore negative but short-term and manageable with appropriate waste management planning and regulatory compliance.

Nature: Increased Waste Generation and Disposal Risks			
	Rating	**Motivation**	**Significance (S=(E+D+M) P)**
Before Mitigation/Enhancement			
Duration	Very Short term (1)	Impact is limited to the decommissioning period.	**Medium Negative (36)**
Extent	Local (2)	Effects occur at the site and along transport routes to disposal or recycling facilities.	
Magnitude	Moderate (6)	High volumes of waste and presence of hazardous materials present meaningful environmental and handling risks.	
Probability	Highly Probable (4)	Waste generation is inevitable during decommissioning activities, but the scale and composition of that waste may change over time as future technologies, material recovery systems and waste management practices evolve.	
Mitigation/Enhancement Measures			
Mitigation: » Develop and implement a comprehensive Waste Management Plan » Segregate hazardous and non-hazardous waste at source » Maximise recycling and recovery of materials of decommissioned components to maximise economic value recovery and reduce environmental and social impacts associated with disposal » Use licensed contractors for transport and disposal of hazardous waste » Ensure compliance with all waste management regulations and standards » Monitor waste handling and disposal practices throughout decommissioning			
Post Mitigation/Enhancement Measures			
Duration	Very Short term (1))	Unchanged as the mitigation measures do not influence this aspect of the impact.	**Low Negative (28)**
Extent	Local (2)	Unchanged as the mitigation measures do not influence this aspect of the impact.	
Magnitude	Low (4)	Effective waste management, recycling and compliance measures reduce risks and impacts from moderate to low.	
Probability	Highly Probable (4)	Unchanged as the mitigation measures do not influence this aspect of the impact.	

7.3.3.2. *Short-Term Increases in Employment and Local Spending Associated with Decommissioning Works*

Nature: Short-Term Increases in Employment and Local Spending Associated with Decommissioning Works
Impact Description: Decommissioning activities would require a specialised decommissioning workforce, generating temporary employment across skill levels. Additional indirect employment would arise in firms supplying equipment, transport, waste management and other services, with further induced benefits through local spending by workers. Because of the nature of the equipment and materials used in gas to power plants, there is need for specialised skills and equipment to demolish a gas to power plant. Many of the decommissioning contracts may therefore be awarded to firms outside the immediate area, the geographic distribution of these

Nature: Short-Term Increases in Employment and Local Spending Associated with Decommissioning Works			
benefits would therefore extend beyond the City of uMhlathuze, but there would nonetheless be a short-term economic uplift for those workers and businesses directly involved.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P)**
Before Mitigation/Enhancement			
Duration	Very Short term (1)	Impact is limited to the decommissioning period.	**Medium Positive (55)**
Extent	National (4)	Procurement and employment opportunities likely to extend to those parts of the South African economy with the skills capacity to support decommissioning activities such as the major metros and industrial hubs like Gauteng and eThekwini.	
Magnitude	Moderate (6)	The impact magnitude within the AOI will therefore be limited by the spatial distribution of the impact.	
Probability	Definite (5)	The impact is considered definite because the decommissioning of the plant infrastructure will necessarily require labour inputs and expenditure.	
Mitigation/Enhancement Measures			
Enhancement: » Prioritise local procurement both directly as well as for support services.			
Post Mitigation/Enhancement Measures			
Duration	Very short-term (1)	Unchanged as the enhancement measures do not influence this aspect of the impact.	**Medium Positive (55)**
Extent	National (4)	The extent remains national because the project will rely heavily on specialised skills and technical services that extend beyond the AOI.	
Magnitude	Moderate (6)	Unchanged as the enhancement measures improve local capture of employment benefits but not enough to materially shift labour market conditions at a wider local economy scale.	
Probability	Definite (5)	Unchanged as the enhancement measures do not influence this aspect of the impact.	

7.3.3.3. *Cessation of energy supply, employment and associated economic benefits*

Nature: **Cessation of energy supply, employment and associated economic benefits**
Impact Description: Decommissioning would result in the cessation of the plant's operational benefits. Firstly, all direct operational employment opportunities would fall away, together with associated indirect and induced employment supported through operations and maintenance expenditure. While operational employment at such facilities is typically limited relative to construction, these jobs are more stable and longer-term in nature. Their loss therefore remains important, particularly in a context of constrained formal employment opportunities and continued socio-economic pressure within the broader area.

Nature: **Cessation of energy supply, employment and associated economic benefits**			
Secondly, the energy supply benefit associated with the facility would cease. Once decommissioned, the plant would no longer contribute to electricity generation, energy security, or supply diversification. This is significant in a context where reliable energy availability remains important for economic activity, industrial operations, and broader development outcomes. Thirdly, the GDP, production, and household income benefits linked to ongoing operational expenditure would also come to an end. The plant would no longer generate continued demand for inputs, services, and supporting economic activity during its operational phase. As a result, the positive production and income effects sustained through OPEX would no longer accrue.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P)**
Before Mitigation/Enhancement			
Duration	Permanent (5)	The loss of employment, income streams and energy contribution is irreversible once operations cease.	**High Negative (85)**
Extent	National (4)	Effects are distributed across local, regional and national economies due to supply chain linkages and the plant's role in the broader national electricity system.	
Magnitude	High (8)	The cessation of a large-scale, long-operating facility results in a substantial loss of direct, indirect and induced economic activity, including jobs, income and production.	
Probability	Definite (5)	The impact is inevitable, as plant closure will definitively result in the termination of operational activities and associated economic benefits.	
Mitigation/Enhancement Measures			
Mitigation: » Re-use of the site in line with its industrial zoning so that existing infrastructure can anchor new investment and employment opportunities. » Workforce transition measures, such as retraining, redeployment within the company or assistance to access new employment, to reduce the negative impact on workers employed at the plant.			
Post Mitigation/Enhancement Measures			
Duration	Permanent (5)	Unchanged as the enhancement measures do not influence this aspect of the impact.	**High Negative (75)**
Extent	National (4)	Unchanged as the enhancement measures do not influence this aspect of the impact.	
Magnitude	Moderate (6)	Reduced through site re-use and workforce transition measures, which partially offset job losses and support new economic activity, but do not fully replace the scale of lost benefits.	
Probability	Definite (5)	Unchanged as the enhancement measures do not influence this aspect of the impact.	

7.4. Cumulative Impacts

Cumulative Impact refers to the combined effect of past, present and reasonably foreseeable future activities associated with a project, including similar or diverse activities that may not individually appear significant but, when combined, can lead to a considerable overall impact. The cumulative impact assessment methodology aims to evaluate whether adding the proposed project in the specified location will elevate the area's overall environmental impact.

This assessment examines if the construction and operation of the proposed development will result in:

- An unacceptable risk to the environment or surrounding communities
- An unacceptable loss of environmental quality, resources, or biodiversity
- Complete or large-scale changes to the environment or the community's sense of place
- An unacceptable increase in overall impact levels in the area

In this case the proposed plant forms part of a cluster of gas-to-power and gas-infrastructure projects planned or underway in and around Richards Bay (Figure 5). The following analysis outlines the expected cumulative impacts illustrating the proposed project's combined effects alongside existing and anticipated activities in the vicinity.

7.4.1.Increased Air Pollution and Emissions Burden

Nature: Increased Air Pollution and Emissions Burden

Impact Description: While gas-fired generation is generally cleaner than coal, the cumulative air-quality implications of multiple gas-to-power plants and associated infrastructure in Richards Bay are more significant than the impact of the 750 MW CCPP in isolation. However, when considered cumulatively alongside other gas-to-power facilities, LNG infrastructure, pipelines and existing heavy industry, the situation becomes more complex. Each development contributes incremental emissions (including NO_x, CO, PM and GHGs) to an already burdened airshed, reducing its remaining capacity before ambient standards are exceeded.

Impacts are likely to be most pronounced among workers and individuals with prolonged exposure in the industrial area, making this primarily a localised occupational health concern rather than a widespread community issue. Cumulative air-quality impacts should also be interpreted through a socio-economic and environmental justice lens, as they may indirectly affect livelihoods and food security in the wider Richards Bay area. In particular, small-scale and subsistence fishers operating in and around the Port of Richards Bay may be affected where deteriorating environmental quality and associated ecosystem pressures influence marine productivity and access to safe harvesting areas. In addition, workers within the industrial area and adjacent zones represent a key at-risk group due to increased occupational exposure to air pollutants, with potential implications for long-term health outcomes and productivity. Households already experiencing energy poverty may also face compounded vulnerability, as broader environmental health burdens interact with limited financial capacity to access cleaner energy, healthcare and adaptive resources, thereby exacerbating existing socio-economic inequalities.

As a result, the cumulative impact is more significant at a regional scale, with potential long-term implications for air quality, increased respiratory health risks for exposed groups and constraints on

Nature: Increased Air Pollution and Emissions Burden			
future industrial development. This requires the need for coordinated planning, strict emissions control and effective regulatory oversight.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P)**
Before Mitigation/Enhancement			
Duration	Long-term (4)	Cumulative impacts on the airshed likely to persist over time over the life span of the various facilities.	**Medium Negative (60)**
Extent	Regional (3)	Effects extend across the Richards Bay airshed.	
Magnitude	High (8)	Combined emissions contribute to an already burdened airshed, reducing remaining capacity and increasing health risk exposure.	
Probability	Highly Probable (4)	Cumulative impacts are expected given the concentration of existing industrial activities and planned CCGPs.	
Mitigation/Enhancement Measures » Implement best-practice emission control measures and ensure strict adherence to regulatory limits and monitoring requirements. » Incorporate air-quality risks into the occupational health and safety management system. » Monitor air-quality and odour-related complaints and implement appropriate investigation and corrective actions where necessary.			
Post Mitigation/Enhancement Measures			
Duration	Long-term (4)	Unchanged as the mitigation measures do not influence this aspect of the impact.	**Medium Negative (52)**
Extent	Regional (3)	Unchanged as the mitigation measures do not influence this aspect of the impact.	
Magnitude	Moderate (6)	Reduced cumulative burden due to coordinated controls and improved emission performance.	
Probability	Highly Probable (4)	Unchanged as the mitigation measures do not influence this aspect of the impact.	

7.4.2.Enhancement of Regional Energy Supply Infrastructure

Nature: Enhancement of Regional Energy Supply Infrastructure
Impact Description: From a cumulative socio-economic perspective, the CCPP's primary contribution is to improve energy stability and it also contributes to the viability of an emerging gas hub in Richards Bay. By anchoring long-term demand for imported LNG and associated pipeline capacity, the plant supports investment in shared gas and grid infrastructure, improving supply reliability and flexibility for gas-dependent industries. The spatial clustering of facilities around the Port of Richards Bay and the RBIDZ further enhances efficiencies through shared import, storage and transmission infrastructure, reducing costs and improving energy system performance. If implemented in a coordinated manner, the cumulative effect is likely to be a more reliable and resilient regional energy system, with potential reductions in load-shedding, enhanced energy security for industry and a more stable gas supply. These outcomes would support economic

Nature: Enhancement of Regional Energy Supply Infrastructure			
growth, industrial output and investor confidence, strengthening Richards Bay's role as a strategic energy hub. However, the concentration of gas-based infrastructure also introduces longer-term risks, including dependence on imported gas and exposure to price, currency and climate policy uncertainties. The overall cumulative impact is therefore positive but conditional, dependent on integration within South Africa's broader energy transition, effective cost management and a gradual shift toward lower-carbon energy sources to avoid long-term carbon lock-in.			
	Rating	**Motivation**	**Significance (S=(E+D+M) P)**
Before Mitigation/Enhancement			
Duration	Long term (4)	Benefits accrue over the long term as supporting gas and energy infrastructure matures.	**High Positive (64)**
Extent	National (4)	Impact extends beyond the local area, contributing to national energy security and system stability	
Magnitude	High (8)	High economic and energy-system benefits through improved reliability, industrial support and multiplier effects.	
Probability	Highly Probable (4)	Realisation of benefits depends on coordinated development of related gas infrastructure and sustained demand, making the impact highly likely but not guaranteed.	
Mitigation/Enhancement Measures			
Enhancement: » Align with national energy-transition and climate policy. » Where possible, maximise shared-use infrastructure such as shared import, storage and pipeline capacity.			
Post Mitigation/Enhancement Measures			
Duration	Long term (4)	Unchanged as the enhancement measures do not influence this aspect of the impact.	**High Positive (64)**
Extent	National (4)	Unchanged as the mitigation measures do not influence this aspect of the impact.	
Magnitude	High (8)	While enhancement measures improve system integration and operational efficiency, the scale of the benefit cannot be significantly increased beyond a certain threshold by the enhancement measures.	
Probability	Highly probable (4)	Unchanged as the enhancement measures do not influence this aspect of the impact.	

7.5. No Go Alternative Impact

The "no-go" alternative represents a scenario in which the proposed 750 MW CCPP is not developed. In the short term, this would avoid construction-related disturbances, including increased traffic volumes, dust, noise, visual intrusion and temporary disruptions to surrounding industrial operations and logistics activities. It would also eliminate incremental operational impacts such as additional air

emissions, noise and further industrialisation of the landscape, thereby avoiding any added contribution to cumulative air quality pressures in the Richards Bay area.

However, the no-go option entails notable long-term socio-economic opportunity costs. The absence of the project would preclude construction-phase economic stimulus, including temporary employment, local procurement and increased business activity over the anticipated three-year build period. It would also eliminate the creation of permanent operational employment, as well as associated indirect and induced economic benefits within the local supply chain. Consequently, there would be no contribution to local and regional economic output, household income, or municipal revenues derived from rates and service charges linked to a large-scale, long-term industrial investment.

From an energy systems perspective, the non-implementation of the project would result in the loss of 750 MW of dispatchable generation capacity, thereby limiting efforts to enhance grid reliability, mitigate loadshedding risks and support energy-intensive industries. In addition, the potential role of the project in advancing a regional gas and energy hub in Richards Bay would not be realised, potentially limiting the area's longer-term industrial competitiveness.

Overall, while the no-go alternative avoids short-term environmental and operational disturbances, it also forgoes significant and sustained socio-economic and energy security benefits. On balance and subject to the implementation of appropriate environmental management and mitigation measures, the no-go alternative is not considered the preferred option.

7.5.1.Summary Of Identified Impacts

The table below provides a summary description of the identified socio-economic impacts which are relevant to the proposed 750 MW CCPP.

Table 26. Summary of Identified Impacts

Impact	Status	Significance (Before mitigations/enhancements)	Significance (After mitigations/enhancements)
CONSTRUCTION PHASE			
1. Temporary Increase in Production	Positive	**Medium (40)**	**Medium (50)**
2. Temporary Stimulation of GDP	Positive	**Medium (40)**	**Medium (40)**
3. Temporary Employment Creation	Positive	**Medium (60)**	**Medium (60)**
4. Temporary Increase in Household Income	Positive	**Medium (60)**	**Medium (60)**
5. Temporary increase in tax income	Positive	**Medium (40)**	**Medium (40)**
6. Temporary increase in noise, visual disruption and dust associated with construction activities	Negative	**Low (24)**	**Low (18)**
7. Short-term Traffic Congestion and associated disturbances	Negative	**Medium (40)**	**Medium (32)**
8. Short-term influx of work seekers due to construction activities	Negative	**Low (24)**	**Low (18)**
OPERATIONAL PHASE			

Impact	Status	Significance (Before mitigations/enhancements)	Significance (After mitigations/enhancements)
1. Sustained Increase in production	Positive	**Medium (50)**	**Medium (50)**
2. Sustained Increase in GDP	Positive	**Medium (50)**	**Medium (60)**
3. Sustained Increase in employment	Positive	**Medium (50)**	**Medium (50)**
4. Sustained Increase in household income	Positive	**Medium (60)**	**Medium (60)**
5. Increased electricity generation	Positive	**High (80)**	**High (80)**
6. Operational Noise Impact	Negative	**Low (24)**	**Low (24)**
7. Accidental gas release, fire or explosion risk during operation	Negative	**Low (14)**	**Low (14)**
8. Degradation of air quality	Negative	**Medium (52)**	**Medium (44)**
DECOMMISSIONING PHASE			
1. Increased waste generation and disposal risks	Negative	**Medium (36)**	**Low (28)**
2. Short-term increases in employment and local spending associated with decommissioning works	Positive	**Medium (55)**	**Medium (55)**
3. Cessation of energy supply, employment and associated economic benefits	Negative	**High (85)**	**High (75)**
CUMULATIVE IMPACTS			
1. Increased air pollution and emissions burden	Negative	**Medium (60)**	**Medium (52)**
2. Enhancement of regional energy supply infrastructure	Positive	**High (64)**	**High (64)**

8. NEED AND DESIRABILITY ASSESSMENT

The "need and desirability" of a proposed development is a critical component of the Environmental Impact Assessment (EIA) process, which evaluates the alignment of a project with relevant municipal and governmental strategies such as Integrated Development Plans (IDPs), Spatial Development Frameworks (SDFs), Environmental Management Frameworks (EMFs) and other pertinent plans. This assessment ensures that the proposed development is viable and consistent with the broader strategic objectives outlined by local and regional authorities.

A key aspect of the "need and desirability" analysis is the consideration of the ecological, social and economic impacts that may arise from the alignment or deviation of the proposed development from these established strategies and plans. Accordingly, the Socio-Economic Impact Assessment (SEIA) must address these impacts to evaluate the merits of the project's application. This analysis serves as a benchmark to determine whether the proposed development is in the best interest of the local community, as reflected in the IDP and SDF for uMhlathuze. Furthermore, the socio-economic viability of the development must be assessed within the framework of justifiable economic development, where the short-term and long-term needs of society are weighed. While the economic feasibility of the project from a private developer's perspective may indicate that the project is "do-able," the "need and desirability" must also account for the broader community's needs and interests, as outlined in local planning documents such as the IDP, SDF and EMF.

Although job creation and economic growth are essential to South Africa's development, the Constitution emphasises the importance of justifiable economic development, which ensures that economic activities benefit society in a balanced and sustainable manner. Therefore, the community's specific needs, along with the potential opportunity costs and distributional impacts, must be carefully evaluated to determine whether the proposed development will promote sustainable ecological development and support justifiable social and economic growth.

The need and desirability assessment is reflected in the table below.

Table 27.Need and Desirability Assessment

No.	Aspect	Comment
1.	**Socio-economic context of the area based on strategic documents**	The project aligns with national and local policy frameworks (e.g. IRP, NDP, IDPs), which emphasise energy security, industrial growth and infrastructure development in Richards Bay as a strategic economic node.
2.	**Spatial characteristics**	The site is located within an established IDZ, appropriately zoned and already characterised by heavy industry. The proposed development is thus aligned by concentrating major infrastructure within a precinct intended for such uses, reducing the likelihood of land-use conflict and allowing the project to leverage existing industrial networks, services and logistics.
3.	**Impact on the sense of place, heritage and**	Given the industrial character and zoning of the receiving environment, the proposed development is unlikely to

No.	Aspect	Comment
	cultural-historic sensitivities	materially alter the sense of place in the way that projects in residential or culturally sensitive landscapes often do.
4.	**Creation of employment opportunities for local communities**	The project will generate significant temporary employment during construction and sustained, though lower, employment during operations, with additional indirect and induced opportunities.
5.	**Availability of labour able to take up job opportunities**	A portion of labour demand, particularly semi-skilled and low-skilled roles, can specialised skills may need to be sourced from outside the immediate area.
6.	**Location of job opportunities versus location of impacts**	Employment benefits will be distributed across local, regional and national levels, while most impacts are localised, resulting in a generally favourable benefit-impact spatial relationship.
7.	**Equitable impacts in the short and long term, as well as social and economic sustainability considerations**	The project provides strong short-term benefits (construction), with sustained long-term economic contributions. Equity can be enhanced through local hiring, skills development and supplier participation.
8.	**Socio-economic impacts based on the regional context**	The project supports regional economic growth, strengthens the energy supply for industry and contributes to the development of a gas hub, enhancing competitiveness and investment attractiveness.

From a socio-economic perspective, the proposed CCPP is both necessary and desirable. It addresses critical regional energy infrastructure needs, supports industrial continuity and growth and aligns with local, provincial and national policy frameworks. If implemented responsibly, the project can deliver sustainable economic and social benefits while strengthening the region's energy infrastructure and industrial competitiveness over the long term.

9. CONCLUSION

The assessment indicates that the proposed 750 MW combined-cycle gas power plant is broadly aligned with national, provincial and local development and energy policy frameworks and is expected to generate meaningful socio-economic benefits over both the construction and operational phases. These benefits include temporary employment and economic stimulus during construction, as well as sustained contributions to production, GDP, employment and household income over the plant's operational lifespan. In addition, the project plays a strategic role in supporting the development of a regional gas hub in Richards Bay, thereby enhancing energy security, improving grid reliability and strengthening the competitiveness of energy-intensive industries.

At the same time, the project will give rise to a range of negative socio-economic impacts, including air quality emissions, visual changes and localised disturbances during construction and decommissioning. While most of these impacts are assessed to be of low to moderate significance and largely confined to the local area, certain cumulative effects, particularly in relation to air quality within an already industrialised airshed, require careful management.

Importantly, the assessment finds that most identified negative impacts can be effectively mitigated through the implementation of appropriate design measures, environmental management plans and operational controls. These include the adoption of best-practice emission reduction technologies, ongoing monitoring and compliance and targeted mitigation measures to manage construction-related disturbances, operational and decommissioning risks.

Overall, the project is acceptable from a socio-economic perspective, provided that recommended mitigation and enhancement measures are implemented and that the development is integrated within South Africa's broader energy transition pathway. Under these conditions, the project is expected to result in a net positive impact, contributing to long-term economic development, improved energy security and the continued positioning of Richards Bay as a strategic industrial and energy hub

9.1. Reasoned Opinion

From a socio-economic impact perspective and based on the findings of this SEIA, no material socio-economic constraints have been identified that would, on their own, justify refusing the proposed 750 MW CCPP. The project is expected to generate net socio-economic benefits through construction-phase stimulus and employment and longer-term operational opportunities, within an established industrial receiving environment. While adverse effects and risks have been identified, these are considered manageable to acceptable levels through the implementation of the recommended mitigation and enhancement measures and ongoing compliance monitoring. It is therefore the reasoned socio-economic opinion that the project may proceed and may be supported for approval, subject to the conditions and commitments set out in this report.

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ANNEXURE I: SPECIALISTS CV'S

TINOTENDA MAKONI

EDUCATION

2014	B Com Accounting and Economics (Rhodes University)
2015	B Com (Hons) Economics (Rhodes University)
2019	M Com Economics (Rhodes University)

PROFESSIONAL MEMBERSHIPS

2019 – Current	SAPOA (Urban-Econ Development Economists Pty Ltd) - SAP-UR0485
2021 – Current	Economic Society of South Africa (ESSA)
2026 - Current	Economic Development Council of South Africa (EDCSA)

WORK EXPERIENCE

2014	Clarity Eyecare Services LLC: General Clerk Intern (USA)
2015	Cotrace Freight Services (Pty) Ltd: Finance Intern (Zim)
2018	MMB Logistics (Pty) Ltd: Junior Financial Analyst (Zim)
2019 – Current	Urban-Econ Development Economists

SHORT RESUME

Tinotenda Makoni is a senior professional Development Economist at Urban-Econ since April 2019 and is currently the Branch Manager for KwaZulu Natal. She holds a Bachelor of Commerce degree in Accounting and Economics (majoring in economics) with Honours in Economics and a Master of Commerce in Economics from Rhodes University.

Tinotenda has developed a variety of business skills, including:

- Economic Impact Assessments and Economic analysis techniques (i.e. SAM modelling)
- Cost-Benefit Analysis and Financial Modelling
- Project Management and Client Liaison

Tinotenda's' experience at Urban-Econ includes:

- Undertaking Cost Benefit Analysis and Economic Feasibility Assessments (including for Budget Facility for Infrastructure (BFI) applications)

- Developing business plans including development of financials, cash flow projections etc.
- Undertaking market feasibility studies and property development studies for various sectors
- Conducting socio-economic studies in line with NEMA and EIA, IFC and World Bank Regulations
- Developing of public sector strategies and plans
- Experience in survey design and implementation
- Experience in research and report writing.
- Experience in presentations and stakeholder engagements.

Tinotenda is also fully competent and experienced in the use and analysis of economic and socio-economic datasets i.e. Quantec, Research, Stats SA complemented by proficiency in Microsoft Office, Power BI (elementary user).

LANGUAGE PROFICIENCY

LANGUAGE	READING	WRITING	SPEAKING
English	Excellent	Excellent	Excellent

COUNTRIES OF WORK EXPERIENCE

South Africa

Zimbabwe

USA

REFERENCES

Ruan Oberholzer

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EXPERIENCE RECORD

Project:	**Richards Bay 1740MW Gas to Power Plant Socio-Economic Impact Assessment**
Year:	2026
Location:	KwaZulu-Natal
Client:	Savannah
Project Features:	Urban-Econ Development Economists (Pty) Ltd was commissioned by Savannah Environmental (Pty) Ltd on behalf of Petal Path Trading (Pty) Ltd to undertake a Socio-Economic Impact Assessment (SEIA) for the proposed development of a 1740MW Combined Cycle Power Plant (CCPP) and associated infrastructure near Richards Bay in the KwaZulu-Natal Province. The study forms part of the Environmental Impact Assessment (EIA) process as prescribed in the National Environmental Management Act (NEMA) of 1998 and its subsequent amendments and is being conducted as part of the EIA process managed by Savannah Environmental. The assessment considered the potential socio-economic impacts associated with the construction, operation and decommissioning phases of the project, including economic contribution, employment creation and potential impacts on surrounding communities and infrastructure. The SEIA included an analysis of potential positive and negative impacts, proposed mitigation and enhancement measures and a reasoned opinion regarding the project's overall socio-economic sustainability and acceptability
Position held	Project Manager

Project:	**Richards Bay Lilly Gas Transmission Pipeline Socio-Economic Impact Assessment Update**
Year:	2026
Location:	KwaZulu-Natal
Client:	Coastal and Environmental Services (CES)
Project Features:	Urban-Econ Development Economists was appointed to update the Socio-Economic Impact Assessment (SEIA) report originally submitted in January 2025 for the proposed pipeline. The update required to reflect amendments to the pipeline route and reviewed, refined and, where necessary, re-rated the previously identified social and economic impacts along the revised alignment. This process ensured that the SEIA remained accurate, defensible and aligned with the current project design and applicable regulatory requirements.
Position held	Project Manager

Project:	**ABO Imvubu Solar PV Plant Socio-Economic Impact Assessment**
Year:	2026
Location:	Utrecht
Client:	CES
Project Features:	Urban-Econ Development Economists (Pty) Ltd was appointed by Coastal and Environmental Services (CES) (Pty) Ltd to undertake a Socio-Economic Impact Assessment (SEIA) for the proposed Imvubu Solar PV Project, a photovoltaic (PV) solar energy facility, of up to 300MWac in capacity and associated infrastructure located approximately 16km south of the town of Utrecht in the Kwa-Zulu Natal Province. The study forms part of the Environmental Impact Assessment (EIA) process as prescribed in the National Environmental Management Act (NEMA) of 1998 and its subsequent amendments. The socio-economic impact study is conducted as part of the Basic Assessment (BA) process managed by CES. The assessment involved an analysis of the project's potential positive and negative impacts, proposed mitigation and enhancement measures and a reasoned opinion regarding the project's overall socio-economic sustainability and acceptability.
Position held:	Project Manager
Project:	**Farewell Site Liquid Fuels Import and Storage Socio-Economic Impact Assessment**
Year:	2025
Location:	KwaZulu-Natal
Client:	Kantey & Templer
Project Features:	Urban-Econ Development Economists (Pty) Ltd was appointed to undertake the Socio-Economic Impact Assessment (SEIA) for the proposed Vopak Farewell Site Expansion Project within the Island View Complex, Port of Durban. The study assessed the potential socio-economic implications associated with the expansion, which includes the demolition of redundant infrastructure and construction of new tanks and associated facilities to increase fuel storage capacity. The assessment involved an analysis of the project's economic contribution through capital investment and operational expenditure; employment and income effects; potential social and community impacts; and stakeholder engagement with key municipal, community and regulatory stakeholders. The study also evaluated cumulative and reputational considerations linked to the Island View Complex. The SEIA concluded with an assessment of potential positive and negative impacts, proposed mitigation and enhancement measures and a reasoned opinion regarding the project's overall socio-economic sustainability and acceptability.
Position held:	Project Manager

Project:	**Vaalspruit Landfill Site Socio-Economic Impact Assessment**
Year:	2025
Location:	KwaZulu-Natal
Client:	ACER
Project Features:	Urban-Econ Development Economists (Pty) Ltd was appointed by Acer Africa Environmental Consultants to undertake a Socio-Economic Impact Assessment (SEIA) for the proposed municipal landfill site on Portion 4 of Farm Vaalspruit 115, located approximately 18 km northeast of Newcastle's CBD within the Amajuba District Municipality, KwaZulu-Natal. Urban-Econ delineated the project's zones of influence, profiled affected communities and economic activities and applied Social Accounting Matrix (SAM) modelling to quantify the project's contribution to production, GDP, employment and household income. The study also evaluated cumulative impacts, proposed mitigation and enhancement measures and provided a reasoned conclusion on the project's overall socio-economic acceptability.
Position held:	Project Manager
Project:	**Port of Richards Bay New Berth 605 Economic Impact Assessment**
Year:	2025
Location:	KwaZulu-Natal
Client:	WSP
Project Features:	Urban-Econ Development Economists (Pty) Ltd was appointed by WSP to undertake an Economic Impact Assessment as part of the Environmental Impact Assessment process for the proposed Berth 605 development at the Port of Richards Bay in KwaZulu-Natal. Urban-Econ defined the project's zones of influence, developed an economic baseline and applied Social Accounting Matrix (SAM) modelling to quantify direct and indirect impacts on production, GDP, employment and household income, while also identifying mitigation and enhancement measures to support sustainable economic outcomes.
Position held:	Project Manager/Researcher

Project:	**Richards Bay Offshore Heavy Minerals Prospecting Rights Socio-Economic Impact Assessment**
Year:	2025
Location:	KwaZulu-Natal
Client:	SRK Consulting
Project Features:	Undertook a socio-economic impact assessment (SEIA) for a proposed multi-commodity prospecting right to explore offshore heavy minerals along the coast of Richards Bay in KwaZulu-Natal. The principal objective of the proposed prospecting is to identify and quantify potential mineral resources within the precinct to evaluate the viability of mining and possibly beneficiating such resources. The SEIA forms part of the EIA process and evaluates the project's potential benefits and challenges from a socio-economic perspective. The assessment considered implications on local and regional economic activity, employment and social well-being and recommended measures to mitigate negative impacts and enhance positive outcomes. The study concluded with a reasoned opinion deeming the project as acceptable from a socio-economic perspective, contingent on implementing recommended measures.
Position held:	Project Manager
Project:	**Richards Bay Lily Gas Pipeline Socio-Economic Impact Assessment**
Year:	2025
Location:	KwaZulu-Natal
Client:	CES
Project Features:	Urban-Econ Development Economists was appointed by CES to conduct a Socio-Economic Impact Assessment for the proposed Richards Bay Lily Pipeline Connection in the uMhlathuze Local Municipality, KwaZulu-Natal. The assessment evaluated the potential socio-economic impacts of the pipeline's construction and operation on local communities and the broader region. It analyzed factors such as job creation, economic growth and potential disruptions, providing recommendations to enhance positive impacts while mitigating adverse effects. The study concluded with a reasoned opinion on whether the proposed project should be authorised and conformed to the prescribed specialist socio-economic impact assessment as required and prescribed by the Environmental Impact Assessment (EIA) Regulations of 2014.
Position held:	Project Manager

Project:	**San Lameer PV Plant Socio Economic Impact Assessment**
Year:	2024
Location:	KwaZulu-Natal
Client:	PCM Recon Pty Ltd
Project Features:	Urban-Econ was appointed by PCM Recon to conduct a Socio-Economic Impact Assessment (SEIA) as part of the Environmental Impact Assessment (EIA) process managed by PCM Recon and REC Services. The study focuses on the proposed San Lameer Solar PV project and associated infrastructure in Trafalgar near Southbroom, situated in the KwaZulu-Natal (KZN) Province. The main objective of this document is to conduct a socio-economic study for the need and desirability and feasibility of the project and identify the potential impacts of the proposed project on the surrounding economic activities. The entire process undertaken is in terms of the National Environmental Management Act (NEMA), as amended
Position held:	Project Manager/Researcher
Project:	**uMhlanga Fleetwood Development Economic Impact Assessment**
Year:	2024
Location:	KwaZulu-Natal
Client:	Tyris Realty
Project Features:	Urban-Econ Development Economists (Pty) Ltd has been appointed by Tyris Realty to undertake a socioeconomic impact assessment, with a focus on the benefits, of the proposed redevelopment of the Fleetwood on Sea residential development, located in uMhlanga, KwaZulu-Natal (KZN) 20km north of Durban. The aim of this project is to determine 1) the Economic and 2) the Socio-Economic Impacts of the development in relation to the general economy and the specific socio-economic local environment within which it is to be located. The EIA used SAM modelling techniques to calculate the economic impact of the development in terms of production, GDP, Household income and employment. In addition, the assessment also calculated the anticipated new rates for the city vs current, the direct and indirect employment opportunities and other business opportunities linked to the land-uses on the site; both during construction and thereafter during the operational phases of the development after having been completed and other socio-economic impacts.
Position held:	Project Manager

Project:	**Utrecht WEF SEIA**
Year:	2024
Location:	KwaZulu-Natal
Client:	SRK Consulting
Project Features:	Urban-Econ Development Economists was appointed by SRK Consulting to undertake a baseline Socio-Economic Assessment for the proposed Mulilo Wind Energy Farm Project, located in Utrecht, KwaZulu-Natal (KZN). The purpose of the assessment was to evaluate the existing socio-economic environment and identify potential impacts associated with the development of the proposed wind energy facility. This report represents the Scoping Phase of the SEIA.
Position held:	Project Manager
Project:	**Vulindlela Bulk Water Pipeline Socio-Economic Impact Assessment**
Year:	2024
Location:	KwaZulu-Natal
Client:	Gedezar Consulting
Project Features:	Urban-Econ was appointed by Gedezar Consulting to conduct a Socio-Economic Impact Assessment (SEIA) for the development of a bulk water pipeline from the Mid Ridge Reservoir to the Mpophomeni Lower-Level Reservoir in the uMngeni Local Municipality. This project is phase 2 of the Vulindlela Bulk Water Supply Scheme, which aims to increase water supply in the Vulindlela area and Mpophomeni. The main objective was to determine the short-term and long-term impacts and determine the need and desirability of the proposed development
Position held:	Project Manager
Project:	**NPC Simuma Facility Upgrades Socio-Economic Impact Assessment**
Year:	2024
Location:	KwaZulu-Natal
Client:	SRK Consulting
Project Features:	Urban -Econ Development Economists (Pty) Ltd was commissioned by SRK Consulting to conduct a Socio-economic impact assessment on the upgrade of the NPC Simuma Quarry in the Ray Nkonyeni Local Municipality. The report identified and assessed the anticipated social and economic impacts of the proposed upgrades. It then provided enhancement measures to enhance the positive impacts and mitigation measures that could mitigate negative impacts. It further provided a specialist opinion on the need and desirability of the proposed development.
Position held:	Project Manager

Project:	**Khoemacau Copper Mining Economic Impact Assessment**
Year:	2023/24
Location:	Botswana
Client:	Loci Environmental
Project Features:	Evaluated the economic repercussions of housing mine workers in neighbouring villages. Examined both positive and negative economic impacts arising from the relocation of KCM's workforce to nearby villages. Identified and analysed the advantages and disadvantages of hosting mine workers in adjacent communities. Emphasised the benefits, including enhanced earning capacity, wealth accumulation and increased purchasing power, for the local communities.
Position held:	Project Manager
Project:	**Port of Durban Economic Impact Assessment**
Year:	2023
Location:	KwaZulu-Natal
Client:	Transnet National Port Authority (TNPA)
Project Features:	Reviewing academic and industry literature pertaining to Port of Durban activities. Planning and executing interviews with key stakeholders. Utilising both statistical and qualitative tools to collect data relevant to the Port of Durban. Evaluating policies to assess their alignment with the operations of the Port of Durban.
Position held:	Project Manager
Project:	**Socio Economic Impact Assessment of the Reconfiguration of Mhlathuze and Umgeni Water Boards**
Year:	2023
Location:	KwaZulu-Natal
Client:	BSRI
Project Features:	A socio-economic impact assessment of the reconfiguration of the Mhlathuze and Umgeni Water Boards. The study involved a situational analysis and baseline profiling of all the Water Supply Areas of the two water boards to inform the potential impacts of the amalgamation of the water boards into a single board
Position held:	Project Manager

Project:	**Paddock Macadamia Socio-Economic Impact Assessment**
Year:	2023
Location:	KwaZulu-Natal
Client:	Mayo Macs Macadamia
Project Features:	Urban-Econ Development Economists was commissioned by the Mayo Macs Macadamia Factory to undertake a socio-economic impact assessment (SEIA) relating to the expansion of the Mayo Macs Macadamia Factory located in the Paddock area of the Ray Nkonyeni Local Municipality on the south coast of KwaZulu-Natal. To proceed with the expansion process, Mayo Macs was required to submit a Basic Assessment (BA) socio-economic assessment (SEIA) as prescribed by the Environmental Impact Assessment (EIA) Regulations of 2014.
Position held:	Project Manager
Project:	**N2 Isipingo to Edwin Swales Interchange SIA**
Year:	2023
Location:	KwaZulu-Natal
Client:	Terratest (Pty) Ltd/JG Afrika
Project Features:	Urban-Econ Development Economists was commissioned by Terratest (Pty) Ltd on behalf of the South African Roads Agency SOC Ltd (SANRAL) to undertake a Social Impact Assessment (SIA) of the proposed upgrade of the N2 between the Isipingo and the Edwin Swales interchanges, which involves the addition of lanes from 3 to 5 lanes in both directions. The report identified and assessed the anticipated social impacts of the proposed development. It then provided enhancement measures to enhance the positive impacts and mitigation measures that could mitigate negative impacts. It further provided a specialist opinion on the need and desirability of the proposed development from a social perspective.
Position held:	Project Manager
Project:	**Jindal Melmoth Iron Ore Mining Socio-Economic Impact Assessment**
Year:	2023
Location:	KwaZulu-Natal
Client:	SLR Consulting
Project Features:	Urban-Econ was appointed by SLR Consulting to conduct a specialist socio economic impact assessment study for the Jindal Melmoth Iron Ore Mine. An important component of the study included engagements with I&APs to establish the impact they envisaged because of the proposed mining development and recommending mitigation measures to reduce impacts identified as being negative. The project made use of specialist economic modelling techniques including SAM Input/Output modelling to determine the economic impacts
Position held:	Project Manager

Project:	**Newcastle Coal Mine Socio-Economic Impact Assessment**
Year:	2023
Location:	KwaZulu-Natal
Client:	Cabanga Environmental
Project Features:	Urban-Econ was commissioned by Cabanga Environmental on behalf of Minetek Resources (Pty) Ltd to undertake a socio-economic Impact Assessment for the proposed Newcastle Coal project (NCP) which involved open pit mining and future underground mining of coal. This study formed part of the legally mandated Environmental and Social Impact Assessment (ESIA) which is required to inform Environmental Authorisation (EA) application process as part of a Mining Rights Application (MRA). The report identified, quantified (where possible) and assessed the anticipated socio-economic impacts of the proposed Newcastle Coal Project (NCP) on the receiving environment. It provided suggestions on measures that could mitigate negative impacts and enhance positive impacts. It further provided a reasoned
Position held:	opinion on the need and desirability of the proposed project from a socio-economic perspective and provided a summary of all consultations undertaken to inform the anticipated impacts and opinion and provided recommendations. Project Manager
Project:	**Macadamia Plant Needs and Desirability Assessment**
Year:	2023
Location:	KwaZulu-Natal
Client:	Coastal Macadamia
Project Features:	Urban-Econ Development Economists was appointed to undertake a specialist needs and desirability study for an expansion of a macadamia plant located in Ramsgate, within Ray Nkonyeni Local Municipality. This report forms part of the greater Environmental Impact Assessment Report as per the requirements of the National Environmental Management Act. A desktop review of key literature was conducted. This was undertaken to understand the legislative
Position held:	and policy context of agricultural sector and macadamia production within the local municipality, the district and the province at large Project Manager

Project:	**Economic Assessment of the Impact of Transnet's delays on PX Warehouse**
Year:	2022
Location:	KwaZulu-Natal
Client:	Newlyn Investments (PTY) LTD
Project Features:	Objectively determine the business, economic and other socioeconomic impacts that the Newlyn Group, stakeholders and society suffered due to the delays caused by the actions of Transnet during 2021 on the development and commissioning of elements of the PX Warehouse facility. Used economic modelling and various financial accounting techniques
Position held:	Researcher
Project:	**Richards Bay Logistics Hub Economic Impact Assessment**
Year:	2022
Location:	KwaZulu-Natal
Client:	ACER (Africa) Environmental Consultants
Project Features:	Urban-Econ was appointed by ACER to undertake an economic impact assessment for the KZN Logistics Hub Programme: Port of Richards Bay. The project involved determining the direct and indirect economic impacts of the proposed Port projects at local, regional and provincial levels during the construction and operational phases of the project. The project made use of specialist economic modelling techniques including SAM Input/Output modelling to determine the economic impacts.
Position held:	Researcher
Project:	**uMzimkhulu LM Natural Resources Mapping and Economic Valuation**
Year:	2022
Location:	KwaZulu-Natal
Client:	Anchor Environmental Consultants
Project Features:	Urban-Econ was appointed to undertake a comprehensive natural resource mapping and economic valuation of uMzimkhulu LM to support Local Economic Development (LED) initiatives in the municipality. The overall aim of the strategic document is to ensure congruency between strategy and the natural strengths of the region. The investigation was broken down into two phases; Phase I: Identification and mapping of natural resources and Phase II: Exploration of economic opportunities arising from the identified natural resources. Phase I was conducted by Anchor Environmental and phase II was conducted by Urban-Econ. Phase II of the study resulted in the identification of 5 high priority opportunities namely, red meat production, poultry production, wool production, maize production and tourism. Market analysis, value chain analysis together with business cases were developed for each identified high priority opportunity.
Position held:	Researcher

Project:	**La Mercy Memorial Park Socio-Economic Impact Assessment**
Year:	2022
Location:	KwaZulu-Natal
Client:	Tongaat Huletts Property
Project Features:	Urban-Econ Development Economists was appointed by Tongaat Hulett Property to undertake a socio-economic impact assessment (SEIA) study for the proposed development of the Private Memorial Park in La Mercy, north of eThekwini Metropolitan. An important component of the study included engagements with I&APs to establish the impact they envisaged as a result of the proposed development and recommending mitigation measures to reduce impacts identified as being negative. The project made use of specialist economic modelling techniques including SAM Input/Output modelling to determine the economic impacts.
Position held:	Researcher
Project:	**uShaka Marine World Socioeconomic Impact Assessment**
Year:	2020
Location:	KwaZulu-Natal
Client:	uShaka Marine World
Project Features:	Quantified the socio-economic impact of uShaka Marine World as part of its annual reporting to eThekwini Municipality. The assessment employed economic impact modelling using Input Output modelling and other data analysis techniques to quantify the social and economic impacts of uShaka on the broader eThekwini economy
Position held:	Researcher
Project:	**Nseleni Floating Power Plant – Richards Bay Economic Impact Assessment**
Year:	2020
Location:	KwaZulu-Natal
Client:	Anchor Energy Ltd
Project Features:	Conducted an economic impact assessment for a proposed floating power plant development in the Richards Bay Harbor. Applied Input-Output Economic modelling to determine the economic impact of the power plant on the local, regional and national economy.
Position held:	Researcher

Stephen Karombe

EDUCATION

2023	M Com Economics University of Witwatersrand
2016	B Com (Hons) Economics Nelson Mandela Metropolitan University (NMMU)
2015	B Com Economics & Business Management Nelson Mandela Metropolitan University (NMMU)

PROFESSIONAL MEMBERSHIPS

2017 – Current	SAPOA (Urban-Econ Development Economists Pty Ltd) - SAP-UR0485

WORK EXPERIENCE

2013 –2023	Private Researcher & Academic Tutor
2022 – 2023	Student Assistant/ Tutor: University of Witwatersrand (SEF)
2023 – 2024	Economic Analyst / Researcher: Discover Thought
2024 – Current	Urban-Econ Development Economists

SHORT RESUME

Stephen is a Development Economist at Urban-Econ since April 2024. He holds a Bachelor of Commerce degree in Economics & Business Management (majoring in economics) and an Honours in Economics, both from Nelson Mandela University. He also has a Master of Commerce in Economics from the University of Witwatersrand. Before joining Urban-Econ, Stephen worked as an Economic analyst at Discover Thought, as an independent researcher and student assistant and tutor in the School of Economics and Finance (SEF) at the University of Witwatersrand.

Stephen has developed a variety of business skills, including:

- Economic Impact Assessments
- Cost-Benefit Analysis
- Economic analysis techniques (i.e. Power Bi, Regression, SAM modelling, Trend analysis)
- EViews
- Stata

Stephen's experience at Urban-Econ includes:

- Conducting of Economic Impact Assessments in line with NEMA and EIA Regulations
- Conducting socio-economic studies in line with NEMA and EIA Regulations
- Developing of LED Strategies and Plans
- Experience in survey design, management and analysis
- Experience in qualitative and quantitative research and report writing.
- Experience in presentations and stakeholder engagements

Stephen is also fully competent and experienced in the use and analysis of economic and socio-economic datasets i.e. Stats SA, World bank, Quantec Research etc complemented by proficiency in Microsoft Office Experience in research and report writing.

LANGUAGE PROFICIENCY

LANGUAGE	READING	WRITING	SPEAKING
English	Good	Good	Good

COUNTRIES OF WORK EXPERIENCE

South Africa

REFERENCES

Tinotenda Makoni
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Cell Phone: +27 76 300 4352

EXPERIENCE RECORD

Project:	**ABO Imvubu Solar PV Plant SEIA**
Year:	2026
Location:	Utrecht
Client:	CES
Project Features:	Urban-Econ Development Economists (Pty) Ltd was appointed by Coastal and Environmental Services (CES) (Pty) Ltd to undertake a Socio-Economic Impact Assessment (SEIA) for the proposed Imvubu Solar PV Project, a photovoltaic (PV) solar energy facility, of up to 300MWac in capacity and associated infrastructure located approximately 16km south of the town of Utrecht in the Kwa-Zulu Natal Province. The study forms part of the Environmental Impact Assessment (EIA) process as prescribed in the National Environmental Management Act (NEMA) of 1998 and its subsequent amendments. The socio-economic impact study is conducted as part of the Basic Assessment (BA) process managed by CES. The assessment involved an analysis of the project's potential positive and negative impacts, proposed mitigation and enhancement measures and a reasoned opinion regarding the project's overall socio-economic sustainability and acceptability.
Position held:	Lead Researcher

Project:	**Richards Bay 1740MW Gas to Power Plant SEIA**
Year:	2026
Location:	Richards Bay
Client:	Savannah
Project Features:	Urban-Econ Development Economists (Pty) Ltd was commissioned by Savannah Environmental (Pty) Ltd on behalf of Petal Path Trading (Pty) Ltd to undertake a Socio-Economic Impact Assessment (SEIA) for the proposed development of a 1740MW Combined Cycle Power Plant (CCPP) and associated infrastructure near Richards Bay in the KwaZulu-Natal Province. The study forms part of the Environmental Impact Assessment (EIA) process as prescribed in the National Environmental Management Act (NEMA) of 1998 and its subsequent amendments and is being conducted as part of the EIA process managed by Savannah Environmental. The assessment considered the potential socio-economic impacts associated with the construction, operation and decommissioning phases of the project, including economic contribution, employment creation and potential impacts on surrounding communities and infrastructure. The SEIA included an analysis of potential positive and negative impacts, proposed mitigation and enhancement measures and a reasoned opinion regarding the project's overall socio-economic sustainability and acceptability.
Position held:	Lead Researcher

Project:	**Vaalspruit Landfill Site Socio Economic Impact Assessment**
Year:	2025
Location:	Durban
Client:	ACER
Project Features:	Urban-Econ Development Economists (Pty) Ltd was appointed by Acer Africa Environmental Consultants to undertake a Socio-Economic Impact Assessment (SEIA) for the proposed municipal landfill site on Portion 4 of Farm Vaalspruit 115, located approximately 18 km northeast of Newcastle's CBD within the Amajuba District Municipality, KwaZulu-Natal. The study, undertaken in line with the 2014 Environmental Impact Assessment Regulations, assessed the potential socio-economic implications of the proposed development. Urban-Econ delineated the project's zones of influence, profiled affected communities and economic activities and applied Social Accounting Matrix (SAM) modelling to quantify the project's contribution to production, GDP, employment and household income. The study also evaluated cumulative impacts, proposed mitigation and enhancement measures and provided a reasoned conclusion on the project's overall socio-economic acceptability.
Position held	Researcher

Project:	**Maydon Wharf Upgrade Project Economic Impact Assessment**
Year:	2025
Location:	Durban
Client:	WSP
Project Features:	Urban-Econ Development Economists was appointed by WSP to conduct an Economic Impact Assessment on the development of the Maydon Wharf Upgrade project at the Port of Durban (POD) in eThekwini municipality KwaZulu-Natal. This study provides a specialist socio-economic impact assessment as required and prescribed by the Environmental Impact Assessment (EIA) Regulations of 2014 to assess the potential impacts of this development. The report assesses the potential socio-economic impacts and includes recommendations to enhance the positive impacts and reduce the potential negative impacts of the Project.
Position held	Lead Researcher

Project:	**The Lakes /Westown Industrial and Logistics Precincts Socio Economic Impact Assessment**
Year:	2024
Location:	KwaZulu-Natal
Client:	Fundamentum Dev Co Pty Ltd
Project Features:	ɒan-econ Development Economists was appointed by Fundamentum to conduct a Socio-economic Impact Assessment (SEIA) on the development of The Lakes and the Westown Industrial and Logistics Precinct in Westown Shongweni in eThekwini municipality KwaZulu-Natal. Therefore, these studies provide the specialist socio-economic impact assessment as required and prescribed by the Environmental Impact Assessment (EIA) Regulations of 2014 to assess the potential impacts of this development. These reports seek to assess the potential socio-economic impacts and have included recommendations to enhance the positive impacts and reduce the potential negative impacts of the Projects. This is done to enhance the foreseeable benefits of the Projects.
Position held	Lead Researcher

LANGUAGE PROFICIENCY

LANGUAGE	READING	WRITING	SPEAKING
English	Excellent	Excellent	Excellent