

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF THE RICHARDS BAY COMBINED CYCLE POWER PLANT (CCPP) AND ASSOCIATED INFRASTRUCTURE ON A SITE NEAR RICHARDS BAY, KWAZULU-NATAL PROVINCE

**Socio-Economic Impact Study
Scoping Phase Input
May 2017**

Prepared for:



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ABBREVIATIONS

CAGR	Compounded Average Growth Rate
DM	District Municipality
DoE	Department of Energy
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
GDP	Gross Domestic Product
GDP-R	Gross Domestic Product per Region
Ha	Hectare
I&AP	Interested and Affected Parties
IDZ	Industrial Development Zone
IPP	Independent Power Producer
IPAP	Industrial Policy Action Plan
IRP	Integrated Resource Plan
LM	Local Municipality
MW	Mega Watt
NDP	National Development Plan
NEA	Not Economically Active
NGPF	New Growth Path Framework
NPA	National Port Authority
PGDP	Provincial Growth and Development Plan
PSEDS	Provincial Socio-Economic Development Strategy
RBIDZ	Richards Bay Industrial Development Zone
SEZ	Special Economic Zone
SDF	Spatial Development Framework

1. INTRODUCTION

This document is prepared by **Urban-Econ Development Economists** (Urban-Econ) in response to a request by **Savannah Environmental (Pty) Ltd** (Savannah Environmental) to undertake a Scoping Assessment for the proposed Richards Bay Combined Cycle Power Plant (CCPP) near Richards Bay, in KwaZulu-Natal.

This report was formulated for input into the scoping phase of the Environmental Impact Assessment (EIA) process managed by Savannah Environmental. The aim of the report is to describe the current socio-economic baseline characteristics of the delineated study area, and identify the potential influence of the proposed project on the surrounding economic activities and communities in order to guide the assessment during the next phase, i.e. EIA phase.

The purpose of the EIA phase will be to elaborate on the issues and potential impacts identified during the screening and scoping phase. The EIA report includes:

- * A description of the environment that may be affected by the activity and the manner in which the environment may be affected by the proposed project
- * A description and evaluation of environmental issues and potential impacts (including direct, indirect and cumulative impacts) that have been identified
- * Direct, indirect and cumulative impacts and of the identified issues must be evaluated within the EIA Report in terms of the following criteria:
 - * The nature, which shall include a description of what causes the effect, what will be affected and how it will be affected;
- * A statement regarding the potential significance of the identified issues based on the evaluation of the issues/impacts
- * A comparative evaluation of the identified feasible alternatives, and nomination of a preferred alternative
- * Any aspects which are conditional to the findings of the assessment which are to be included as conditions of the Environmental Authorisation
- * This must also include any gaps in knowledge at this point of the study. Consideration of areas that would constitute "acceptable and defensible loss" should be included in this discussion.
- * A reasoned opinion as to whether the proposed project should be authorised.
- * Summary of the positive and negative impacts and risks of the proposed project and identified alternatives
- * Mitigation measures and management recommendations to be included in the Environmental Management Programme to be submitted with the FEIR (Savannah Environmental, 2017)

1.1 Brief description of the project

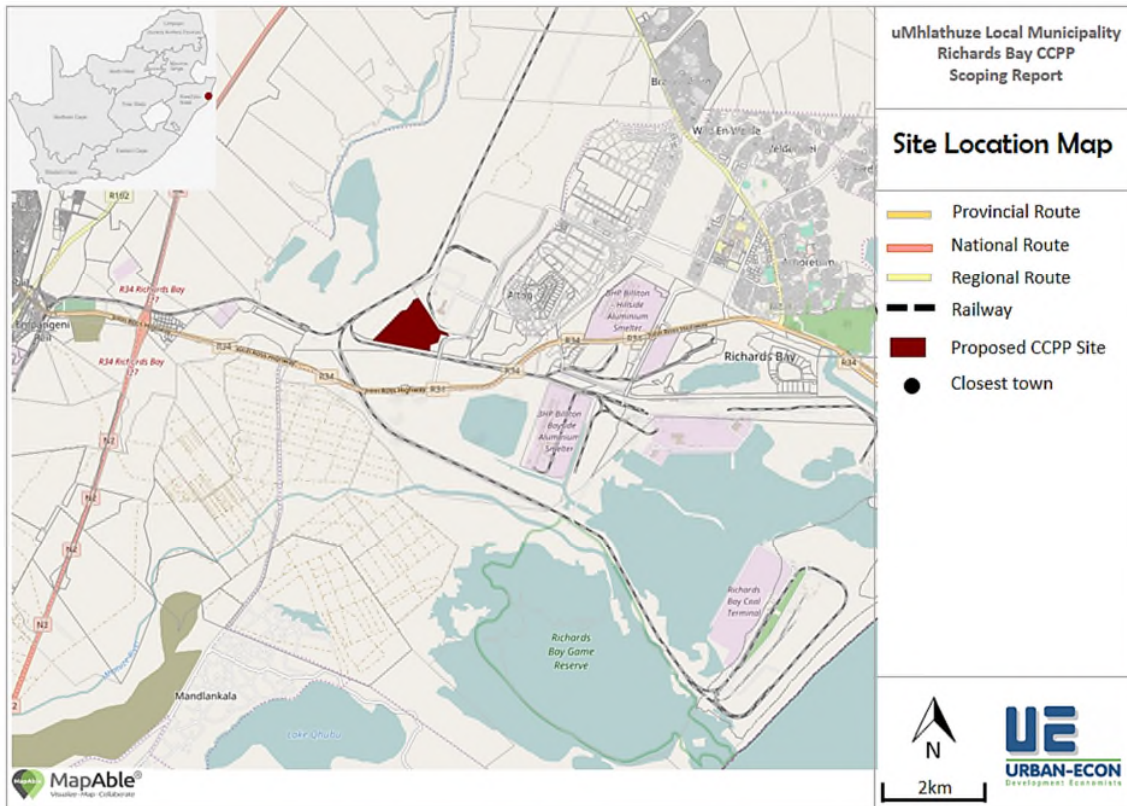
Eskom seeks to develop a 3 000MW CCPP near Richards Bay, in KwaZulu-Natal. A CCPP utilises a gas turbine generator to produce electricity. The waste heat is used to make steam in order to generate additional electricity through a steam turbine. A CCPP is considered to be one of the most efficient power generating methods to convert gas (or

diesel fuel in some cases) to mechanical power or electricity (Eskom, 2016). This is considered as one of the most sustainable alternatives for the generation of efficient electricity.

The footprint of the development site is envisaged to be around 40-60ha; it will be located in close proximity to the National Port Authority (NPA). The following development infrastructure will need to be constructed:

- * Diesel truck off-loading facility with storage tanks
- * Gas turbines
- * Heat recovery steam generators
- * Steam turbines
- * Diesel storage
- * Balance of plant
- * Buildings and auxiliaries
- * Water and Gas Pipelines

The project is located in the City of uMhlatuze Municipality and within the King Cetshwayo District Municipality (previously referred to as the uThungulu District Municipality) in KwaZulu-Natal. The site is in Richards Bay, and is about 5km from the Central Business District. The site is also located within the Richards Bay Industrial Development Zone (IDZ) and is known as Phase 1D.



Map 1-1 Location of Proposed CCPP

1.2 Scope and purpose of the study

The purpose of the Scoping Report is to determine the status of the socio-economic environment and to identify preliminary key issues and potential impacts of the proposed project. The report is prepared as part of the socio-economic study and is used as input into the scoping report that is compiled by Savannah Environmental. The scoping phase inputs address only a portion of the scope of the work involved in the Socio-Economic Impact Assessment Study, and enable the project team and the client to make more informed decisions regarding the way forward for the proposed project, from an environmental management point of view.

The scope of the socio-economic scoping report is as follows:

- * Undertake a policy review and assess the alignment of the proposed project with the national, provincial and local socio-economic policies;
- * Create a socio-economic profile for the study area using secondary data ;
- * Identify potential negative and positive economic impacts that could be generated by the proposed site during the project life cycle ;
- * Identify impacts and project effects (direct, indirect, induced, and cumulative) that will require further investigation and recommend an approach for perusal during the EIA phase for completion of the impact assessment exercise; and
- * Identify gaps in knowledge and data that will need to be addressed during the EIA phase.

1.3 Methodology

The methodological approach adopted for conducting the scoping study includes three phases:

- * **Data collection:** Secondary research encompassing the examination of relevant policies, local and provincial strategic documents, and secondary data presented by Stats SA and Quantec. The information obtained, assists in providing a profile of the socio-economic environment that could potentially be affected. Primary data gathering is also undertaken, involving contacting representatives of the local authorities and other interested and affected parties to gain insight into their perspectives on the proposed development, including concerns and other issues that may be raised.
- * **Baseline profiling:** A description of the study area is given in terms of selected socio-economic variables. It includes the analysis of spatial context and regional linkages, population size and household numbers, structure and growth of the economy, labour force and employment situation, as well as access to basic services and the state of the local built environment. Profiling for the study is done by making use of the Quantec Research database, Stats SA's Census 2011 data, and various strategic documents produced for the relevant municipality. A brief profile of the directly affected zone of influence is also provided.
- * **Identification of the anticipated impacts:** This step includes the identification of the socio-economic impacts that could be expected during various phases of the

project's life cycle and the way forward with respect to the collection of data required to quantify and qualify the impacts.

1.4 Data gathering and consultation process

The project made use of both primary and secondary data in order to assess the impacts and desirability of the project.

1.4.1 Secondary data analysed

- * Stats SA Census, 2011
- * Quantec Research Standardised Regional Data, 1995-2013
- * New Growth Path Framework (NGPF)
- * National Development Plan (NDP) 2030
- * Integrated Resource Plan (IRP) 2010 – 2030
- * Industrial Policy Action Plan (IPAP) 2014/2015 – 2016/2017

1.4.2 Primary data collected

The primary data gathering for this project was done via in-person interviews. The site visit and meetings with key respondents took place on the 24th of April 2017. The following people were interviewed:

- * Mthokozisi Mhlongo - Land Use Manager (City of uMhlathuze Municipality)
- * Londiwe Zama – Senior Town Planner (City of uMhlathuze Municipality)
- * Brenda Strachan – Spatial Planning Manager (City of uMhlathuze Municipality)
- * Sharin Govender - Environmental Planning (City of uMhlathuze Municipality)
- * Sibongile Qulu – Property Evaluations (City of uMhlathuze Municipality)
- * Wisdom Mpofu- Environmental Planning (King Cetshwayo District Municipality)
- * Candice Webb – Environmental Manager (Mondi Factory)

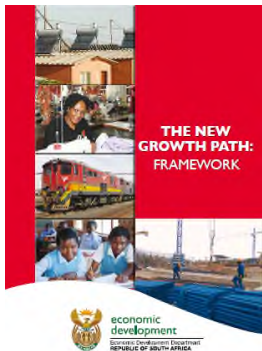
2. POLICY REVIEW

A policy review plays an integral role in the initial stages of a project. The review provides an indication of whether a project is aligned with the goals and aspirations of the developmental vision across the three spheres of government. Furthermore, the analysis signposts any red-flag or developmental concerns that could jeopardise the development of the project and assist in amending it, preventing costly and unnecessary delays.

The following government strategic documents applicable to the delineated project site area were examined:

- * National (South Africa):
 - o New Growth Path Framework (NGPF) (2011)
 - o National Development Plan (NDP) 2030 (2011–2030)
 - o Integrated Resource Plan for Electricity (IRP) 2010-2030
 - o Industrial Policy Action Plan (IPAP) (2016/2017–2018/2019)
- * Regional (KwaZulu-Natal Province):
 - o KwaZulu-Natal Provincial Growth and Development Plan (2016)
 - o Provincial Spatial Economic Development Strategy (PSEDS) (2016)
- * Local (uThungulu DM and uMhlathuze LM):
 - o uThungulu District Municipality Growth and Development Plan (2015)
 - o uThungulu District Municipality Integrated Development Plan (IDP) 2011/12-2016/17 (2016)
 - o City of uMhlathuze Municipality Integrated Development Plan (IDP) (2016)
 - o Richards Bay Integrated Development Zone (RBIDZ) (2016)
 - o uThungulu Spatial Development Framework (SDF) (2015)
 - o City of uMhlathuze Spatial Development Framework (SDF) (2016)

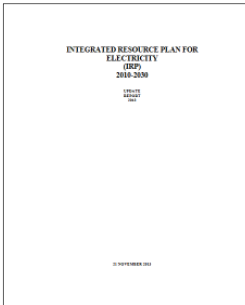
2.1 Project alignment with National policies and strategic documents



The vision of the **New Growth Path Framework (NGPF)** is to ensure that jobs and decent work are at the centre of economic policy (Department of Economic Development, 2011). The key problem issues are mass joblessness, poverty, and inequality. The lack of access to energy is identified as a major concern for the growth of the economy. Therefore, increased access to energy would have a profound effect on curbing poverty and unemployment. The framework states that public investment can create 250 000 jobs per annum in energy, transport, water, communications infrastructure and housing. These jobs are said to be in four activities, the construction of new infrastructure; the operation of new facilities; expanded maintenance; and the manufacture of components for the infrastructure programme (Department of Economic Development, 2011).



The **National Development Plan (NDP) 2030** aims to address parts of the South African triple development challenges of poverty and inequality by 2030. The Plan is informed by the NGPF and states that the diversification of energy such as liquefied natural gas imports and the associated infrastructure is imperative as it could provide economic and environmentally positive alternatives for power production (National Planning Commission, 2011). Furthermore, the plan states that combined cycle gas turbines provide flexibility in the power system and complements variable supply from renewable energy sources. It is envisaged that by 2020, liquefied natural gas infrastructure will be in place to power the first combined cycle gas turbines (National Planning Commission, 2011).



The **Integrated Resource Plan for Electricity (IRP) 2010 – 2030 promulgated in 2011** argues that the development of the electricity generation sector can support the growth of the national economy (Department of Energy, 2013). The IRP calls for a diversified energy mix, in terms of new generation capacity. The plan asserts that natural gas presents the greatest significant potential in the energy mix. It is envisaged that the gas-derived electricity will be through open-cycle gas turbines (OCGT) and combined cycle gas turbines (CCGT), which should generate 3.9GW and 2.4GW, respectively. While the above-mentioned supply is the target for 2030, the IRP asserts that CCGT technologies and an LNG terminal needs to be built urgently so that the first CCGT capacity is available by 2020 to assist with electricity supply in the short run. The IRP recognises that Gas Fired Combined Cycle Gas Turbines (CCGTs) present the most significant potential for developing the gas market in South Africa. The advantages of developing CCGT plants have been listed as:

- Relatively short construction and commissioning lead times
- Low capital costs per unit of capacity
- Increased efficiency using simple and proven technology
- Operational flexibility as they can be ramped up or down to suit the system demand on an hourly or daily basis (Department of Energy, 2013).

The 2016 IRP, which is still in the process of being reviewed and commented on, called for a higher allocation of energy generating capacities to OCGT and CCGT than the IRP 2010, mentioned above (5.4 GW for OCGT and 7.3 GW for CCGT by 2030). This suggests that if the IRP 2016 is promulgated, the proposed project will still be in line with the government plans concerning the energy mix.



The **Industrial Policy Action Plan (IPAP) 2016/2017 – 2018/2019** represents a significant step forward in scaling up the country's efforts to promote long-term industrialisation and industrial diversification. It has been recognised that the Southern African region is fast transforming into an oil and gas jurisdiction led by major

on and offshore gas finds in Mozambique, Tanzania, Botswana and Namibia. From a South African perspective, the scale of the find in neighbouring Mozambique (estimated at between 200-250tcf) is of particular significance. Accordingly, the plan states that a key industrial growth path is gas-based industrialisation (Department of Trade and Industry, 2016).

In this quest, the development of the long-term strategic framework to leverage the opportunities presented by regional oil and gas resources was created. The core purpose of this intervention is to put in place the necessary institutional infrastructure to implement the long-term strategic programme and maximise the multiplier effects of recently discovered and potentially forthcoming Southern African natural gas resources (Department of Trade and Industry, 2016).

The **Gas Utilisation Master Plan (GUMP)** was created to assist in achieving the objectives of the IRP by driving the development of the gas-to-power industry in South Africa. According to the GUMP, the social economic advantages of establishing a large gas-to-power industry include job creation (during construction and operation), industrial development, the potential to use LNG instead of diesel, and a source of cheaper energy.



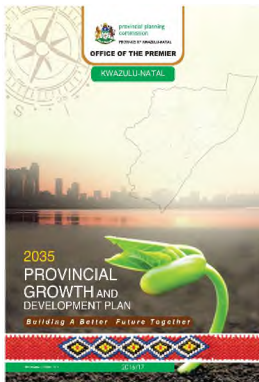
South Africa's gas-to-energy development plan spans 30 years, in which gas supply is envisaged to include local indigenous supply as well as imports through pipelines and by ship.

The GUMP identifies challenges facing the development of the gas industry in South Africa. These are: limited domestic supply; no immediate gas demand as yet; lack of gas infrastructure (no LNG import terminal yet); no gas master plan. It is envisaged that by the time construction of the proposed development is complete, more gas infrastructure will be available, such as the LNG import terminal at the Richards Bay port. However, the proposed development itself contributes towards gas infrastructure and, therefore, helps alleviate one of the challenges facing the industry. GUMP identifies that there are potential gas reserves in the Karoo basin, deep offshore, and at the Ibhubesi basin. Through the local pipeline infrastructure, the gas-fired station in Richards Bay could acquire local gas cheaply if the infrastructure to obtain it is developed. However, as identified, the lack of said infrastructure is currently a constraint. The timing of the development will likely fall in-line with the development of other gas-related infrastructure such as the LNG port in Richards Bay and the extension of gas pipelines; therefore, the proposed project supports the implementation of GUMP.

A correlation between the proposed CCPP Plant with the aims of national policies is evident. The job creation activities identified in the NGPF such as construction, operations and expanded maintenance are phases of the proposed CCPP. The NDP and IRP explicitly recommend and have targets for the development of a CCPP by 2020. Lastly, the IPAP sought to make use of regional gas resources

and envisions a gas-based industrialisation. Overall, more efficient and competitive infrastructure is envisaged, particularly infrastructure that facilitates economic activity and is conducive to growth and job creation.

2.2 Project alignment with Provincial policies and strategic documents

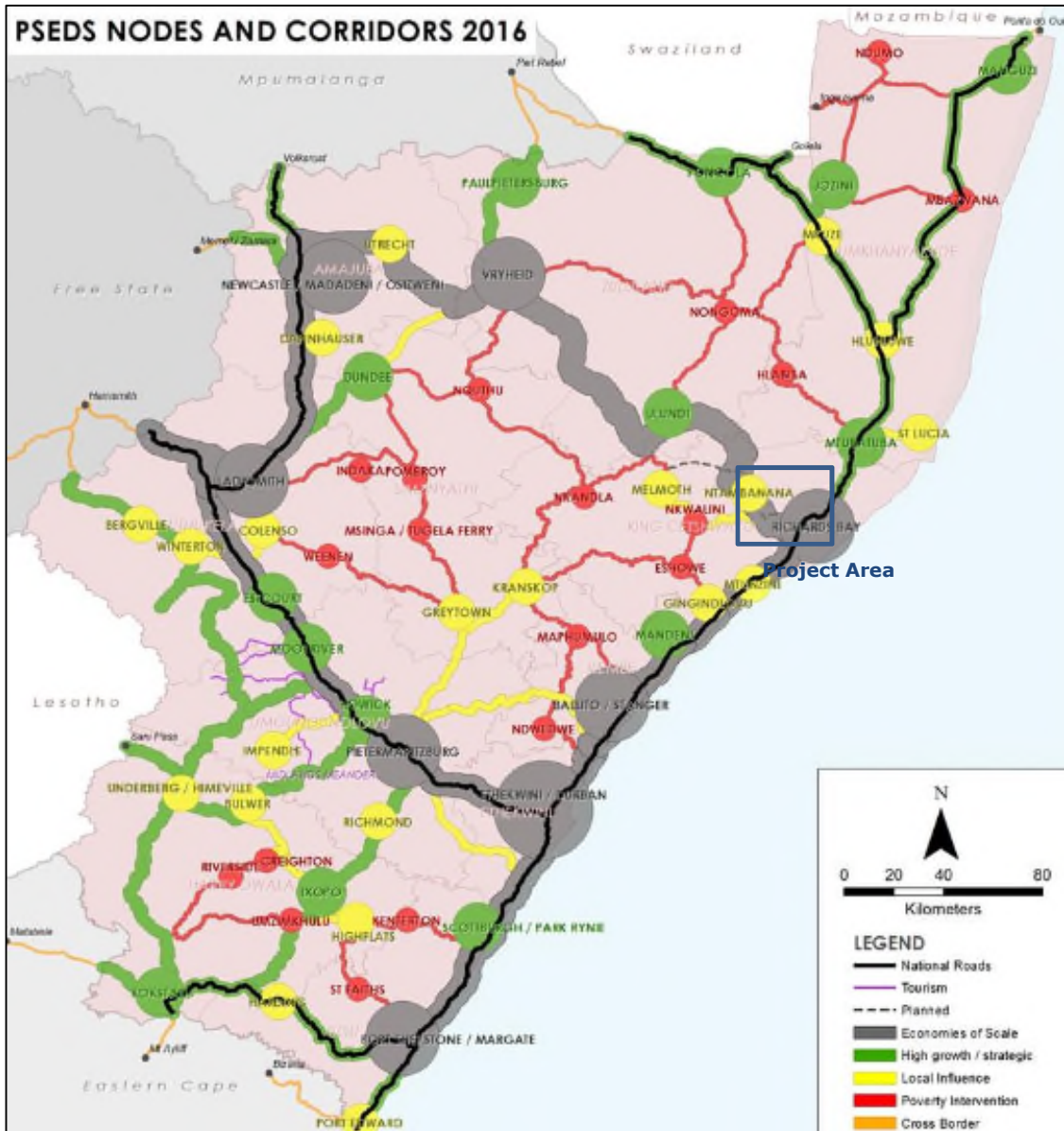


Similar to the NDP and NGPF, **the KwaZulu-Natal Provincial Growth and Development Plan (PGDP)** aims to curb poverty, inequality and achieve shared growth. The PGDP has identified spatial marginalisation as one of the key issues to be addressed through ensuring economic opportunities that will meet the majority of the population's needs. The plan states that alternative sources of energy are a priority and must be realised. This energy is anticipated through gas and diesel turbines which were anticipated to be on-line in 2016 (Provincial Planning Commission, 2016).

A catalytic project is defined as a project of significant scale and scope that will make a substantial impact and contribution to the achievement of the vision and goals of the Province. The Industrial Development Zone (IDZ) is defined as a game changer in the context of catalytic projects. The proposed CCPP will be located in the IDZ Phase 1D (Provincial Planning Commission, 2016).

The **Provincial Spatial Economic Development Strategy (PSEDS)** serves as a framework for the prioritisation of spatial economic development initiatives in the province. It is meant to capitalise on complementarities and facilitate consistent and focused decision making. In addition, the purpose of the strategy is to ensure that investment occurs in the sectors that provide the greatest socio-economic return to investment (Department of Economic Development, 2016).

Map 2-1 below demonstrates that the proposed project area is located in an area demarcated as having economies of scale. Economies of scale are achieved when the number of units produced or the volume of services sold are at such a large scale that it allows for the reduced production costs, ultimately increasing the competitiveness of the product or service. High demand for the product or a service is a prerequisite for economies of scale; this implies that the area where the proposed project is to be built enjoys high demand for selected goods and services, including electricity. The area is already highly industrialised and hosts an IDZ, which continuously seeks new investments in ICT, agro-businesses, and metals beneficiation. Therefore, the project is to be located in a potentially high economic growth region.



Map 2-1: KZN Spatial Economic and Development Strategy Nodes and Corridors (PSEDS, 2016)

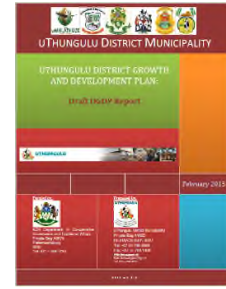
The provincial policy arena reveals support for the development of a CCPP plant. The Provincial Growth and Development Plan anticipated the development of a CCPP for 2016. Furthermore, as indicated in the PSEDS, the project is to be located in a strategic region.

2.3 Project alignment with Local policies and strategic documents

The ¹uThungulu District Growth and Development Plan (DGDP) has an integral role in the integration and alignment of the goals of the NDP at national level and PGDP at

¹ UThungulu District Municipality was renamed King Cetshwayo District Municipality in July 2016

provincial level. Therefore, the purpose of the DGDP is to translate the Provincial Growth and Development Plan into a detailed implementation plan at a district level (Uthungulu DM, 2015). One strategic intervention identified by the plan is the implementation of the roll-out programme for alternative sources of energy supply in the district where the gas-fixed electricity generation is classified as alternative energy supply.



The vision for the **uThungulu District Municipality Integrated Development Plan IDP 2016/17** is to be *"an economically viable district with effective infrastructure that supports job creation through economic growth, rural development and promoting of our heritage"* (uThungulu DM, 2016;12). As indicated in the vision, one of the goals is infrastructure development and service delivery. In addition, the plan further states that a combined strategy between the King Cetshwayo DM and Eskom is urgently required to form an integrated and sustainable electricity service delivery within the district. The Richards Bay Industrial Development Zone (RBIDZ) is identified as a catalytic project (uThungulu DM, 2016). Quintessentially, the objective is to promote economic growth in the District and improve the socio-economic conditions of residents.



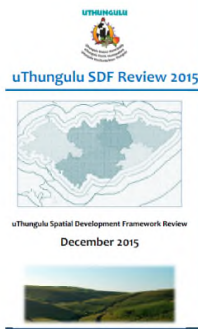
Like the District IDP, the **City of uMhlathuze Municipality Integrated Development Plan's** objective is to promote economic growth in the District and improve the socio-economic conditions of residents (uMhlathuze LM, 2016). The unsustainable use of resources, including energy, will ultimately compromise the Municipality's energy security. Challenges similar to these prompted the IDP to focus on sustainable solutions to the energy crisis. Therefore, the aim is to reduce the demand for energy and simultaneously investigate alternative energy sources.



The purpose of the **Richards Bay Industrial Development Zone (RBIDZ)** is to utilise the competitive advantage of the Richards Bay area to attract sustainable investments that stimulate economic growth, job creation, beneficiation of resources and the empowerment of people. Amongst other industrial efforts, the RBIDZ has assumed a role in stewarding the establishment of an energy production hub (Richards Bay IDZ SOC, 2016). In addition, non-renewable energy is one of the economic comparative advantages and these are key maritime opportunity areas for gas-to-power facilities. In this quest, there are ongoing collaborations with the Department of Energy to ensure that the province of KwaZulu-Natal contributes significantly to the amelioration of the burdensome load shedding phenomenon. Furthermore, these efforts will produce diversified energy generation capacity for renewable sources.

The local policies place emphasis on improving service delivery and socio-economic conditions for residents. The Richards Bay IDZ is a key project for economic growth and achieving some of the main objectives in the municipality. The IDZ makes a clear call for gas-to-power facilities to be established in its vicinity. In essence, a dedicated support for the CCPP project is reflected in local policy.

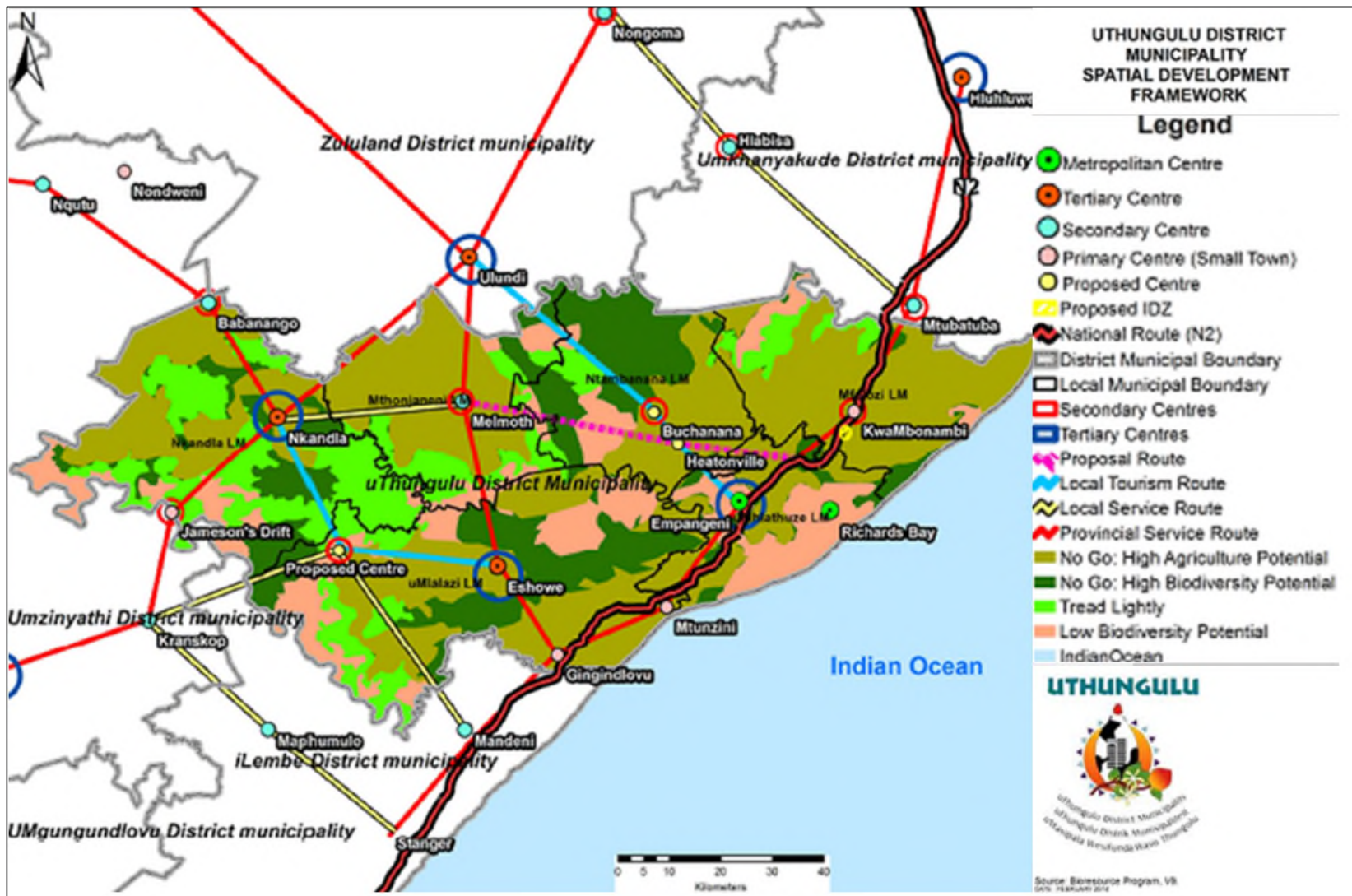
2.4 Project alignment with Spatial Development Frameworks



The **uThungulu District Municipality Spatial Development Framework** serves to provide a high level spatial plan, which can be used by municipalities to guide local level spatial, precinct and statutory planning. The SDF employs a structural approach aimed at identifying and restraining the current inefficiencies in the use of district and regional space (uThungulu DM, 2015).

From an infrastructure perspective, the SDF calls for centralisation and rationalisation in the provision of infrastructure and services, using available space in a quest to address the inefficiencies and costs (social, environmental and economic) associated with uncontrolled urban sprawl. Considering economic issues, the provision of spatial locations where distinct typologies of economic development is appropriate and can be used to benefit local communities and the regional economy without further destroying the dynamic balance between landscape and society, is recommended (uThungulu DM, 2015).

Map 2-2 below illustrates that the proposed project area is in a low biodiversity potential area.



Map 2-2: uThungulu District Municipality Spatial Development Framework



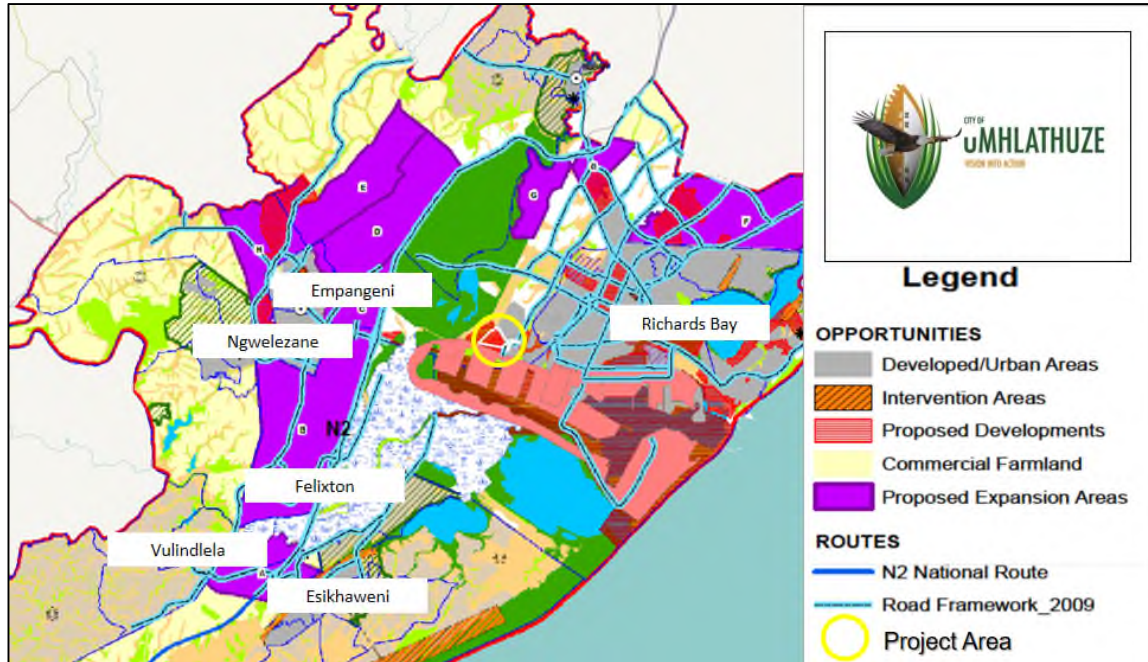
SDF REVIEW

2016/2017
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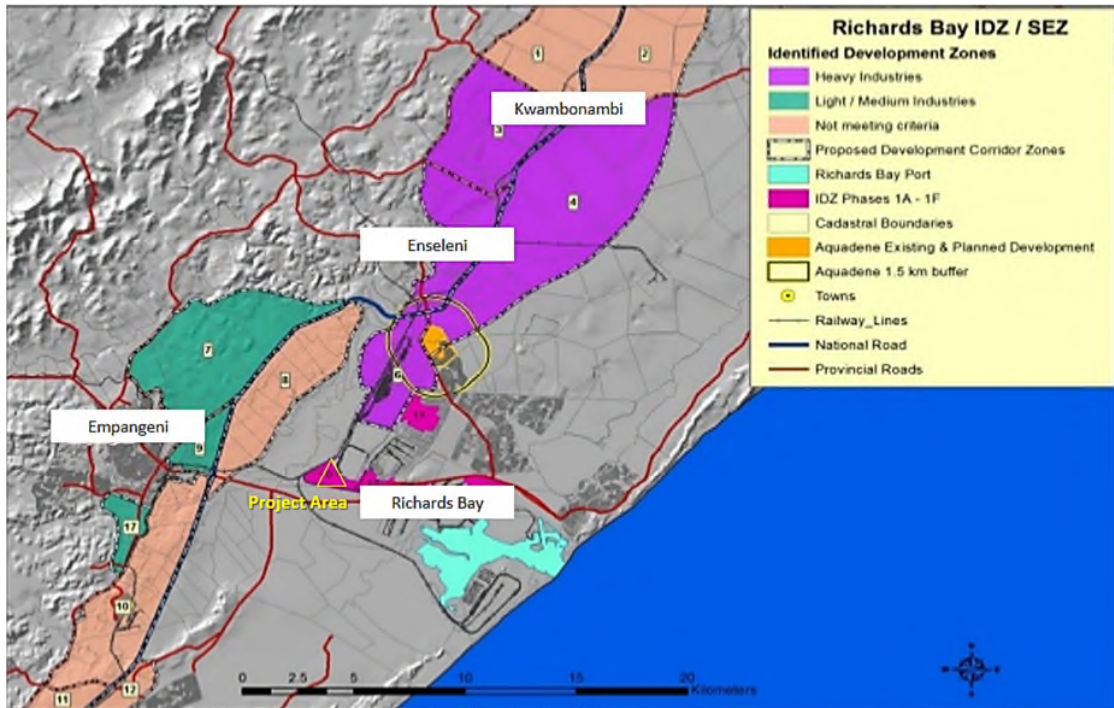


The vision of the **City of uMhlathuze Municipality Spatial Development Framework (SDF)** is that of a *"progressive and sustained socio-economic transformation poised for equal distribution of opportunities to all citizens"* (pg. 12). The SDF classifies Richards Bay as an urban centre, with servicing capacity and opportunity for densification that can support thresholds for a range of services, industry and public transport. Furthermore, Richards Bay is regarded as the fastest development industrial centre in South Africa (uMhlathuze LM, 2016).



Map 2-3: uMhlathuze Municipality Spatial Development Framework (uMhlathuze LM, 2016)

As indicated in Map 2-4, the proposed project site is located in the IDZ. A portion of the project site is demarcated for conservation and the remainder for the proposed development. Furthermore, the site has been identified for high impact industry. The land use manager from the City of uMhlathuze Municipality states that gas to power facilities are new forms of energy generation in the city. The town planning scheme will therefore have to be reviewed in order to define and categorise the land use for gas to power facilities. Currently, the CCPP will fall under the category of high impact industry.



Map 2-4 Richards Bay Industrial Development Zone (uMhlatuze LM, 2016)

3. BASELINE PROFILE

This chapter examines key socio-economic characteristics of the study area. This is essential as it provides both qualitative and quantitative data relevant to the communities and economies under observation, creating a baseline that will then assist in identifying the sensitive receptors and potential impacts.

The following socio-economic indicators are analysed in this chapter:

- * Spatial Compositions and Land-Use
- * Demographic Profiling
- * The Economy and its Structure
- * The Labour Force and Employment Structure
- * Status of Infrastructure

3.1 Study area's composition and locational factors

a) Spatial context and regional linkages

The KwaZulu-Natal Province is one of the country's most popular tourist destinations and was founded in 1994 when Zulu Bantustan of KwaZulu merged with the Natal Province. It is South Africa's third smallest province with an area of over 94 000km². The province house the second largest population with over 10 million inhabitants, which was nearly 20% of the country's total population (Brand South Africa, 2012). The Province is surrounded by Maputo in the far north east, Swaziland in the north east and Lesotho along the south west boundary. Domestically, it shares borders with Mpumalanga to the north, Free State to the west, and the Eastern Cape along the south west. KwaZulu-Natal comprises of eleven District Municipalities (DM), one of which is the eThekweni Metropolitan Municipality. The remaining ten district municipalities are the Amajuba DM, the Zululand DM, the uMkhanyakude DM, the King Cetshwayo DM, the uMzinyathi DM, the uThukela DM, the uMgungundlovu DM, the iLembe DM, Ugu DM, and the Harry Gwala DM.

uThungulu District Municipality was renamed King Cetshwayo District Municipality in July 2016. The King Cetshwayo DM is a Category C municipality. This denotes that the municipality has a municipal executive and legislative authority in an area that includes more than one municipality (Africa S. o., 1996). The district is subdivided into five local municipalities (LM) namely, the City of uMhlathuze Municipality, the uMlalazi LM, the Mthonjaneni LM, the Nkandla LM, and the uMfolozi LM (Local Government Handbook, undated).

The City of uMhlathuze Municipality was merged with part of Ntombanana Local Municipality on the 3rd of August 2016. The City of uMhlathuze Municipality is a Category B municipality, which means it shares municipal executive and legislative authority with a category c municipality within whose area it falls (Africa S. o., 1996). It is the smallest local municipality of the five municipalities in the King Cetshwayo District Municipality. The main economic sector in the municipality is manufacturing, which makes up 45.9%. Lastly, the municipality housed a population of over 360 000 in 2011 (Local Government Handbook, undated).



Map 3-1: King Cetshwayo District Municipality Local Municipalities and key Towns (source: www.municipalities.co.za)

b) Major towns and settlements

The City of uMhlathuze Municipality was formed by the consolidation of the towns of Empangeni and Richards Bay. The other towns in the municipality are Ngwelezana and Felixton, about 28km from the proposed project area. The proposed development is located in Richards Bay. Richards Bay is considered as the industrial and tourism hub of the municipality. In addition, it is the centre of operations for South Africa’s aluminium industry. The Coal Terminal is instrumental in securing the country’s position as the second largest exporter of steam coal in the world. Furthermore, Richards Bay Minerals is the largest sand-mining and mineral processing operation in the world.

The next closest town is Empangeni which received its name from Mpange Trees. It is located 15kms from Richards Bay. The expansion of Empangeni town was triggered from the sugar mill construction. Many of the residents of Empangeni are employed in Richards Bay (Brand South Africa, 2012).

c) Locational Factors and Major Tourism attractions

The project area is located over 150kms north of Durban and can be accessed via the N2. The rich abundance of birdlife that extends over a number of habitats has made tourism in Richards Bay become one of the area’s premier attractions (South Africa, undated). Additionally, key tourism areas include Thulasihleka Pan, the Isimangaliso World Heritage Site, Onyoge Forest, Dlinza Forest and Nseleni Nature Reserves.

Mining activity in and near Richards Bay include ilmenite, rutite and zircon from deposits in forested coastal sand dunes which has been taking place since the mid-1970s. The Senior Town Planner of the City of uMlathuze Municipality argues that more efforts can be directed to branding the tourism in the municipality.

d) Sense of place, history and cultural aspects

The principle language in KwaZulu-Natal is IsiZulu followed by English and Afrikaans. The remnants of British colonialism and a combination of Zulu, Indian and Afrikaans give the

province a rich cultural diversity. The rich Zulu culture in the province serves the tourism sector where visitors experience Zulu hospitality, dance, song and food.

The sense of place has transitioned from an agricultural era spurred by the sugar cane farming to industrialisation with manufacturing and mining. Current day Richards Bay is essentially an industrial town with layers of natural aesthetic and farming activity.

3.2 Demographic Profile

The population of any geographical area is the cornerstone of the development process, as it affects the economic growth through the provision of labour and entrepreneurial skills, and determines the demand for the production output. Examining population dynamics is essential in gaining an accurate perspective of those who are likely to be affected by any prospective development or project. This sub-section describes the status quo of the study area’s population.

a) Population Demographics

The City of uMhlathuze Municipality has a population of approximately 358 282, with a total of 93 632 households (Stats SA, 2015). The City of uMhlathuze Municipality constitutes over a third of the population, thus having the highest population in the King Cetshwayo District Municipality (DM). Furthermore, 42% of the total households in the King Cetshwayo DM are located in the City of uMhlathuze Municipality. The average growth rate over the past ten years has been just over 1%. A large portion of 58% of the population resides in Tribal areas, followed by 39% located in urban areas, and the remaining 3% resides on Farm land (uMhlathuze LM, 2016). 88% of the population are Black, 7% are White, 4% are Asian/Indian and the remaining 1% are Coloured. IsiZulu is the most common language in South Africa, KwaZulu-Natal and City of uMhlathuze Municipality with 23%, 81% and 79%, respectively.

Across all scales, a greater proportion of the population is comprised of females. Figure 3-1 below further indicates that the majority of the population are aged between 15 and 34 and the minority of the population are aged over 65 years.

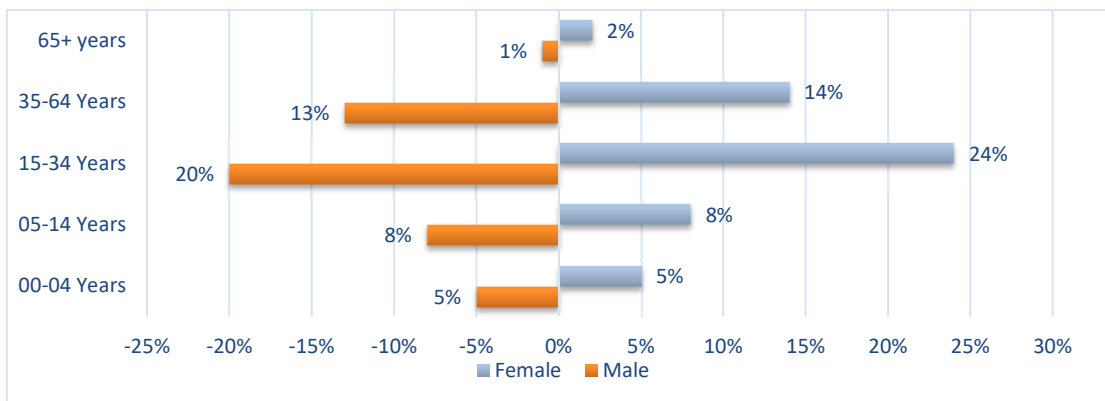


Figure 3-1: Age Gender Composition in uMhlathuze Local Municipality

The working age population (15-64) constitutes just over 7% of the population. A quarter of the population is aged below the age of 15.

b) Health demographics

The City of uMhlathuze Municipality had a reported 60 397 individuals that were HIV-positive in 2015, which equates to 17% of the total LM population. The percentage is greater than the provincial and national levels of 15% and 11%, respectively. This implies that decreased productivity of workers, increased absenteeism and additional costs for training new workers is prevalent. It also represents a greater demand and pressure on health facilities. This is of grave concern to the municipality’s workforce and social facilities.

c) Income Levels

The average monthly household income in the City of uMhlathuze Municipality was R8 382 in 2011, with 2% of the households earning no sustainable income. Overall, 38% of the households within the local municipality earned up to R3 200 per month. In Richards Bay, 6% of the households had no income and 15% earned up to R3 200. The largest range of income earned in Empangeni is between R1 and R3 200. According to the City of uMhlathuze Municipality’s land use manager, income is derived in Richards Bay, but is not retained in the town because it is spent elsewhere.

Table 3-1: Income profile (2011)

Income Level	uMhlathuze Municipality	Richards Bay	Empangeni
No Income	2%	6%	7%
R1 - R3 200	38%	15%	36%
R3 201 - R6 400	14%	14%	15%
R6 401 - R12 800	16%	21%	18%
R12 801 - R25 600	13%	21%	15%
R25 601 - R51 200	5%	11%	4%
> R51 200	2%	3%	1%

(Stats SA, 2015)

d) Education Levels

A minute percentage of the adult population (+20 years) does not have schooling. In the City of uMhlathuze Municipality and the towns of Richards Bay and Empangeni, the adult population with no schooling constitute 7%, 6% and 2%, respectively. Richards Bay has the highest population of residents who have completed matric and have higher qualifications. Just over a third of the adult population have attained a matric certificate. The education levels are therefore moderate.

3.3 The Economy

In 2015, The City of uMhlathuze Municipality’s economy was valued at R23 422 million in current prices. The LM contributes 69% to the economy of the King Cetshwayo District Municipality and 5% to the economy of KwaZulu-Natal. Over a period of 10 years (2005-2015), the municipality’s economy grew at a positive Compounded Annual Growth Rate

(CAGR) of 2% per year. This is similar to the district and provincial growth of 2.4% and 2.9%, respectively.

Table 3-2: KwaZulu-Natal and uMhlatuze structure of economies

Economic Sector	KwaZulu-Natal (GDP in 2015 prices)			City of uMhlatuze (GDP in 2015 prices)		
	GDP (R'mil)	% of GDP	CAGR (2005-2015)	GDP (R'mil)	% of GDP	CAGR (2005-2015)
Agriculture, forestry and fishing	21 102	5%	1.03%	570	2%	1.03%
Mining and quarrying	9 084	2%	1.00%	1 306	6%	0.97%
Manufacturing	79 104	18%	1.01%	5 757	25%	0.99%
Electricity, gas and water	10 367	2%	0.99%	532	2%	0.99%
Construction	21 278	5%	1.05%	1 158	5%	1.06%
Trade	69 115	16%	1.03%	3 271	14%	1.04%
Transport and communication	54 957	12%	1.03%	3 393	15%	1.03%
Finance and business services	80 767	18%	1.03%	3 365	14%	1.04%
General government	69 882	16%	1.03%	2 840	12%	1.02%
Personal Services	27 337	6%	1.02%	1 230	5%	1.02%
TOTAL	442 992	100%	1.02%	23 422	100%	1.01%

Urban-Econ Calculations based on Quantec

The economic sectors with equal and the greatest contribution to the GDP-R of KwaZulu-Natal are Manufacturing and Finance and Business Services. Similarly, manufacturing is the highest contributing economic sector in City of uMhlatuze Municipality. Electricity, gas and water is the economic sector with the least contribution to the GDP-R of the municipality. Between 2008 and 2010 most economic sectors experienced a decrease in GDP-R as a result of the economic crisis. However, Construction, Trade, Finance and Business Services and General Government did not have a decline in GDP-R during that period.

3.4 Labour Force and Employment Structure

Employment is the primary means by which individuals who are of working age may earn an income that will enable them to provide for their basic needs and improve their standard of living. As such, employment and unemployment rates are important indicators of socio-economic well-being. The following paragraphs examine the study area's labour market from a number of perspectives, including the employment rate and sectoral employment patterns.

a) Labour Force Composition

According to Census 2011 data, the working age population of City of uMhlatuze Municipality was about 237 265. Amongst these, 137 187 were economically active. Not economically active (NEA) persons are those who were neither employed nor unemployed, including discouraged job seekers. The City of uMhlatuze Municipality had 100 078 NEA

persons in 2011. The employed labour in the municipality was estimated at 99 950, whilst the unemployed labour was about 37 237. This results in an unemployment rate of 27%.

Table 3-3: Labour Profile of uMhlathuze Municipality

Indicators	City of uMhlathuze Municipality	Richards Bay	Empangeni
Working Age Population	237265	41302	79 193
Non-economically active	100078	14 924	38759
Labour force	137187	27207	36727
Employed	99950	23 153	25676
Unemployed	37237	4 054	11051
Unemployment rate	27%	15%	30%
Labour Participation rate	58%	65%	49%

Urban-Econ Calculations based on Quantec

As indicated in Table 3-3, in the town of Empangeni, 25 676 of the working age population are employed, whereas 11 051 are unemployed. This indicates a 30% unemployment rate. In the case of Richards Bay the unemployment rate is half that of Empangeni.

In terms of skill levels, the largest proportion of the labour force is semi-skilled in the KwaZulu-Natal Province, King Cetshwayo DM and the City of uMhlathuze Municipality. This is followed by the low-skilled labour and the least percentage of the labour force is skilled. The Senior Town Planner from the City of uMhlathuze Municipality stated that skills developed within the municipality do not serve to benefit the municipality. This is a result of graduates from the local colleges not working in the municipality.

b) Employment Structure

Close to three quarters of the employed individuals in the City of uMhlathuze Municipality were employed in the formal sector and close to a quarter were employed in the informal sector. In both the King Cetshwayo DM, and the City of uMhlathuze Municipality, the wholesale and retail trade, catering and accommodation economic sector employs the largest number of people, whereas the Electricity, gas and water economic sector has the lowest number of employed people. However, between 2005 and 2015, the Electricity, gas and water sector has had steady employment growth. Similarly, the Construction sector and the General Government had an increase in employment numbers. On the contrary, employment in the Agricultural and Manufacturing sectors has declined from 2008-2011. The Agricultural sector however, had a notable increase from 2015.

Table 3-4: Employment per economic sector in King Cetshwayo DM and uMhlathuze LM in 2015

Economic Sector	King Cetshwayo District Municipality		City of uMhlathuze Municipality	
	Employment	%	Employment	%
Agriculture, forestry and fishing	19 797	11.4%	3 995	3.9%
Mining and quarrying	1 005	0.6%	723	0.72%

Economic Sector	King Cetshwayo District Municipality		City of uMhlathuze Municipality	
	Employment	%	Employment	%
Manufacturing	17 162	9.8%	12 302	12.3%
Electricity, gas and water	580	0.3%	392	0.3%
Construction	14 259	8.2%	8 364	8.3%
Trade	36 049	20.7%	23 188	23.1%
Transport and communication	10 233	5.9%	7 374	7.3%
Finance and business services	22 769	13.1%	15 182	15.1%
General government	23 609	13.6%	12 743	12.7%
Personal services	28 160	16.2%	15 687	15.7%
TOTAL	173 623	100%	99 950	100%

Urban-Econ Calculations based on Quantec

3.5 Status of infrastructure and basic service delivery

Access to basic service delivery and infrastructure such as shelter and transport are indicators that assist in understanding the standard of living of the households residing in the study area. Comprehension of the extent to which households in the area have access to water, sanitation, and electricity assists in the understanding of communities' living standards and their needs. The availability of service infrastructure such as roads, educational and health facilities, etc., further indicates the nature of the study area, which is valuable in developing a complete profile of the circumstances in which communities are living.

a) Basic service delivery

The City of uMhlathuze has a negligible **access to water** backlog of 2%. Most (89%) of the households in the municipality obtain water from the City of uMhlathuze Municipality. The key challenges include a water loss that is on average 30%. However, water loss has been reduced by 18%. In addition, severe drought conditions have resulted in water sources running completely dry. Lastly, the water extracted from drilled boreholes is of inadequate quality.

84% of households had access to the basic level of service for **sanitation** in 2015. A waterborne system is implemented in formalised urban areas and Ventilated Improved Pits (VIPs) are installed in rural areas.

The City of uMhlathuze Municipality is a licensed electricity provider, however in rural areas, **electricity** is still supplied by Eskom. The City of uMhlathuze Municipality does not have electricity backlogs in its area of supply, while a few backlogs exist in the areas within the municipality that are directly serviced by Eskom. The municipality solely operates on infills for new customers. Most of the households use electricity for lighting, cooking and heating. The minority use wood and gas amongst other alternative energy sources for lighting, cooking and heating.

The municipal **housing** backlog is estimated at 10 000 urban greenfield low income housing, 50 000 social and community residential units, and over 6 000 rural housing, including slum clearance. About 5 100 informal dwellings were identified in 2011. The key challenge in the City of uMhlathuze Municipality is the shortage of suitably located land for housing development. Nonetheless, the establishment of rental housing units in Richards Bay and Empangeni has been prioritised.

b) Status of Infrastructure

According to the City of uMhlathuze IDP (2016), the average condition of the **road infrastructure** can be rated as fair to poor. A number of the public transport facilities in uMhlathuze form part of retail commercial developments located on either leased land from the Municipality or private land, which constrains expansion options of the facilities (Mbambo, 2011). Given that Richards Bay is one of the busiest ports in the country, it attracts a rising number of freight trucks. One challenge is the lack of appropriate truck stop facilities (Mbambo, 2011).

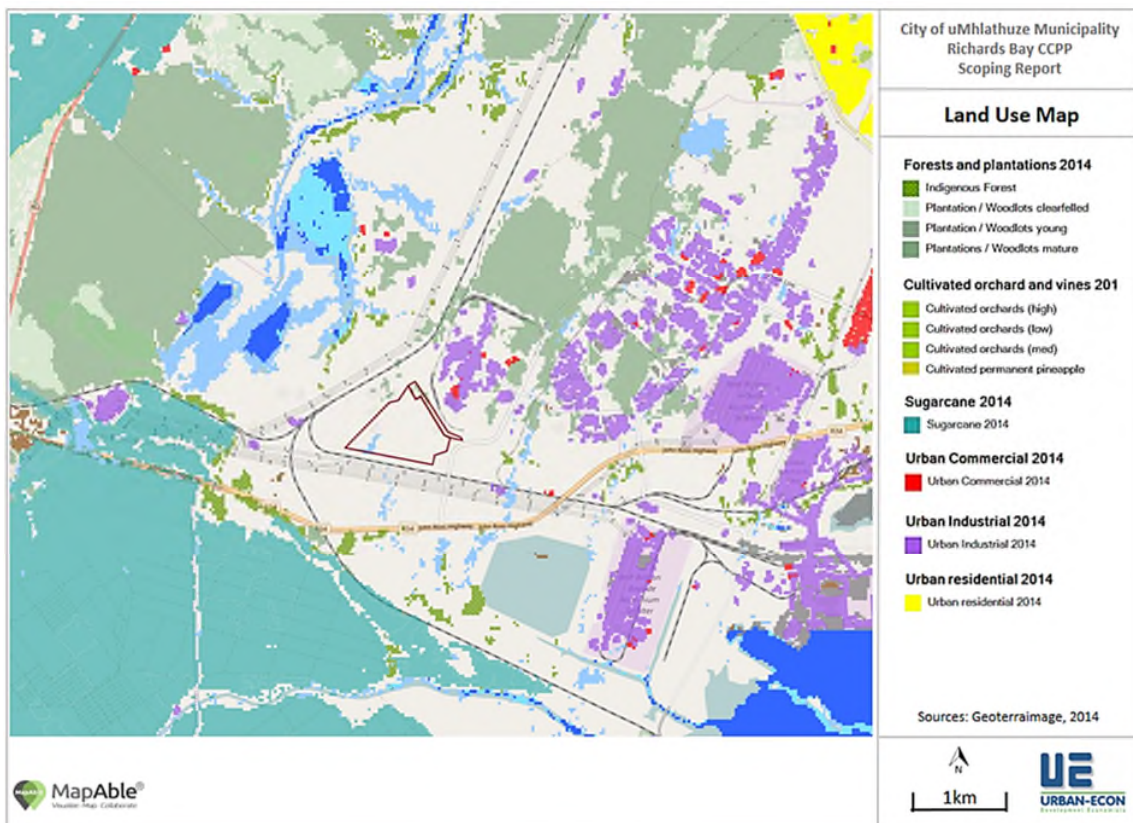
With regard to accessibility and connection across areas, the N2 is the national route that connects several areas such as Cape Town to Richards Bay. The proposed development site can be accessed from the R34 and thereafter accessibility can be through access streets.

A fifth of the children under the age of 5 are located 30 minutes from the nearest creche. There is a general acceptable level of accessibility to community halls and sports facilities in the municipality.

4. SITE RELATED INFORMATION: ZONE OF INFLUENCE BASELINE

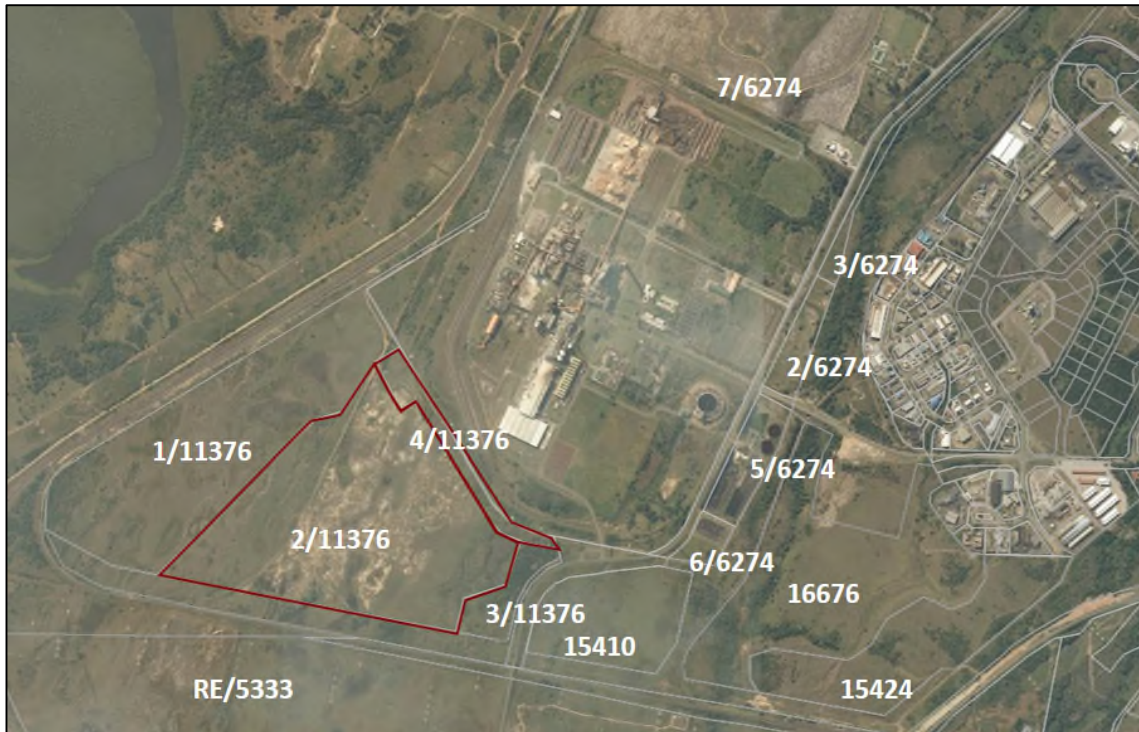
4.1 Land use, Zoning and capability in the zone of influence

The site-related information section will investigate the various dynamics of the proposed site. Map 4-1 indicates the current land uses of the proposed project site and its surroundings. The proposed site is currently a greenfield site with no development and is not serviced. The land constitutes of flora and fauna. Similarly, the direct southern and western areas from the proposed project area are not developed. The north-eastern portion of the land has high impact industrial activity inclusive of paper and pulp manufacturing and energy production. Sugarcane farming takes place in the further south-western region from the site. The north western and eastern region from the site houses plantations. In addition to agricultural land uses in the zone of influence, the dominant land use present is industrial.



Map 4-1: Land use within zone of influence

Map 4-2 below, demonstrates the directly affected and adjacent farm portions to the proposed CCPP development site. Portion 1 of erf 11376 is conserved land where development is prohibited. Portion 2 and Portion 4 of erf 11376 are the directly impacted properties for the proposed CCPP. These farm portions are collectively referred to as phase 1D of the IDZ. Portions 1, 2, 3 and 4 of erf 11376 measure 54 ha, 65 ha, 5 ha and 6 ha respectively.

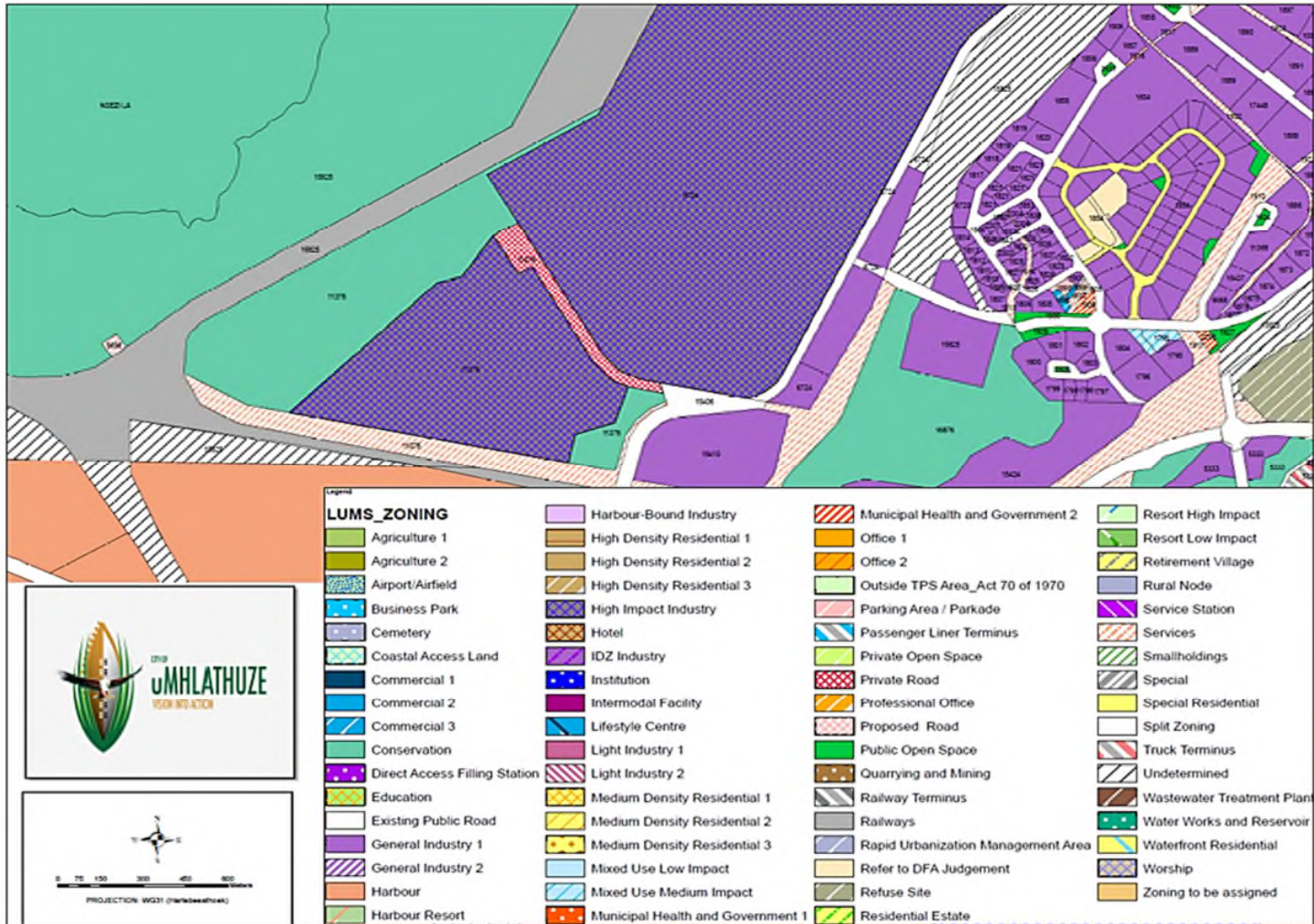


Map 4-2: Directly and indirectly affected land portions

The zoning for the IDZ phase 1D are:

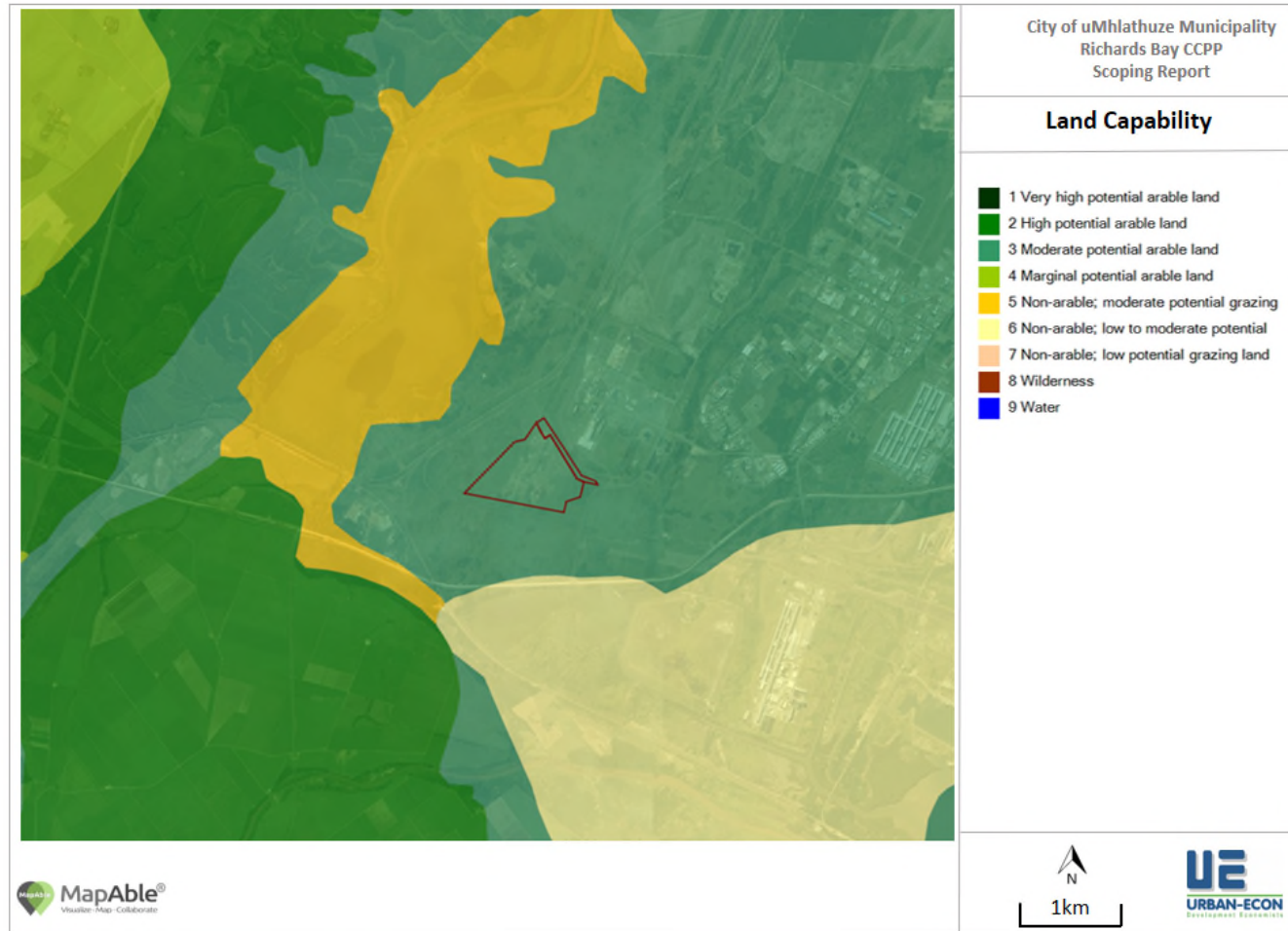
- * Portion 1 of erf 11376 is zoned conservation;
- * Portion 2 of erf 11376 is zoned high impact industry;
- * Portion 3 of erf 11376 is zoned conservation (to be confirmed);
- * Portion 4 of erf 11376 is zoned private road; and
- * Erf 15410 is zoned general industry .

The Richards Bay IDZ and the City of uMhlathuze Municipality have, in the last two years, collaborated in taking the position as a conduit for the gas to power option. The City initially delineated eight portions to the RBIDZ, including phase 1D. According to the Land Use Manager of the City, though, Phase 1D was not accepted by the RBIDZ. Nonetheless, Phase 1D has been reserved by the City of uMhlathuze Municipality as part of the Industrial Development Zone (IDZ) to house industrialisation and other strategic projects such as gas to power projects.



Map 4-3: Current Zoning Map in Zone of Influence (City of uMhlatuze GIS, 2017)

Map 4-4 demonstrates that the project area is located on arable land of moderate potential. The north-west and south-east region from the proposed site is non-arable land. Along the coast towards the south-eastern region from the site is moderate mining potential.



Map 4-4: Land Capability in zone of influence and surrounding areas

4.2 Landowner Perspectives on proposed project

The following table summarises the information gathered using both secondary and primary data sources with respect to land uses of the potentially directly and indirectly affected land portions.

Table 4-1: Landowner concerns and information

Land Portion	Land Owner	Orientation	Information
Portion 1 of erf 11376	City of uMhlathuze Municipality	Directly Adjacent land	» Conserved land
Portion 2 of erf 11376	City of uMhlathuze Municipality	Impacted land	» Reserved for industrial and high impact industry. » Land not serviced » Current servitude has no impact
Portion 3 of erf 11376	City of uMhlathuze Municipality	Directly Adjacent land	» This land can be used for coverage and off-set purposes.
Portion 4 of erf 11376	City of uMhlathuze Municipality	Impacted land	» Land to be used as an access road » Land not serviced
Erf 15410	City of uMhlathuze Municipality	Adjacent land	» No activity taking place on land
Remainder of Erf 5333	Transnet	Directly Adjacent land	» Not developable » Currently a portion has a Truck area » Portion of land used for banana farming
Erf 2 of erf 6724	Unknown	Adjacent land	No information
Erf 3 of erf 6724	Unknown	Adjacent land	No information
Erf 5 of erf 6724	Unknown	Adjacent land	» Industrial activity taking place
Erf 6 of erf 6724	Unknown	Adjacent land	No information
Erf 7 of erf 6724	Mondi	Directly Adjacent land.	» Possible health threat to CCPP employees due to odorous gases emitted at Mondi » In support of the project » Road infrastructure is well maintained

Land Portion	Land Owner	Orientation	Information
			<ul style="list-style-type: none"> » Water scarcity is a concern » Skills shortage is a problem » Electrical lines not well maintained
Farm 15825	Transnet	Adjacent land	» Proposed development for land: toll gate for trucks
Erf 15424	City of uMhlathuze Municipality	Adjacent land	» Relatively high property value
Erf 16676	Unknown	Adjacent land	No information

The Mondi factory located directly north-east of the proposed project site is the biggest pulp factory in the country. The factory has facilities for wood chopping, a chemical plant, a power island, a bleaching plant, and a treatment facility. In addition, Mondi exports energy onto the grid, and completely generates its own power. The potential impact stated by the environmental manager of Mondi is the odorous gases that may be a nuisance to the CCPP employees.

The general overview of the zone of influence is agricultural activity co-existing with industrial activity. The proposed project is strongly supported by the City of uMhlathuze Municipality, as well as the adjacent land owner. The concerns raised, however, include water scarcity, skills shortage, and limited maintenance of powerlines.

5. POTENTIAL SOCIO-ECONOMIC IMPACTS

Considering the project background and the understanding of the socio-economic environment where the proposed project is to be located, the following impacts are most likely to be raised and will need to be investigated in the EIA phase in greater detail.

5.1 Construction Phase Impacts to be Considered

<p>Impact Increase in Production and GDP-R of the national and local economies due to capital expenditure.</p> <p>Desktop Sensitivity Analysis of the Site: No sensitivity identified.</p>			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Stimulation of national and local economies due to capital expenditure which will increase production and GDP-R.	A positive impact to production and GDP-R due to the investment made.	The scale of the impact will be from a local to the national level.	None identified.
<p>Description of expected significance of impact This impact will possibly be of <u>medium significance (positive)</u> due to injected investment, which will further improve the GDP of the uMhlatuze Municipality and the country in general.</p>			
Significance	Medium (positive)		
Consequence	A moderate improvement in production and GDP.		
Duration	Short duration		
Probability	Highly Probable		
Degree of Reversibility	Low		
Degree to cause irreplaceable loss of resources	Low		
Degree to avoid or mitigate	Low		
<p>Gaps in knowledge and recommendations for further study Information on the total and a breakdown of capital expenditure and local content is required.</p>			

<p>Impact Temporary employment creation in local communities and elsewhere in the country.</p> <p>Desktop Sensitivity Analysis of the Site: No sensitivity identified.</p>			
Issue	Nature of Impact	Extent of Impact	No-Go Areas

Impact involves the creation of direct, indirect and induced employment opportunities related to the construction of the proposed plant.	Job creation will temporarily reduce unemployment as a result of the construction of the CCPP.	The impact will occur at national and local levels.	None identified.
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Description of expected significance of impact

Close to a third of the working age population is unemployed in the area. Therefore, the impact may have medium significance (positive) due to the temporary nature of the impact.

Significance	Medium (positive)
Consequence	A slight improvement in employment
Duration	Short duration
Probability	Highly Probable
Degree of Reversibility	Low
Degree to cause irreplaceable loss of resources	Low
Degree to avoid or mitigate	Low

Gaps in knowledge and recommendations for further study

Information on the employment to be created locally and at other scales is required.

Impact

Skills development due to the creation of new employment opportunities

Desktop Sensitivity Analysis of the Site:

No sensitivity identified.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
Skills will be created and/or enhanced for benefitting employees during the construction phase.	The impact is positive as it develops skills that are beneficial for future employment.	The impact will occur at national and local levels.	None identified.

Description of expected significance of impact

A great portion of the City of uMhlathuze Municipality's employment is semi-skilled. This impact will be of medium significance (positive) due to the long-term benefits associated with skills development.

Significance	Medium (positive)
Consequence	A moderate improvement in skills
Duration	Permanent
Probability	Highly Probable
Degree of Reversibility	Low
Degree to cause irreplaceable loss of resources	Low

Degree to avoid or mitigate	Low
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Gaps in knowledge and recommendations for further study
Information on the types of skills to be developed during construction is required.

Impact
Household income will lead to the improved standard of living for households directly or indirectly benefitting from employment opportunities.
Desktop Sensitivity Analysis of the Site:
No sensitivity identified.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
Income will be temporarily derived from the employment created during the construction phase.	The impact is positive as it improves the standard of living for the benefitting households.	The impact will occur from local to national levels.	None identified.

Description of expected significance of impact
The average income earned in the City of uMhlathuze Municipality ranks the employed residents as middle-class. Just over 38%, however are classified as low-income earners. This impact may therefore be of medium significance (positive) due to the temporary income earned by employees.

Significance	Medium (positive)
Consequence	A moderate increase in household income
Duration	Short duration
Probability	Highly probable
Degree of Reversibility	Low
Degree to cause irreplaceable loss of resources	Low
Degree to avoid or mitigate	Low

Gaps in knowledge and recommendations for further study
The employment to be created locally and at other scales information required.
The total amount to be spent on labour during construction is required.

Impact
Change in demographics of the area due to the potential influx of workers and job seekers.
Desktop Sensitivity Analysis of the Site:
Richards Bay is a landlocked town from an environmental preservation perspective. A portion of the greenfield sites cannot be developed; therefore, housing expansion areas are limited.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
A possible increase in population to the area with a dominant male	The impact is negative as it may increase social pathologies and	The impact will be experienced by the local communities.	Conservation land.

influx of job seekers and migrant labour.	proliferate informal settlements.		
Description of expected significance of impact			
Not all skills required for construction can be attained in the local communities. Currently low levels of in-migration to Richards Bay. Richards Bay is largely a working town with many migrant workers. This status may increase and therefore this impact is potentially of <u>low significance (negative)</u> .			
Significance	Low (negative)		
Consequence	A slight change in demographics in Richards Bay		
Duration	Short duration		
Probability	Probable		
Degree of Reversibility	Medium		
Degree to cause irreplaceable loss of resources	Low		
Degree to avoid or mitigate	Medium		
Gaps in knowledge and recommendations for further study			
Plans for the accommodation of migrant labour and procurement of local labour are required.			

Impact			
Increased demand for housing.			
Desktop Sensitivity Analysis of the Site:			
The key challenge in the City of uMhlatuze Municipality is the shortage of suitably located land for housing development.			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
The possible increase in population may result in an increased demand for housing.	The impact is negative due to the limited supply of developable land. In addition, the proliferation of informal settlements may emerge.	The impact will be experienced at municipal level.	Conserved land.
Description of expected significance of impact			
The significance of the impact may be <u>low (negative)</u> .			
Significance	Low (negative)		
Consequence	A small increase in demand for housing will ensue		
Duration	Short duration		
Probability	Probable		
Degree of Reversibility	Medium		
Degree to cause irreplaceable loss of resources	Low		
Degree to avoid or mitigate	Medium		

<p>Impact Pressure on basic services and social and economic infrastructure by migrant labour and job seekers.</p> <p>Desktop Sensitivity Analysis of the Site: The site is not serviced.</p>			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Migrant labour and job seekers may increase pressure on service delivery and socio-economic infrastructure.	The impact is negative as it may place strain on adequate service delivery.	The impact may be experienced by the local communities.	None identified.
<p>Description of expected significance of impact Service provision is currently satisfactory with very limited backlogs. The influx of job seekers could possibly place pressure on service delivery. The impact could possibly be of <u>low significance (negative)</u>.</p>			
Significance	Low (negative)		
Consequence	A slight pressure on service delivery due to increased population		
Duration	Short duration		
Probability	Probable		
Degree of Reversibility	Medium		
Degree to cause irreplaceable loss of resources	Low		
Degree to avoid or mitigate	Medium		
<p>Gaps in knowledge and recommendations for further study Plans for the accommodation for migrant labour required.</p>			

5.2 Operation phase impacts to be considered

<p>Impact Sustainable increase in Production and GDP-R of the national and local economies due to operations expenditure.</p> <p>Desktop Sensitivity Analysis of the Site: No sensitivity identified.</p>			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Increase in production and GDP-R of national and local economies.	A positive impact to production and GDP-R due to operational expenditure.	The scale of the impact is from local to national.	None identified.
<p>Description of expected significance of impact The City of uMhlathuze Municipality makes the greatest contribution to the King Cetshwayo District Municipality. This impact will possibly be of <u>medium significance</u></p>			

(positive) due to the long-term benefits and the size of operational expenditure, which will further improve the GDP of the City of uMhlathuze Municipality.	
Significance	Medium (positive)
Consequence	A high improvement in production and GDP.
Duration	Long-term
Probability	Definite
Degree of Reversibility	Low
Degree to cause irreplaceable loss of resources	Low
Degree to avoid or mitigate	Low
Gaps in knowledge and recommendations for further study	
Information on the total and a breakdown of operating expenditure and local content is required.	

Impact			
Long-term employment creation in local communities and elsewhere in the country.			
Desktop Sensitivity Analysis of the Site:			
No sensitivity identified.			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
It involves the creation of direct, indirect and induced opportunities related to the operation of the proposed CCPP and facilities.	A positive impact on job creation will occur as a reduction in unemployment as a result of the operation of the CCPP will take place.	The impact will occur from local to national levels.	None identified.
Description of expected significance of impact			
The impact may have <u>medium significance (positive)</u> due to the sustainability of the number of jobs to be created.			
Significance	Medium (positive)		
Consequence	A moderate improvement in employment		
Duration	Long-term		
Probability	Definite		
Degree of Reversibility	Low		
Degree to cause irreplaceable loss of resources	Low		
Degree to avoid or mitigate	Low		
Gaps in knowledge and recommendations for further study			
The employment breakdown that will be created locally and at other scales are required. The duration of employment information required.			

Impact
Skills development due to the creation of employment opportunities
Desktop Sensitivity Analysis of the Site:

No sensitivity identified.			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Skills will be created and/or enhanced during the operation phase for employees.	The impact is positive as it develops skills that can be used in similar projects in future.	The impact will occur from local to national levels.	None identified.
Description of expected significance of impact			
A great portion of the City of uMhlathuze Municipality is semi-skilled. This impact will be of <u>medium significance (positive)</u> due to the long-term benefits of skills development for the employees.			
Significance	High (positive)		
Consequence	A high improvement in skills development.		
Duration	Permanent		
Probability	Definite		
Degree of Reversibility	Low		
Degree to cause irreplaceable loss of resources	Low		
Degree to avoid or mitigate	Low		
Gaps in knowledge and recommendations for further study			
Skills development programmes to be implemented during the operation phase.			

Impact			
Household income will improve the standard of living for households directly or indirectly benefitting from employment opportunities.			
Desktop Sensitivity Analysis of the Site:			
No sensitivity identified.			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Income will be derived from the sustainable employment created during the operation phase.	The impact is positive as it improves the standard of living for the benefitting households for a sustainable period.	The impact will occur from local to national levels.	None identified.
Description of expected significance of impact			
This impact may be of <u>medium significance (positive)</u> due to the long-term income earned by employees.			
Significance	Medium (positive)		
Consequence	Household income will moderately improve the standard of living of benefitting households.		
Duration	Long-term		
Probability	Probable		
Degree of Reversibility	Low		

Degree to cause irreplaceable loss of resources	Low
Degree to avoid or mitigate	Low
Gaps in knowledge and recommendations for further study	
The employment to be created locally and at other scales information required. The duration of employment information required.	

Impact			
Increase in the government revenue stream due to local rates, payroll taxes, and income taxes.			
Desktop Sensitivity Analysis of the Site:			
No sensitivity identified.			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Payroll and income taxes during operation will increase government revenue.	The impact is positive as it will increase municipal and national fiscal revenue which can be used to the benefit of society.	The impact will occur at the municipal and national levels.	None identified.
Description of expected significance of impact			
This impact may be of <u>medium significance (positive)</u> due to the long-term revenue derived by local and national government spheres.			
Significance		Medium (positive)	
Consequence		A moderate in government revenue.	
Duration		Long-term	
Probability		Definite	
Degree of Reversibility		Low	
Degree to cause irreplaceable loss of resources		Low	
Degree to avoid or mitigate		Low	
Gaps in knowledge and recommendations for further study			
None.			

Impact			
Improved energy security and opportunities for local economic development due to increased supply of electricity			
Desktop Sensitivity Analysis of the Site:			
No sensitivity identified.			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Alternative source of energy to provide electricity into the national grid.	The impact is positive as it will contribute to energy supply.	The impact will be experienced at local and national levels.	None identified.
Description of expected significance of impact			

This impact may be of medium to <u>high significance (positive)</u> due to the fact that it will create the necessary supply of electricity that can be procured by industries and businesses planning to locate in Richards Bay. Location of the electricity generating facility in close proximity to the demand will also assist in reducing transmission losses and improving energy security in the country.	
Significance	High (positive)
Consequence	Moderate improvement in energy security
Duration	Long-term
Probability	High
Degree of Reversibility	Low
Degree to cause irreplaceable loss of resources	Medium
Degree to avoid or mitigate	Low
Gaps in knowledge and recommendations for further study	
None	

Impact			
Potential deterioration of quality of public health due to combined emissions from proposed CCPP and existing industrial activity in zone of influence.			
Desktop Sensitivity Analysis of the Site:			
Possible health threat due to cumulative emissions.			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Emissions from CCPP may deteriorate quality of health of employees and surrounding residents and workers.	The impact is negative as it will further contribute to potentially health threatening emissions.	The impact may be experienced at local levels.	None identified.
Description of expected significance of impact			
This impact may be of <u>medium significance (negative)</u> .			
Significance	Medium (negative)		
Consequence	A moderate impact on health of employees and residents		
Duration	Long-term		
Probability	Probable		
Degree of Reversibility	Low		
Degree to cause irreplaceable loss of resources	Medium		
Degree to avoid or mitigate	Medium		
Gaps in knowledge and recommendations for further study			
Air quality impact assessment.			

6. CONCLUSION

Eskom is proposing to develop a Combined Cycle Power Plant (CCPP) with a generation capacity of 3 000MW. The project is planned to be located in Richards Bay within the KwaZulu-Natal Province. The proposed site will directly affect portion 2 and portion 4 of erf 11376, which forms part of phase 1D of the Richards Bay Industrial Development Zone.

The review of key national, provincial and local policy documents indicates that the development of a gas to power project is supported at all levels. The Integrated Resource Plan for Electricity (IRP) 2010-2030 asserts that the use of natural gas presents the greatest potential in the energy mix. In addition, a clear target for the development of the CCPP plant is made in the IRP and the KwaZulu-Natal Provincial Growth and Development Plan (PGDP). After considering the reviewed documentation, no fatal flaws or contraventions from a socio-economic policy perspective exist for the implementation of the proposed project.

The City of uMhlathuze Municipality is a key local municipality in the King Cetshawyo District Municipality in terms of GDP contribution. The municipality as a port city, demonstrates the co-existence of industrial and agricultural activity. Richards Bay is particularly a working town, where employment is concentrated. The Compounded Annual Growth Rate (CAGR) in the City of uMhlathuze Municipality is similar to that of the district and province. The electricity, gas and water economic sector currently makes the least contribution to the GDP of the municipality. The unemployment rate is close to a third of the labour force.

The above suggests that the economy can utilise the investment to diversify its economic base and lead to the improvement of standards of living among local households through the increased income levels and access to improved services, which can be achieved by raising the local municipality's revenue base through taxes and rates paid by new businesses. The proposed project is therefore, likely to create a positive impact on the local economic development and the socio-economic environment in the municipality in general. A more detailed investigation of the potential impacts identified will take place in the EIA phase.

The completion of the socio-economic study during the EIA phase will follow the next approach:

1. Review of comments and feedback received on the scoping report from the Interested and Affected Parties (I&APs)
2. Determine the approach towards addressing the received comments, i.e. additional data collection or inclusion of the identified issues in the analysis during the EIA phase
3. Collect additional secondary or primary data, if required
4. Amend the baseline information based on the collected information
5. Gather project data from the client and undertake economic impact modelling exercise

6. Analyse, and where possible, quantify the potential socio-economic impacts ensuring that all issues and impacts raised by the I&APs are addressed
7. Describe and rate cumulative impacts per socio-economic impact.
8. Rate the impacts according to the methodology supplied by the environmental specialist
9. Formulate the mitigation plan
10. Produce the report for the submission to the authorities and review by the I&APs
11. Obtain comments from I&APs on the submitted report and amend it accordingly responding to the comments and issues raised, if applicable

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