Proposed Kelvin Power Station CCGT Plant Project

Social Impact Assessment Report

Prepared by:

Equispectives Research & Consulting Services

Contact person: Dr Ilse Aucamp

Prepared for:
EIMS

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Executive Summary

The purpose of this document is to provide a baseline description of the receiving socio-economic environment and to identify social impacts associated with the proposed Kelvin Power Station CCGT project.

The proposed site for the project is located in Ward 17 of the Ekurhuleni Metropolitan Municipality that is located in the Gauteng Province. Wards 18 and 104 of the Ekurhuleni Metropolitan Municipality and Ward 32 of the City of Johannesburg are in close proximity of the site. Ekurhuleni Metropolitan Municipality is one of the most densely populated areas both in the province and in the country and accounts for nearly a quarter of Gauteng's economy.

The proposed development is located in an industrial area, near a residential area. Labour is available in the municipal area, avoiding additional pressure on infrastructure due to an additional need for housing, electricity, water, and sanitation services. It is a brownfields industrial site and as such there is no need to relocate people.

The proposed CCGT will be situated between a residential and a light industrial area. The communities are already exposed to a number of social and environmental impacts from different sources. Given its location, it is not expected that the project will cause a significant influx of people into the area, as there are already people with some skills in the area that the power station could employ.

From an SIA perspective, the construction of the CCGT plant will not create significant social impacts, because it is on an industrial site in an industrial area. Impacts are related to perceptions about the safety of gas, environmental nuisance, fear of crime during the construction phase and traffic related impacts. The project will create significant employment opportunities and add to cleaner energy production as a way to ensure a just transition, which are positive impacts.

The following recommendations are made:

- Kelvin must develop a stakeholder engagement strategy specific to the CCGT plant;
- Kelvin must implement a community-friendly external grievance mechanism in conjunction with farmers and communities;
- Kelvin should put measures in place to ensure the most effective local employment strategy, in conjunction with local leadership;
- Kelvin must ensure that social requirements as specified in the mitigation measures are included in their contracts with sub-contractors.

The list of recommendations should be included in the environmental authorisation. From a social perspective, there are no fatal flaws. Therefore, the recommendation is that the construction of the CCGT plant should be approved on the condition that Kelvin put certain social processes such as a grievance mechanism and community engagement strategy in place.

Declaration of Independence

Equispectives Research and Consulting Services declare that:

- All work undertaken relating to the proposed project was done as independent consultants;
- They have the necessary required expertise to conduct social impact assessments, including the required knowledge and understanding of any guidelines or policies that are relevant to the proposed activity;
- They have undertaken all the work and associated studies in an objective manner, even if the findings of these studies were not favourable to the project proponent;
- They have no vested interest, financial or otherwise, in the proposed project or the outcome thereof, apart from remuneration for the work undertaken under the auspices of the above-mentioned regulations;
- They have no vested interest, including any conflicts of interest, in either the proposed project or the studies conducted in respect of the proposed project, other than complying with the relevant required regulations; and
- They have disclosed any material factors that may have the potential to influence the competent authority's decision and/or objectivity in terms of any reports, plans or documents related to the proposed project as required by the regulations.

Record of Experience

This report was compiled by San-Marié Aucamp and Ilse Aucamp.

San-Marié Aucamp is a registered Research Psychologist with extensive experience in both the practical and theoretical aspects of social research. She has more than 10 years' experience in social research, and she occasionally presents guest lectures on social impact assessment. Her experience includes social impact assessments, social and labour plans, training, group facilitation as well as social research. She is a past council member of the Southern African Marketing Research Association (SAMRA).

Ilse Aucamp holds a D Phil degree in Social Work obtained from the University of Pretoria in 2015. She also has a master's degree in environmental management (Cum Laude) from the Potchefstroom University for Christian Higher Education, which she obtained in 2004. Prior to that she completed a BA degree in Social Work at the University of Pretoria. She is frequently a guest lecturer in pre- as well as post-graduate programmes at various tertiary institutions. Her expertise includes social impact assessments, social management plans, social and labour plans, social auditing, training as well as public participation. She is chairperson of the Social Impact Assessment section of the International Association of Impact Assessment (IAIA) as well as a past member of the National Executive Council of IAIA South Africa. She is also on the advisory panel of the SIAhub, an international website aimed at SIA practitioners. She is a co-author of the *Social Impact Assessment: Guidance for assessing and managing the social impacts of projects* document published by the International Association for Impact Assessment.

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1 Introduction

Kelvin Power (Pty) Ltd is a coal fired power plant situated in Kempton Park in the Ekurhuleni Metropolitan Municipality. The existing power plant consists of the still operational B Station that was built in the 1960s and the now decommissioned A Station that was built in the 1950s. The B Station comprises seven 60MW steam turbines and eight pulverised coal boilers.

In 2023 a pre-feasibility study was concluded to assess the various technology options available to generate 450 MW to 650 MW on the current site. The study concluded that a Combined Cycle Gas Turbine (CCGT) Power Plant with a net output of approximately 600 MW, consisting of one H-class gas turbine, a heat recovery boiler, and a steam turbine, would be the optimal technology for this site. This configuration would have a new and clean net efficiency of approximately 60%. The plan is expected to operate as a mid-merit plant with an annual average capacity factor of 50%.

The main structures comprising the plant would be:

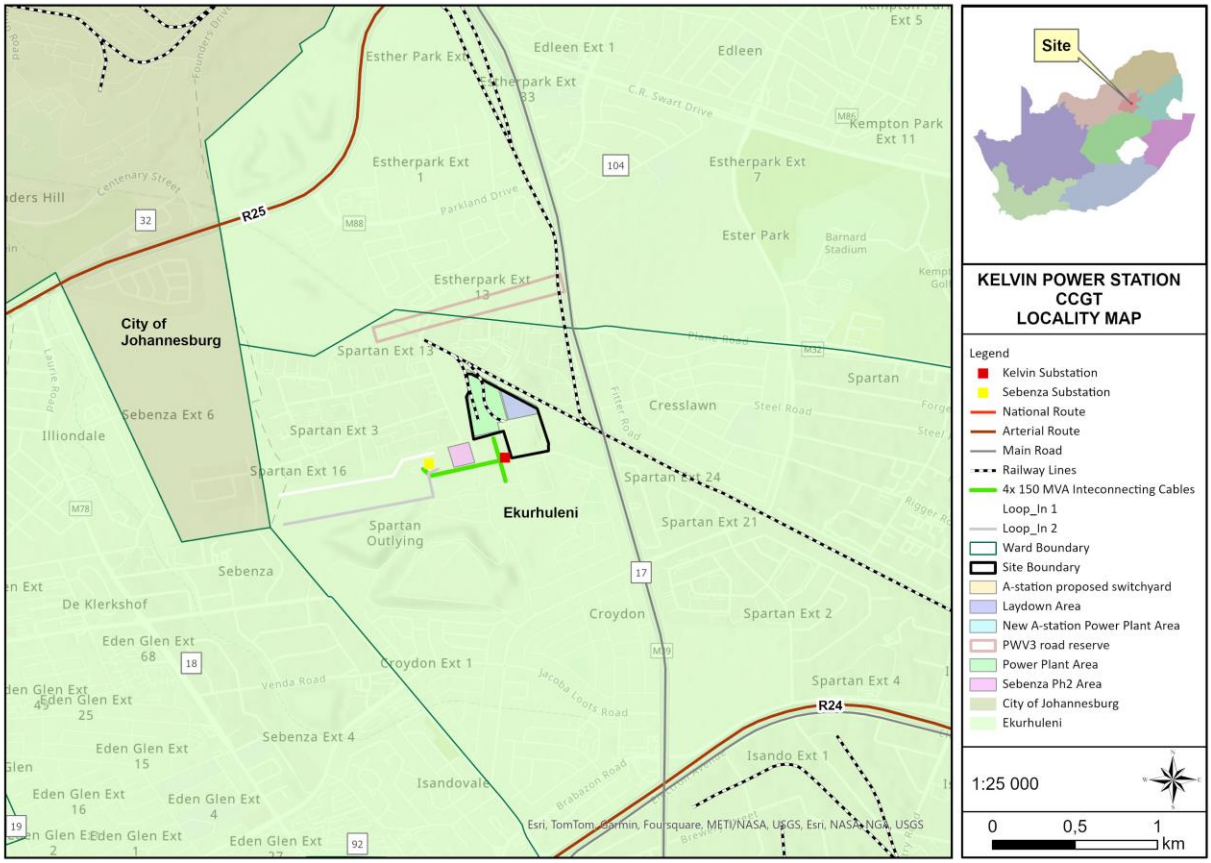
- Gas Turbine building
- Steam turbine building
- Heat Recovery Steam Generator (HRSG)
- Mechanical draft cooling tower
- EHV substation
- Auxiliary buildings
- Administration buildings
- Exhaust Stack (approx. 50m)

A station auxiliary plant formerly occupied by the A station dry coal store, coal tipplers, coal stockpile and cooling towers. In addition to the construction area of the permanent plant, other construction facilities such as laydown areas, fabrication shops, warehousing, and construction offices, and welfare facilities would be required. The A station auxiliary plant area is sufficient to accommodate both the permanent plant and the construction facilities outlined above. Cooling water would be sourced from the existing Kelvin water supply pipelines.

In addition to the new plant that would be constructed on the Kelvin site, an electrical connection to an Eskom / CityPower substation and a gas pipeline to the (Sasol) gas pipeline system would be required.

Figure 1 shows the proposed location for the project within municipal context.

Figure 1: Locality of proposed Kelvin Power Station CCGT Plant.



The purpose of this report is to provide baseline information regarding the socio-economic environment, to identify possible social and economic impacts and to suggest ways in which these impacts can be mitigated. This will assist decision-makers on the project in making informed decisions by providing information on the potential or actual consequences of their proposed activities. The process entailed the following:

- A baseline socio-economic description of the affected environment;
- Identification of potential social and economic change processes that may occur as a result of the project; and

- Identification and assessment of potential social and economic impacts.

One of the ways in which social risk can be managed is by conducting a social impact assessment (SIA). Such an assessment can assist with identifying possible social impacts and risks. Disregarding social impacts can alter the cost-benefit equation of development and in some cases even undermine the overall viability of a project. A proper social impact assessment can have many benefits for a proposed development (UNEP, 2002) such as:

- Reduced impacts on communities of individuals;
- Enhanced benefits to those affected;
- Avoiding delays and obstruction – helps to gain development approval (social license);
- Lowered costs;
- Better community and stakeholder relations; and
- Improved proposals.

Equispectives Research and Consulting Services was appointed to perform a social impact assessment for the proposed project. This report represents the findings and recommendations of the social impact assessment.

2 Scope of Work

The purpose of the Social Impact Assessment (SIA) is to facilitate an understanding of the receiving environment (providing a baseline description) and the identified impacts to the social environment which may be associated with the proposed project implementation. This report includes:

- A legislative and policy framework;
- A baseline description of the social environment;
- Stakeholder identification and analysis;
- Identification and assessment of social impacts; and
- Mitigation measures.§

3 Methodology

Scientific social research methods were used for this assessment. To clarify the process to the reader, this section will start with a brief explanation of the processes that have been used in this study.

3.1 Information base

The information used in this report was based on the following:

- A literature review (see list provided in the References);
- Data from Statistics South Africa;
- The public participation records provided by EIMS;
- Professional judgement based on experience gained with similar projects; and
- Consultation with affected stakeholders through meetings and online questionnaires.

1.2. Assumptions and limitations

The following assumptions and limitations were relevant:

1. Not every individual in the community could be interviewed therefore only key people in the community were approached for discussion. An online questionnaire has been distributed to everyone on the EIMS database. Additional information was obtained using existing data.
2. The social environment constantly changes and adapts to change, and external factors outside the scope of the project can offset social changes, for example changes in local political leadership, droughts, or economic conditions. It is therefore difficult to predict all impacts to a high level of accuracy, although care has been taken to identify and address the most likely impacts in the most appropriate way for the current local context within the limitations. In addition, it is also important to manage social impacts for the life of the project, especially in the light of the changing social environment.

3. Social impacts can be felt on an actual or perceptual level, and therefore it is not always straightforward to measure the impacts in a quantitative manner.

4. Social impacts commence when the project enters the public domain. Some of these impacts will occur irrespective of whether the project continues or not, and other impacts have already started. These impacts are difficult to mitigate, and some would require immediate action to minimise the risk.

5. There are different groups with different interests in the community, and what one group may experience as a positive social impact, another group may experience as a negative impact. This duality will be pointed out in the impact assessment section of the report.

6. Social impacts are not site-specific but take place in the communities surrounding the proposed development.

1.3. Social Impact Assessment Model

The theoretical model used for this impact assessment was developed by Slootweg, Vanclay and Van Schooten and presented in the *International Handbook of Social Impact Assessment* (Vanclay & Becker, 2003). This model identifies pathways by which social impacts may result from proposed projects. The model differentiates between social change processes and social impacts, where the social change process is the pathway leading to the social impact. Detail of how the model works is not relevant to this study, but it is important to understand the key concepts, which will be explained in the following paragraphs.

Social change processes are set in motion by project activities or policies. A social change process is a discreet, observable, and describable process that changes the characteristics of a society, taking place regardless of the societal context (that is, independent of specific groups, religions etc.) These processes may, in certain circumstances and depending on the context, lead to the experience of social impacts (Vanclay, 2003). If managed properly, however, these changes may not create impacts. Whether impacts are caused will depend on the characteristics and history of the host community, and the extent of mitigation measures that are put in place (Vanclay,

2003). Social change processes can be measured objectively, independent of the local context. Examples of social change processes are an increase in the population, relocation, or the presence of temporary workers.

For the purpose of this report, the following social change process categories were considered:

- Demographic processes;
- Economic processes;
- Geographic processes;
- Institutional and legal processes;
- Emancipatory and empowerment processes;
- Socio-cultural processes; and
- Other relevant processes.

The *International Association for Impact Assessment* (2003) states that Social Impact Assessment includes the processes of analysing, monitoring, and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by these interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment.

A social impact is something that is experienced or felt by humans. It can be positive or negative. Social impacts can be experienced in a physical or perceptual sense. Therefore, two types of social impacts can be distinguished:

- **Objective social impacts** – i.e. impacts that can be quantified and verified by independent observers in the local context, such as changes in employment patterns, in standard of living or in health and safety.
- **Subjective social impacts** – i.e. impacts that occur “in the heads” or emotions of people, such as negative public attitudes, psychological stress or reduced quality of life.

It is important to include subjective social impacts, as these can have far-reaching consequences in the form of opposition to, and social mobilisation against the project (Du Preez & Perold, 2005).

For the purpose of this SIA, the following Social Impact Assessment categories were investigated:

- Health and social well-being;
- Quality of the living environment;
- Economic impacts and material well-being;
- Cultural impacts;
- Family and community impacts;
- Institutional, legal, political and equity impacts; and
- Gender impacts.

Relevant criteria for selecting significant social impacts included the following:

- Probability of the event occurring;
- Number of people that will be affected;
- Duration of the impact;
- Value of the benefits or costs to the impacted group;
- Extent to which identified social impacts are reversible or can be mitigated;
- Likelihood that an identified impact will lead to secondary or cumulative impacts;
- Relevance for present and future policy decisions;
- Uncertainty over possible effects; and
- Presence or absence of controversy over the issue.

For the purpose of this study, the model was adapted to suit the South African context, and where processes and impacts were not relevant to the study, it was omitted. Each

category has a number of sub-categories, which also have been investigated. The Equator Principles, International Finance Corporation Performance Standards and World Bank Environmental, Health and Safety guidelines were consulted in the writing of this report and the mitigation suggested adheres to these requirements.

1.4. Literature study

A literature search was undertaken to obtain secondary data for the baseline description of the socio-economic environment. The information in this report was acquired via statistical data obtained from Statistics South Africa, SIA literature (see References), previous SIA studies conducted in the area, EIMS's public consultation process and information from reputable sources on the World Wide Web.

1.5. Research approach

Traditionally there are two approaches to SIA, a technical approach, and a participatory approach. A technical approach entails that a scientist remains a neutral observer of social phenomena. The role of the scientist is to identify indicators, obtain objective measures relevant to the situation and provide an expert assessment on how the system will change (Becker, Harris, Nielsen & McLaughlin, 2004). A participatory approach uses the knowledge and experiences of individuals most affected by the proposed changes as the basis for projecting impacts. In this case the role of the scientist is facilitator of knowledge sharing, interpretation, and reporting of impacts (Becker et al, 2004). A combination of these approaches was used for this study.

The findings presented in this report are based on primary and secondary (desk) research. A qualitative approach was followed for the primary research, while qualitative and quantitative data were used for the secondary research.

1.6. Ethical issues

The most basic principle of research is that participants should not be harmed by participation in the research project. It is important that research not only does no harm, but also potentially contributes to the wellbeing of others. At times this might place a researcher in a difficult position – what is beneficial to one group may not be

beneficial to another (Bless, Higson-Smith & Kagee, 2006). Furthermore, an individual has the autonomy to decide whether to participate in research or not. No person should be forced, either overtly or covertly, to participate in research. Other important principles include justice (based on the assumption that all people are equals), fidelity (keeping promises or agreements, specifically between the researcher and the participant) and respect for participants' rights and dignity. In addition to these overarching ethical principles, important ethical principles that should be met are informed consent, confidentiality, anonymity, and discontinuance. This is in line with international research practice such as the World Association for Market, Social and Opinion Researchers (ESOMAR). The researcher has an ethical obligation to develop well-designed projects and execute them with care. Researchers are not allowed to change their data or observations and should report on technical shortcomings, failures, limits of the study, negative findings, and methodological constraints. The honest and accurate reporting of data is also an essential component of scientifically accurate and ethically legitimate research and conclusions should be supported by data.

4 Legislative and Policy Framework

Although there are no explicit acts referring directly to SIA, there are many acts and policies that require specific social outcomes that can be related to this project, and these are discussed in the section below.

4.1 The Constitution of the Republic of South Africa 1996

The current Constitution of the Republic of South Africa 1996 can be regarded as one of the most progressive constitutions in the world. Human rights are enshrined in the South African Constitution, which forms the basis of all the country's legislation. Chapter 2 consists of a Bill of Rights, which explicitly spells out the rights of every South African citizen. Human rights and dignity are fundamental to SIA, and it recognises fundamental human rights and the prerogative to protect those rights as core values (Vanclay, 2003). The human rights relevant to the environmental management field that are safeguarded by the Constitution of the Republic of South Africa 1996 in the Bill of Rights, include:

- Right to a healthy environment;
- Right of access to land and to security of tenure; and
- Right to adequate housing and protection against evictions and demolitions.

The right to a protected biophysical environment, the promotion of social development and trans-generational equity is explicitly included in the Constitution of the Republic of South Africa 1996, which states:

"Everyone has the right -

1. To an environment that is not harmful to their health and wellbeing, and
2. To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that*:*
    1. *Prevent pollution*
    2. *Promote conservation, and*
    3. *Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."*

When considering an environment that is not harmful to peoples' health and wellbeing, it is important to reflect on the interconnectedness of biophysical, economic, and social aspects. The impact of development on people, and the true cost of development, as well as the consideration of "who pays the price?" versus "who reaps the benefits?" cannot be ignored in a discussion about human rights and the environment.

The right to a generally satisfactory environment is increasingly seen as a human right in Africa (Du Plessis, 2011), and South Africa's environmental legislation supports this.

4.2 The National Environmental Management Act 107 of 1998

The National Environmental Management Act (NEMA) 107 of 1998 states that the State must respect, protect, promote, and fulfil the **social**, economic, and

environmental rights of everyone and strive to meet the needs of previously disadvantaged communities. It states further that sustainable development requires the integration of **social**, economic, and environmental factors in the planning, evaluation, and implementation of decisions to ensure that development serves present and future generations.

Chapter 1 of NEMA contains a list of principles and states clearly that environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural, and social interests (NEMA, 1998).

Another important aspect of NEMA is the principle of public participation. It states that people should be empowered to participate in the environmental governance processes, and that their capacity to do so should be developed if it does not exist. All decisions regarding the environment should take the needs, interest, and values of the public into account, including traditional and ordinary knowledge (NEMA, 1998). There are also specific environmental management acts that fall under NEMA, such as the National Environmental Management, Air Quality Act 39 of 2004 (NEM: AQA), and the National Environmental Management, Waste Act 59 of 2008 (NEM: WA). These acts require similar public participation processes to NEMA and the principles of NEMA also apply to them (Department of Environmental Affairs & Development Planning [DEA&DP], Provincial Government of the Western Cape, 2010).

Public participation is the only requirement of the environmental impact assessment process for which exemption cannot be given unless no rights are affected by an application. This stems from the requirement in NEMA that people have a right to be informed about potential decisions that may affect them and that they must be given an opportunity to influence those decisions.

NEMA 107 of 1998 recognises that the environment is held in public trust for the people, and therefore the beneficial use of environmental resources must serve the peoples' interest and protect the environment as the peoples' common heritage.

4.3 The National Water Act 36 of 1998

Chapter 1 of the National Water Act (NWA) 36 of 1998 states that sustainability and equity are identified as central guiding principles in the protection, use, development, conservation, management, and control of water resources. It affirms that the guiding principles recognise the basic human needs of present and future generations and the need to promote social and economic development using water. Chapter 2 of the NWA states amongst others that the purpose of the act is to ensure that everyone has equitable access to water, and that the results of past racial and gender discrimination are redressed. It aims to promote the efficient, sustainable, and beneficial use of water in the public interest, and to facilitate social and economic development. The NWA recognises that the nations' water resources are held in public trust for the people, and therefore the sustainable, equitable and beneficial use of water resources must serve the peoples' interest.

4.4 The National Heritage Resources Act 25 of 1999

The NHRA affirms that every generation has a moral responsibility to act as trustee of the national heritage for later generations and that the State is obliged to manage heritage resources in the interest of all South Africans. The general principles for heritage management in Chapter 5 of the Act state that in order to ensure that heritage resources are effectively managed, the skills and capacities of persons and communities involved in heritage resources management must be developed. The Act further elaborates on the fact that heritage resources form an important part of the history and beliefs of communities and must be managed in a way that acknowledges the right of affected communities to be consulted and to participate in their management.

The general principles (Chapter 5) state that the identification, assessment, and management of the heritage resources of South Africa must:

- Take account of all relevant cultural values and indigenous knowledge systems;
- Take account of material or cultural heritage value and involve the least possible alteration or loss of it;

- Promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs;
- Contribute to social and economic development, and
- Safeguard the options of present and future generations.

4.5 National Energy Act 34 of 2008

One of the objectives of the National Energy Act is to promote diversity in energy supply and its sources. The National Energy Act 34 of 2008 aims:

- to ensure that diverse energy resources are available, in sustainable quantities and at affordable prices, to the South African economy in support of economic growth and poverty alleviation, taking into account environmental management requirements and interactions amongst economic sectors;
- to provide for energy planning, increased generation and consumption of renewable energies, contingency energy supply, holding of strategic energy feedstocks and carriers, adequate investment in, appropriate upkeep and access to energy infrastructure;
- to provide measures for the furnishing of certain data and information regarding energy demand, supply and generation;
- to establish an institution to be responsible for promotion of efficient generation and consumption of energy and energy research; and
- to provide for all matters connected therewith.

4.6 Gas Act 48 of 2001 and subsequent proposed amendments in the Gas Amendment Bill (2023)

The Gas Act aims to:

- Provide a national regulatory framework for the orderly and environmentally sustainable development of the gas industry.
- Facilitate gas infrastructure development and investment, including in the gas-to-power sector.
- Covers unconventional gases such as coalbed methane, landfill gas, and shale gas.
- Defines the functions of The National Energy Regulator of South Africa (NERSA) in relation to gas, including tariffs and maximum charges.
- Gas licensing and registration.

- Assigns powers to the Minister (including determinations) to direct development of new gas infrastructure and mandates the Minister to develop a Gas Master Plan.

The proposed Bill aims to amend the Gas Act, 2001, in order to

- amend and insert certain definitions;
- provide for the promotion of the orderly development of the gas industry;
- enhance the national regulatory framework; to promote broad-based black economic empowerment;
- provide for socio-economic and environmentally sustainable development;
- provide for new developments and changing technologies in the gas sector; to facilitate gas infrastructure development and investment;
- provide for cooperation between the private and public sectors;
- strengthen enforcement and improve compliance; and
- provide for matters connected therewith.

4.7 Upstream Petroleum Resources Development Bill (2021)

The Upstream Petroleum Resources Development Bill was introduced on 1 July 2021. One of the purposes of the Bill is to accelerate the exploitation of petroleum resources in South Africa. It aims to:

- Contribute to the development of petroleum resources.
- “Provide equitable access to and sustainable development” of South Africa’s petroleum resources.
- Contribute to active state and Black persons’ participation in developing the country’s petroleum resources.
- Provide for security of tenure for the exploration and production of gas.
- Give effect to Section 24 of the constitution by ensuring that gas development is conducted in an ecologically sustainable manner.
- Accelerate the exploration and production of gas development.
- Promote employment, skills development, and technology transfer through the development of this industry.

4.8 Promotion of Administrative Justice Act 3 of 2000

The Bill of Rights in the Constitution of the Republic of South Africa 1996 states that everyone has the right to administrative action that is legally recognised, reasonable, and procedurally just. The Promotion of Administrative Justice Act (PAJA) 3 of 2000 gives effect to this right. The PAJA applies to all decisions of all State organisations exercising public power or performing a public function in terms of any legislation that negatively affects the rights of any person. The Act prescribes what procedures an organ of State must follow when it takes decisions. If an organ of State implements a decision that impacts on an individual or community without giving them an opportunity to comment, the final decision will be illegal and may be set aside. The Promotion of Administrative Justice Act 3 of 2000 also forces State organisations to explain and give reasons for the manner in which they have arrived at their decisions and, if social issues were involved, and how these issues were considered in the decision-making process. The Promotion of Administrative Justice Act 3 of 2000 therefore protects the rights of communities and individuals to participate in decision-making processes, especially if these processes affect their daily lives.

4.9 Disaster Management Act 57 of 2002

The Disaster Management Act 57 of 2002 makes provision for national, provincial, and municipal disasters. It requires disaster management frameworks on all three spheres of government. Each district municipality must establish a disaster management centre in consultation and partnership with local municipalities. The act spells out the duties and powers of a municipal disaster management centre, specifying that it must specialise in issues relevant to the municipal area and promote an integrated and coordinated approach to disaster management. It encourages a risk averse approach and the development of a municipal disaster management plan. The act identifies the responsibilities of the municipality in the event of a local disaster and requirements to declare a municipal state of disaster. It further sets out principles about funding of post-disaster recovery and rehabilitation.

4.10 National and international standards

National and international industry standards aimed at sustainable development and social justice specifically have become abundant in the last decade. Many industries use these standards as indicators for best practice. The discussion below highlights only a few of these standards.

4.10.1 ISO 26000:2010/SANS 26000:2010

Performance standards have long been a voluntary tool used by industry to achieve certain outcomes. The first standard on social responsibility, ISO 26000 was published on 1 November 2010 (ISO, 2010). It was developed using a multi-stakeholder approach involving experts from more than 90 countries and 40 international or broadly based regional organisations involved in different aspects of social responsibility (ISO, 2010).

The South African Bureau of Standards (SABS), a statutory body that is mandated to develop, promote, and maintain South African National Standards (SABS, [sa]) adopted the ISO 26000 Standard as a South African National Standard (SANS) 26000:2010.

Social responsibility is defined in the standard as the responsibility of an organisation for the impacts of its decisions and activities on society and the environment, through transparent and ethical behaviour that contributes to sustainable development, including health and welfare of society; takes into account the expectations of the stakeholders; complies with applicable law and is consistent with international behaviour norms, and is integrated throughout the organisation and practiced in its relationships (ISO, 2010).

The document identifies seven principles for social responsibility and seven core subjects that should be addressed by organisations. The seven principles for social responsibility are accountability, transparency, ethical behaviour, respect for stakeholder interests, respect for the rule of law, respect for international norms of behaviour and respect for human rights (ISO, 2010). The core subjects that should be addressed include organisational governance, human rights, labour practices, environment, fair operating practices, consumer issues and community involvement

and development (ISO, 2010). Economic aspects, health and safety and the value chain are dealt with throughout the seven core subjects, and gender issues are considered.

ISO 26000 is a good introduction to what social responsibility is and what measures should be taken to move towards being a more socially responsible company. It deals with equity issues and can encourage social development initiatives by companies through activities such as social investment projects, employment creation, skills development, and income creation.

4.10.2 International Social Performance Standards/Initiatives

There is a profusion of global initiatives aiming at assisting companies to make their operations more sustainable. Human rights, environmental protection and social justice are gaining support from industry. The social agenda forms an important part of this trend. Only a few relevant initiatives will be mentioned in this section.

Many of the multi-lateral funding agencies such as the World Bank have social standards that they must uphold. The most frequently used in the EIA industry is the International Finance Corporation's (IFC) principles (IFC, 2012). The IFC is a member of the World Bank group, and as a part of their sustainability framework they created performance standards on environmental and social sustainability (IFC, 2012). The standards relevant to the social environment are the following:

1. Environmental and Social Standard 1. Assessment and Management of Environmental and Social Risks and Impacts
2. Environmental and Social Standard 2: Labour and Working Conditions
3. Environmental and Social Standard 4: Community Health and Safety
4. Environmental and Social Standard 5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
5. Environmental and Social Standard 8: Cultural Heritage

6. Environmental and Social Standard 10. Stakeholder Engagement and Information Disclosure (World Bank, 2016)

Issues such as gender, climate change, water and human rights are addressed across the standards. A guidance note accompanies each standard (IFC, 2012:4). Environmental and social risks and impacts must be managed by using an Environmental and Social Management System. The standard applies to all the activities funded by the IFC for the duration of the loan period. A number of private banks adopted most of the IFC standards in an initiative known as the Equator Principles (Esteves, Franks & Vanclay, 2012).

4.10.3 International Principles for SIA

The practice of SIA is guided by a set of *International Principles* that defines the core values, fundamental principles for development and principles specific to SIA practice (Vanclay, 2003). When the *International Principles* are considered, it is clear that SIA aspires to more than just assessing the impact of development on people and includes sustainable outcomes. The following specific principles refer to these sustainable outcomes (Vanclay, 2003):

1. Development projects should be broadly acceptable to the members of those communities likely to benefit from, or be affected by, the planned intervention.
2. The primary focus of all developments should be positive outcomes, such as capacity building, empowerment, and the realisation of human and social capital.
3. The term “environment” should be defined broadly to include social and human dimensions, and in such inclusion, care must be taken to ensure that adequate attention is given to the realm of the social.
4. Equity considerations should be a fundamental element of impact assessment and of development planning.
5. There should be a focus on socially sustainable development, with the SIA contributing to the determination of best development alternative(s) – SIA (and

EIA) has more to offer than just being an arbiter between economic benefit and social cost.

6. In all planned interventions and their assessments, avenues should be developed to build the social and human capital of local communities and to strengthen democratic processes.
7. Local knowledge, experience and acknowledgement of different cultural values should be incorporated in any assessment.
8. Development processes that infringe the human rights of any section of society should not be accepted.

In addition to the *International Principles*, the international SIA community produced a document titled: *Social Impact Assessment: Guidance for assessing and managing the social impacts of projects* (Vanclay, Esteves, Aucamp & Franks, 2015) in April 2015. The purpose of this document is to provide advice to various stakeholders (including proponents) about good practice SIA and social impact management (Vanclay et al., 2015). This document aspires to provide a much-needed benchmark for SIA practice across the globe.

4.11 Additional governance tools

Legislation is not the only tool that authorities can use to achieve sustainable development and social development outcomes. There are several tools, policies and strategic planning instruments that can contribute to this.

4.11.1 Integrated Development Plans

For the purpose of this project, the Integrated Development Plan (IDP) document of the City of Ekurhuleni MM has been reviewed. Ekurhuleni adopted a long-term development strategy referred to as the GDS 2055 (City of Ekurhuleni IDP 2022/23-2026/27). The strategy systematically analyses Ekurhuleni's history and development challenges and outlines the desired growth and development trajectory. The GDS has identified five strategic themes to incrementally measure the success of Ekurhuleni in achieving the objectives of the GDS 2055:

- Re-urbanise in order to achieve sustainable urban integration;
- Re-industrialise in order to achieve job creating economic growth;
- Re-generate in order to achieve environmental wellbeing;
- Re-mobilise in order to achieve social empowerment; and
- Re-govern in order to achieve effective cooperative governance.

4.11.2 Provincial Growth and Development Strategies

The Gauteng Province compiled long-term strategic plan, the GGT2030 (Growing Gauteng Together 2030). The GGT2030 is a plan of action with regard to executing seven priorities with specific 162 interventions towards the vision for the Gauteng of the future. The seven priorities are:

- The economy, jobs and infrastructure;
- Education, skills revolution and health;
- Integrated human settlements and land release;
- Safety, social cohesion and food security;
- A capable, ethical and developmental state;

- Towards a better Africa and a better world;
- Sustainable development for future generations.

4.11.3 National Development Plan

On 11 November 2011 the National Planning Commission released the National Development Plan: Vision for 2030 (NPC, 2012) for South Africa and it was adopted as government policy in August 2012. The National Development Plan (NDP) was undertaken to envision what South Africa should look like in 2030 and what action steps should be taken to achieve this (RSA, 2013). The aim of the NDP is to eliminate poverty and reduce inequality by 2030. The report identifies nine central challenges to development in South Africa:

1. Too few people work.
2. The standard of education for most black learners is of poor quality.
3. Infrastructure is poorly located, under-maintained and insufficient to foster higher growth.
4. Spatial patterns exclude the poor from the fruits of development.
5. The economy is overly and unsustainably resource intensive.
6. A widespread disease burden is compounded by a failing public health system.
7. Public services are uneven and often of poor quality.
8. Corruption is widespread.
9. South Africa remains a divided society (NPC, 2012).

The plan focuses on creating an enabling environment for development and wants to shift from a paradigm of entitlement to a paradigm of development that promotes the development of capabilities, the creation of opportunities and the involvement of all citizens (NPC, 2012). The National Development Plan (NPC, 2012) wants to achieve the following:

1. An economy that will create more jobs.
2. Improving infrastructure.
3. Transition to a low-carbon economy.
4. An inclusive and integrated rural economy.
5. Reversing the spatial effects of apartheid.
6. Improving the quality of education, training and innovation.
7. Quality healthcare for all.
8. Social protection.
9. Building safer communities.
10. Reforming the public service.
11. Fighting corruption.
12. Transforming society and uniting the country.

Each of the points above is a chapter in the plan and contains a range of targets and proposals. Some are general statements of policy intent, while others are specific policy proposals, actions or processes that should take place (NPC, 2012). Through its contribution to the economy, the project will assist with achieving the goal of creating an economy that will create more jobs.

4.11.4 Integrated Resource Plan

The integrated resource plan (IRP) is an electricity capacity plan which aims to provide an indication of the country's electricity demand, how this demand will be supplied and what it will cost. The Department of Energy (DoE) released the Integrated Resource Plan 2010-2030 (IRP 2010) in respect of South Africa's forecast energy demand for the 20-year period from 2010 to 2030 on 6 May 2011. The IRP 2010 was intended to be a 'living plan' that would be periodically revised by the DoE. However,

this was never done and resulted in an energy mix that failed to adequately meet the constantly changing supply and demand scenarios in South Africa. It also did not reflect global technological advancements in the efficient and responsible generation of energy.

On 27 August 2018, the then Minister of Energy published a draft IRP which was issued for public comment (Draft IRP). After a long public participation and consultation process the Integrated Resource Plan 2019 (IRP 2019) was gazetted on 18 October 2019, updating the energy forecast for South Africa from the current period to the year 2030. The IRP is an electricity capacity plan which aims to provide an indication of the country's electricity demand, how this demand will be supplied and what it will cost. Provision has been made for the following new additional capacity by 2030:

- 1 500MW of coal.
- 2 500MW of hydro.
- 6 000MW of solar PV.
- 14 400MW of wind.
- 1 860MW of nuclear.
- 2 088MW for storage.
- 3 000MW of gas/diesel.
- 4 000MW from other distributed generation, co-generation, biomass and landfill technologies.

4.11.5 Sustainable Development Goals

All 189 Members States of the United Nations, including South Africa, adopted the United Nations Millennium Declaration in September 2000 (UN, 2000). The commitments made by the Millennium Declaration are known as the Millennium Development Goals (MDGs), and 2015 was targeted as the year to achieve these goals. The United Nations Open Working Group of the General Assembly identified seventeen sustainable development goals, built on the foundation of the MDGs as the next global development target (UN, 2014). The sustainable development goals

include aspects such as ending poverty, addressing food security, promoting health, wellbeing and education, gender equality, water and sanitation, economic growth and employment creation, sustainable infrastructure, reducing inequality, creating sustainable cities and human settlements, and addressing challenges in the physical environment such as climate change and environmental resources (UN, 2014). These aspects are included in the NPD, and it can therefore be assumed that South Africa's development path is aligned with the international development agenda.

Figure 2: Sustainable Development Goals (Source: www.un.org)

5 Receiving environment

According to the National Environmental Management Act (NEMA, 1998) environment refers to the surroundings in which humans exist. When viewing the environment from a socio-economic perspective the question can be asked what exactly the social environment is. Different definitions for social environment exist, but a clear and comprehensive definition that is widely accepted remains elusive. Barnett & Casper (2001) offers the following definition of human social environment:

> *"Human social environments encompass the immediate physical surroundings, social relationships, and cultural milieus within which defined groups of people function and interact. Components of the social environment include built infrastructure; industrial and occupational structure; labour markets; social and economic processes; wealth; social, human, and health services; power relations; government; race relations; social inequality; cultural practices; the arts; religious institutions and practices; and beliefs about place and community. The social environment subsumes many aspects of the physical environment, given that contemporary landscapes, water resources, and other natural resources have been at least partially configured by human social processes. Embedded within contemporary social environments are historical social and power relations that have become institutionalized over time. Social environments can be experienced at multiple scales, often simultaneously, including households, kin networks, neighbourhoods, towns and cities, and regions. Social environments are dynamic and change over time as the result of both internal and external forces. There are relationships of dependency among the social environments of different local areas, because these areas are connected through larger regional, national, and international social and economic processes and power relations."*

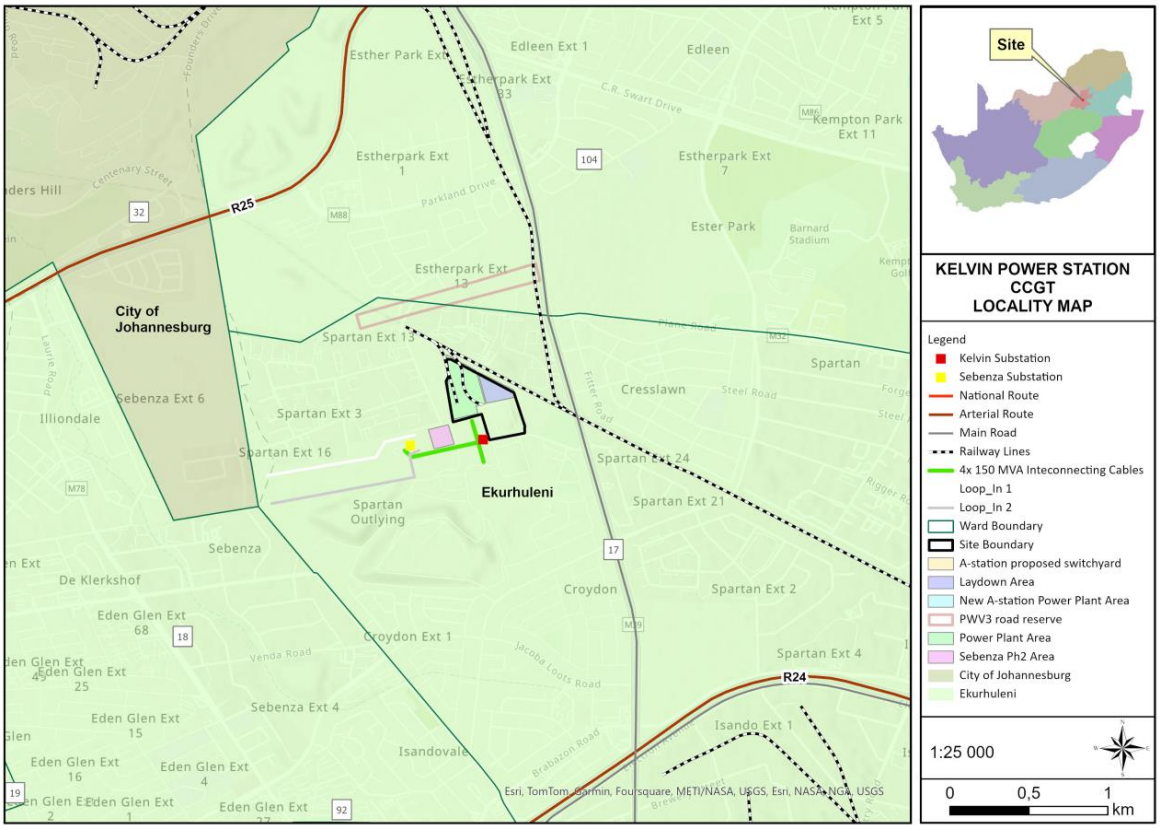
Environment-behaviour relationships are interrelationships (Bell, Fisher, Baum & Greene, 1996). The environment influences and constrains the behaviour of people, but behaviour also leads to changes in the environment. The impacts of a project on

people can only be truly understood if their environmental context is understood. The baseline description of the social environment will include a description of the area within a provincial, district and local context that will focus on the identity and history of the area as well as a description of the population of the area based on a number of demographic, social and economic variables.

5.1 Description of the area

The proposed site for the project is located in Ward 17 of the Ekurhuleni Metropolitan Municipality that is located in the Gauteng Province. Wards 18 and 104 of the Ekurhuleni Metropolitan Municipality and Ward 32 of the City of Johannesburg are in close proximity of the site. The baseline description of the environment will include these areas. Figure 2 shows the location of the proposed project as well as social and physical infrastructure in the area.

Figure 3:Location of the proposed Kelvin Power Station CCGT Plant.



5.1.1 Gauteng Province

Gauteng is the smallest of South Africa's provinces, but also the most populous, containing almost a quarter of the population. Johannesburg is the capital of the province. Pretoria, the administrative capital of South Africa is also located in the Gauteng Province. The province serves as the engine room of the country's economy and is responsible for more than a third of South Africa's GDP. The most important sectors contributing to the GDP are finance; real estate and business services; manufacturing; and general government services. More than 70 foreign banks have their head offices here, as does several local banks, stockbrokers, and insurance companies. The major gold and diamond mining houses have their headquarters in Johannesburg. Gold mining constitutes about 80% of Gauteng's mineral production output.

The province covers an area of 18 178 km^2 is divided into three metropolitan municipalities (City of Tshwane, City of Ekurhuleni, City of Johannesburg) and two district municipalities (Sedibeng and West Rand).

5.1.2 Ekurhuleni Metropolitan Municipality

Ekurhuleni Metropolitan Municipality is located in the Gauteng Province and covers an extensive area from Germiston in the west and Nigel and Springs in the east. It is one of the most densely populated areas on both the province and the country (www.municipalities.co.za). The area accounts for nearly a quarter of Gauteng's economy. The municipal area consists of 112 wards. Cities and towns in the municipal area includes Alberton, Bedfordview, Benoni, Birchleigh, Boksburg, Brakpan, Clayville, Daveyton, Dunnottar, Edenvale, Geduld, Germiston, Kathlehong, Kempton Park, Kwa-Thema, Machenzieville, Nigel, Olifantsfontein, Springs, Tembisa, Tokoza, Vosloorus and Vorsterkroon. The municipality covers an area of 1 975km^2 and the main economic sectors are Manufacturing, Finance and Business services, Community services, Trade, Transport, Construction, Electricity, and Mining.

5.1.3 City of Johannesburg Metropolitan Municipality

The City of Johannesburg Metropolitan Municipality is located in the Gauteng Province and covers an area of 1 643km^2. It is the largest city in South Africa and consists of a large and ethnically diverse metropolitan area. Johannesburg is considered the economic hub of South Africa and is a desirable destination for job seekers across the country. The main economic sectors are Finance and Business Services; Community Services, Manufacturing and Trade. Cities and towns in the area include Alexandra, Diepkloof, Diepsloot, Ennerdale, Johannesburg, Johannesburg South, Lawley, Lenasia, Lenasia South, Meadowlands East, Meadowlands West, Midrand, Orange Farm, Pimville, Randburg, Roodepoort, Sandton, and Soweto.

5.2 Description of the population

The baseline description of the population will take place on three levels, namely provincial, district and local. Impacts can only truly be comprehended by understanding the differences and similarities between the different levels. The baseline description will focus on Ekurhuleni and City of Johannesburg Metropolitan Municipalities in the Gauteng Province (referred to in the text as the study area). Where possible, the data will be reviewed on a ward level – Wards 17, 18 and 104 of the Ekurhuleni Metropolitan Municipality and Ward 32 of the City of Johannesburg Metropolitan Municipality. The data used for the socio-economic description was sourced from Census 2022, Community Survey 2016, and Census 2011. Both Census 2022 and Census 2011 were de facto censuses where individuals were counted based on where they were on the census reference night. For Census 2022 the reference night was the night of 2 February 2022 and for Census 2011 it was the night of 9 October 2011. The results should be viewed as indicative of the population characteristics in the area and should not be interpreted as absolute.

StatsSA released limited data for Census 2022 on 10 October 2023 and will release more detailed data in future following a phased approach. ***The data that was released are only available up to local municipal level, and not on ward level.*** As such the data from Census 2022 will be supplemented by data from Census 2011 and Community Survey 2016.

Perhaps the most striking feature of Census 2022 is the very high undercount of 31% of people and 30% of households. While census undercounts are the norm rather than the exception (about a 5% undercount is acceptable), the undercount of this census may set a new international record (ww.wits.ac.za). At aggregate level Census 2022 is robust, but at sub-national, and especially sub-provincial, levels it might be less so.

In terms of Census 2011, the following points must be kept in mind (www.statssa.co.za):

- Comparisons of the results of labour market indicators in the post-apartheid population censuses over time have been a cause for concern. Improvements to key questions over the years mean that the labour market outcomes based on the post-apartheid censuses must be analysed with caution. The differences in the results over the years may be partly attributable to improvements in the questionnaire since 1996 rather than to actual developments in the labour market. The numbers published for the 1996, 2001, and 2011 censuses are therefore not comparable over time and are different from those published by Statistics South Africa in the surveys designed specifically for capturing official labour market results.

- For purposes of comparison over the period 1996–2011, certain categories of answers to questions in the censuses of 1996, 2001 and 2011, have either been merged or separated.

- The tenure status question for 1996 has been dropped since the question asked was totally unrelated to that asked thereafter. Comparisons for 2001 and 2011 do however remain.

- All household variables are controlled for housing units only and hence exclude all collective living arrangements as well as transient populations.

- When making comparisons of any indicator it must be considered that the time period between the first two censuses is five years and that between the second and third census is ten years. Although Census captures information at

one given point in time, the period available for an indicator to change is different.

5.2.1 Population and household sizes

According to the Census 2022, the population of South Africa is approximately 62 million and has shown an increase of about 19.8% since 2011. The household density for the country is estimated on approximately 3.48 people per household, indicating an average household size of 3-4 people for most households, which is down from the 2011 average household size of 3.58 people per household. Smaller household sizes are in general associated with higher levels of urbanisation.

The greatest increase in population since 2011 has been in the Ekurhuleni MM (Table 1). The increase in population on provincial, regional, and local level was higher than on national level, except in the City of Johannesburg MM. Population density refers to the number of people per square kilometre and the population density on a national level has increased from 42.45 people per km^2 in 2011 to 50.81 people per km^2 in 2022. In the study area the population density has increased since 2011 with the highest density in the City of Johannesburg MM.

Table 1: Population density and growth estimates (sources: Census 2011, Census 2022)

Area	Size in km^2	Population 2011	Population 2022	Population density 2011	Population density 2022	Growth in population (%)
Gauteng Province	18,178	12,272 263	15,099,422	675.12	830.64	23.04
Ekurhuleni MM	1,976	3,178 470	4,066,691	1,608.54	2,058.04	27.94
City of Johannesburg MM	1,643	4,434,631	4,803.262	2,699.11	2,923.47	8.31

The number of households in the study area has increased on all levels (Table 2). The proportionate increase in households were greater than the increase in population on all levels and exceeded the growth in households of 12.3% on a national level. The average household size has shown a decrease on all levels, which means there are more households, but with less members.

Table 2: Household sizes and growth estimates (sources: Census 2011, Census 2022)

Area	Households 2011	Households 2022	Average household size 2011	Average household size 2022	Growth in households (%)
Gauteng Province	3,908,826	5,318,665	3.14	2.84	36.07
Ekurhuleni MM	1,015,398	1,421,003	3.13	2.86	39.95
City of Johannesburg	1,434,715	1,841,917	3.09	2.61	28.38

The total dependency ratio is used to measure the pressure on the productive population and refer to the proportion of dependents per 100 working-age population. As the ratio increases, there may be an increased burden on the productive part of the population to maintain the upbringing and pensions of the economically dependent. A high dependency ratio can cause serious problems for a country as the largest proportion of a government's expenditure is on health, social grants and education that are most used by the old and young population.

Census 2022 shows that since 2011 the dependency ratios have decreased on all levels, with the highest total dependency ratio in the Ekurhuleni MM (Table 3). The decrease is most likely due to an increase in people of working age and a decrease in Youth. The same trend applies to the youth and employment dependency ratios. Employed dependency ratio refers to the proportion of people dependent on the people who are employed, and not only those of working age. The aged dependency ratio showed an increase in all areas since 2011. Census 2022 has not yet released employment data to enable calculation of the employment dependency ratios for comparative purposes.

Table 3: Dependency ratios (source: Census 2011, Census 2022).

Area	Total dependency	Youth dependency	Aged dependency	Employed dependency*
Gauteng	**38,97**	**32,94**	**6,03**	**63,60**
Gauteng '22	**38,86**	**31,30**	**7,55**	
Ekurhuleni MM	***39,44***	***33,89***	***5,55***	***64,55***
Ekurhuleni MM '22	***37,31***	***30,38***	***6,93***	
Ward 17	33,18	26,27	6,91	48,15
Ward 18	38,61	25,81	12,80	45,55
Ward 104	38,56	30,26	8,31	48,11
City of Johannesburg MM	***37,62***	***31,92***	***5,69***	***61,75***
City of Johannesburg MM '22	***36,82***	***30,01***	***6,82***	
Ward 32	38,24	33,32	4,92	47,74

* Employment data for Census 2022 not yet released

Poverty is a complex issue that manifests itself in economic, social, and political ways and to define poverty by a unidimensional measure such as income or expenditure would be an oversimplification of the matter. Poor people themselves describe their experience of poverty as multidimensional. The South African Multidimensional Poverty Index (SAMPI) (Statistics South Africa, 2014) assess poverty on the dimensions of health, education, standard of living and economic activity using the indicators child mortality, years of schooling, school attendance, fuel for heating, lighting, and cooking, water access, sanitation, dwelling type, asset ownership and unemployment.

The poverty headcount refers to the proportion of households that can be defined as multi-dimensionally poor by using the SAMPI's poverty cut-offs (Statistics South Africa, 2014). The poverty headcount has increased in the Ekurhuleni MM between 2011 and 2016 (Table 4), indicating an increase in the number of multi-dimensionally poor households in the Ekurhuleni MM. Census 2022 has not yet released data on poverty.

The intensity of poverty experienced refers to the average proportion of indicators in which poor households are deprived (Statistics South Africa, 2014). The intensity of poverty has increased on all levels. The intensity of poverty and the poverty headcount is used to calculate the SAMPI score. A higher score indicates a very poor community that is deprived on many indicators. The SAMPI score on a local level has increased significantly between 2011 and 2016. It is anticipated that the scores would have increased even more since 2016 due to the aftermath of the Covid-19 pandemic.

Table 4: Poverty and SAMPI scores (sources: Census 2011 and Community Survey 2016).

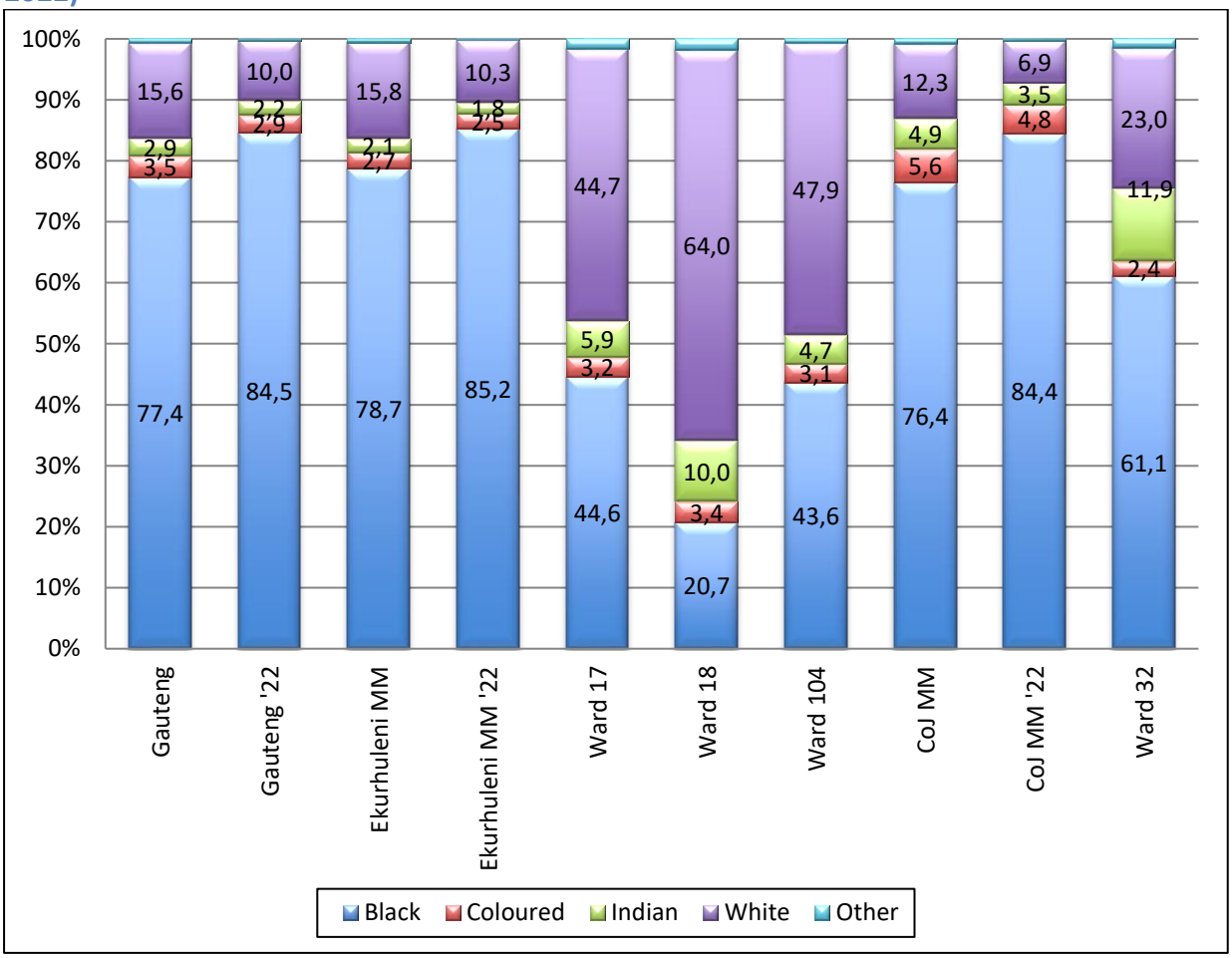
Area	Poverty headcount 2011 (%)	Poverty intensity 2011 (%)	SAMPI 2011	Poverty headcount 2016 (%)	Poverty intensity 2016 (%)	SAMPI 2016
Gauteng Province	4,8	43,8	0,021	4,6	44,1	0,020
Ekurhuleni MM	6,4	44,5	0,028	6,6	44,7	0,030
City of Johannesburg MM	3,7	43,3	0,016	3,5	44,1	0,015

5.2.2 Population composition, age, gender and home language

On provincial and municipal level, the majority of the population belong to the Black population group (Figure 3), but on a ward level the profile is heterogeneous. In Ward

18 of the Ekurhuleni MM the majority of the people belonged to the White population group in 2011.

Figure 4: Population distribution (shown in percentage, source: Census 2011, Census 2022)



The average age is very similar on municipal and provincial level (Table 5), with a slightly lower average age in the Ekurhuleni MM. Ward 18 of the Ekurhuleni MM had the highest average age in 2011. Census 2022 shows that the average age has increased slightly on all levels, indicating less Youth and more people of working age.

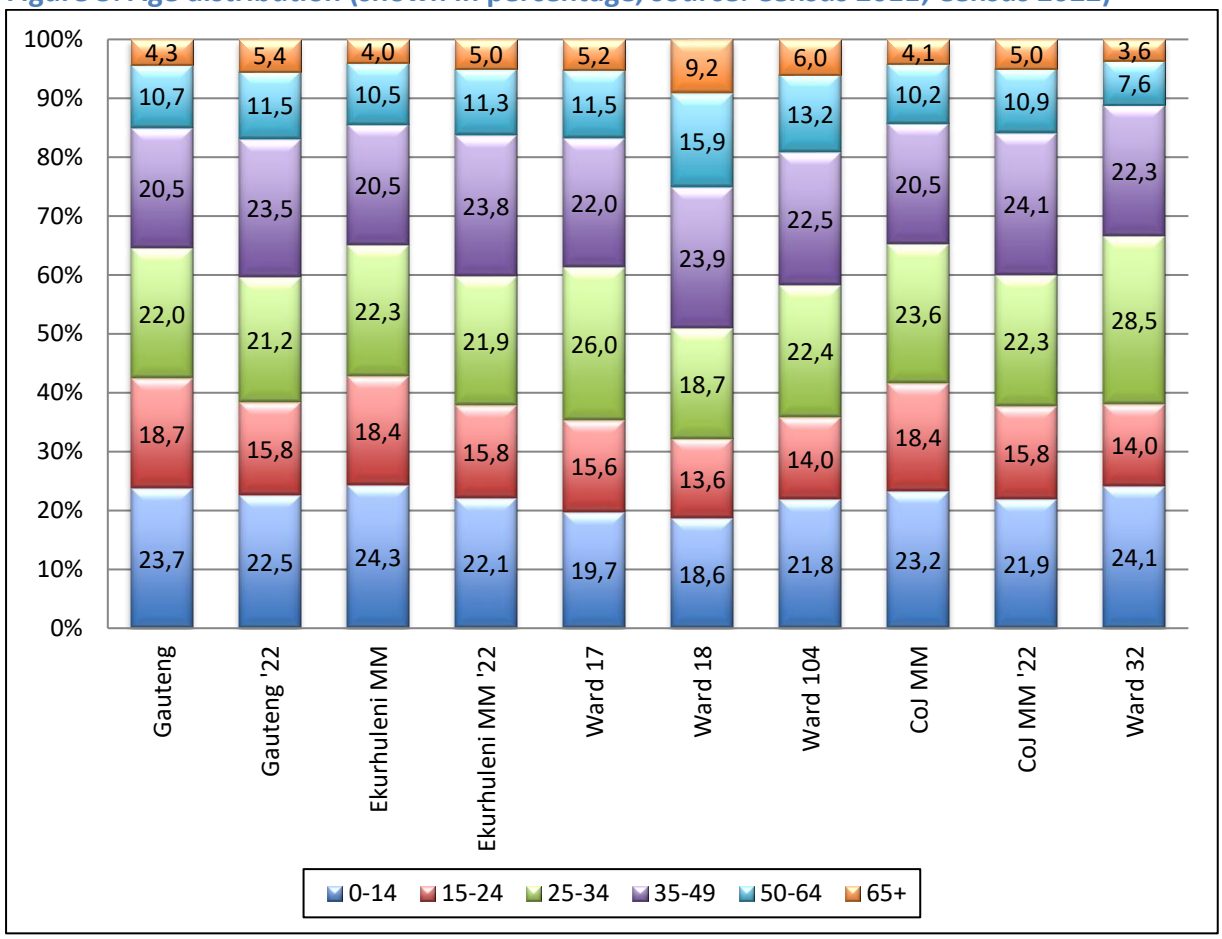
Table 5: Average age (source: Census 2011, Census 2022).

Area	Average Age (in years) - 2011	Average Age (in years) - 2022
Gauteng	29,31	30,97
Ekurhuleni MM	28,97	30,88
Ward 17	31,25	
Ward 18	35,03	
Ward 104	31,76	
City of Johannesburg MM	29,20	30,79

Ward 32	28,49	

The age distribution of the areas under investigation shows an increase on all levels in the population aged 35 -64 years (Figure 4).

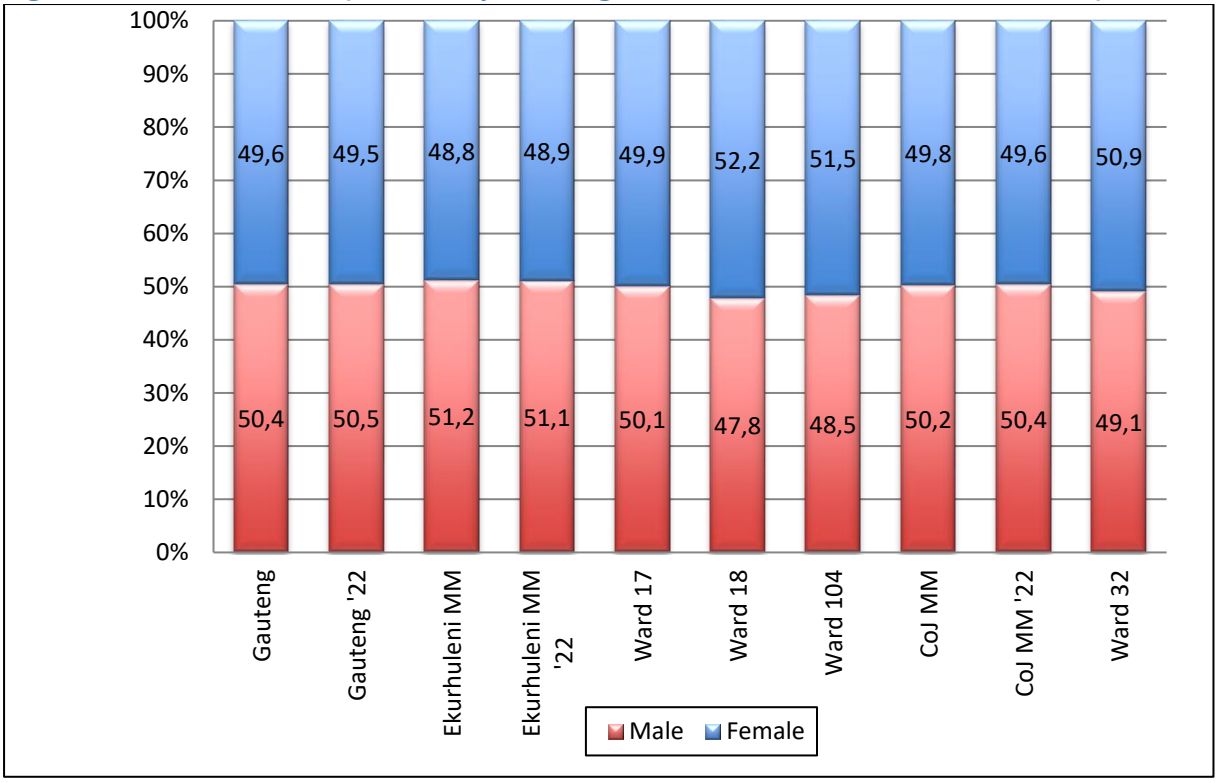
Figure 5: Age distribution (shown in percentage, source: Census 2011, Census 2022)



5.2.3 Sex

The gender distribution on provincial and municipal level is more or less equal (Figure 5), but in Wards 17 and 18 of the Ekurhuleni MM there is a slight bias towards females.

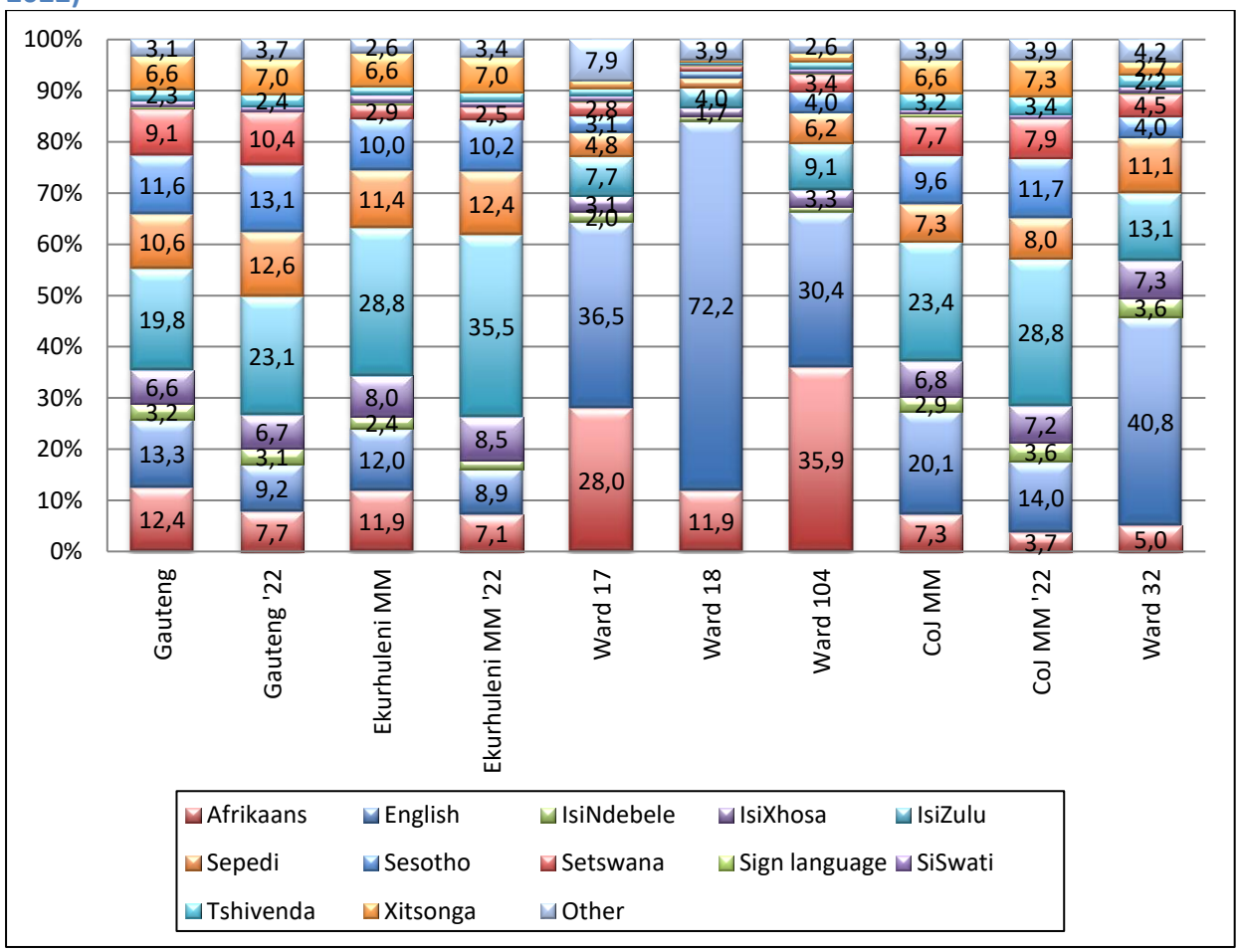
Figure 6: Sex distribution (shown in percentage, source: Census 2011, Census 2022)



5.2.4 Language

The language profiles on provincial, municipal and ward level are varied (Figure 6). In Wards 17 and 18 of the Ekurhuleni MM and Ward 104 of the City of Johannesburg MM the highest proportion of people indicated English as their home language. Home language should be taken into consideration when communicating with the local communities and based on the profile of the area communication should take place in English.

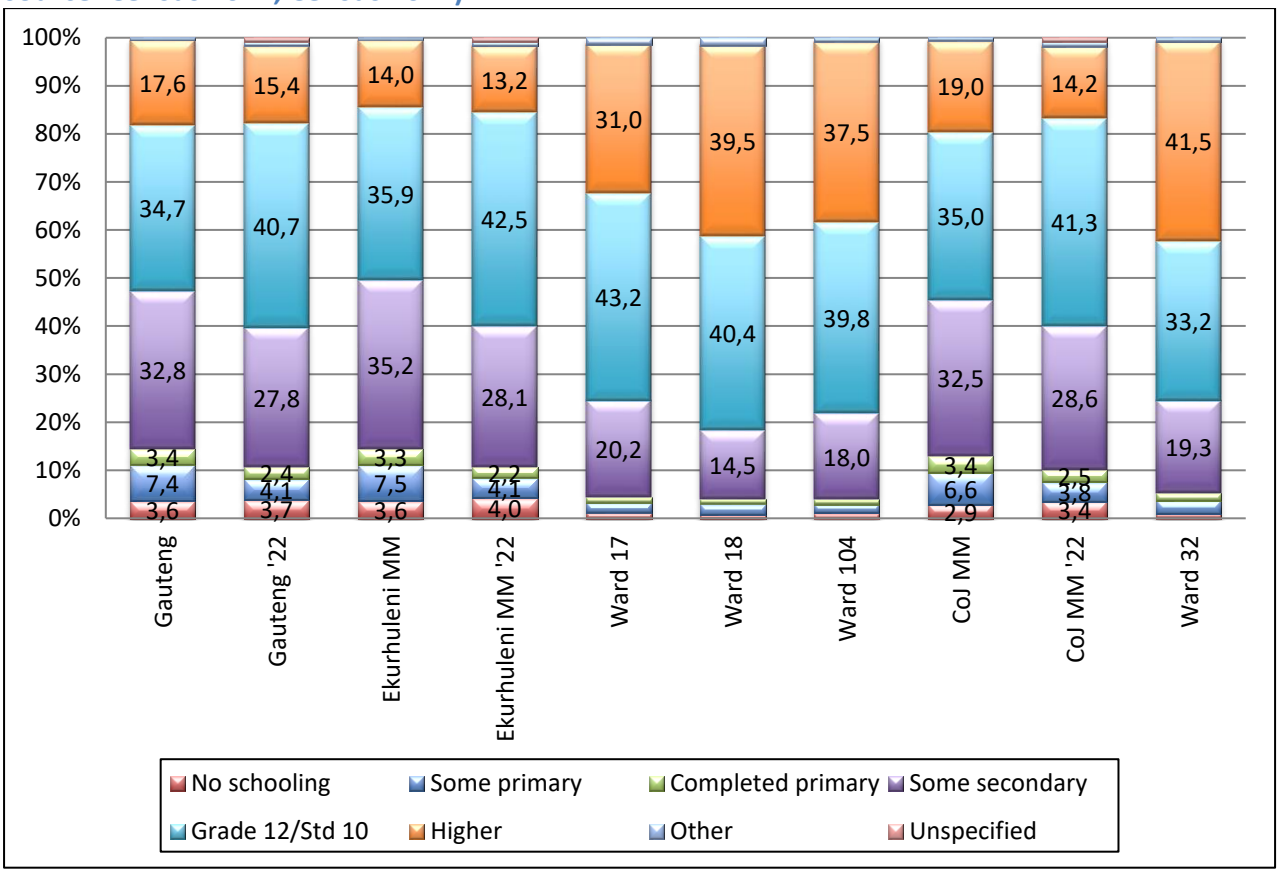
Figure 7: Language distribution (shown in percentage, source: Census 2011, Census 2022)



5.2.5 Education

Figure 7 shows the education profiles for the areas under investigation for those aged 20 years or older. The proportion of people that completed Grade 12 on provincial and municipal level has increased between 2011 and 2022, while the proportion of people who completed education higher than Grade 12 has decreased.

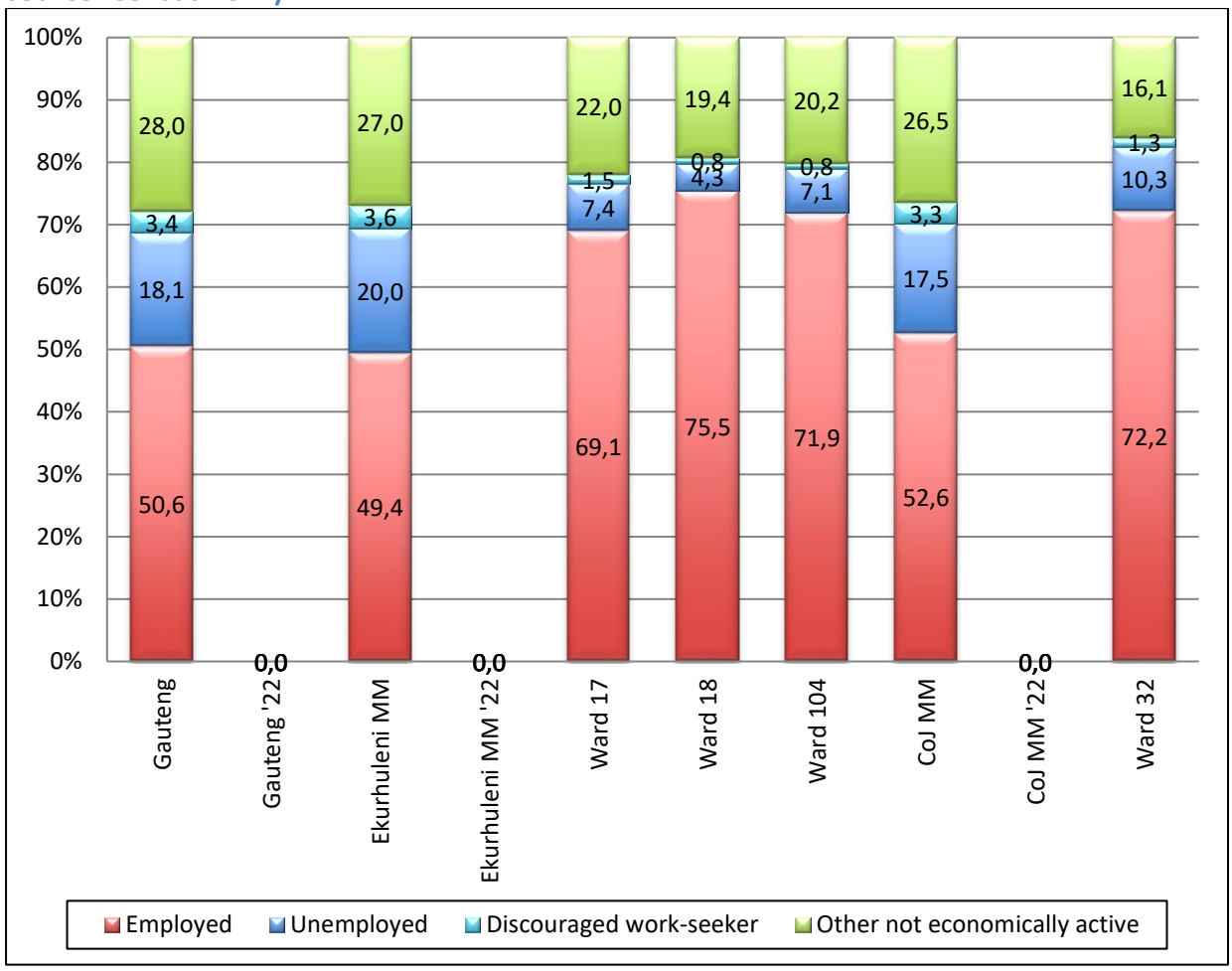
Figure 8: Education profiles (those aged 20 years or older, shown in percentage, source: Census 2011, Census 2022)



5.2.6 Employment

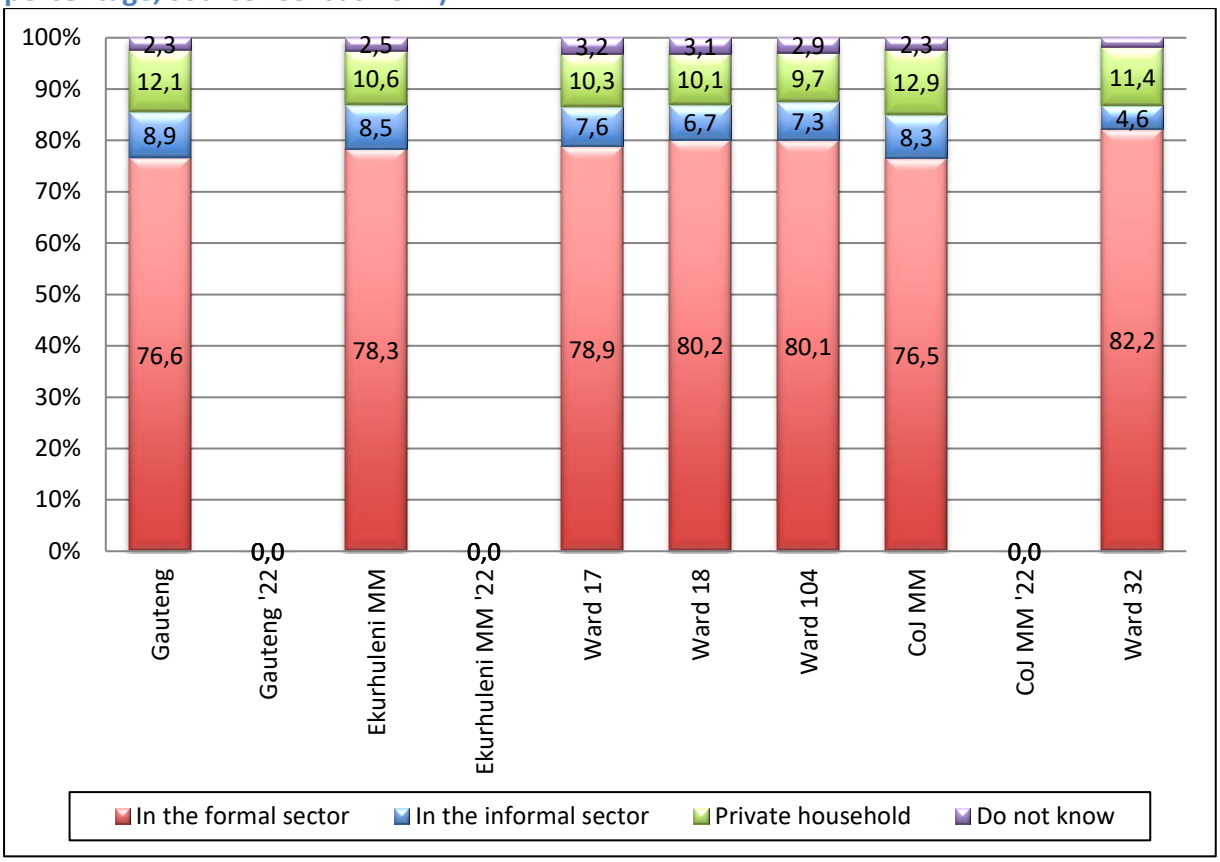
Census 2022 has not yet released employment data. Census 2011 shows relatively high levels of employment in the area, with the highest proportions of employed people in Ward 18 of the Ekurhuleni MM (Figure 8). It must be noted that these proportions might have decreased since 2011 due to the impact of Covid 19 pandemic and the continual loadshedding implemented by Eskom.

Figure 9: Labour status (those aged between 15 - 65 years, shown in percentage, source: Census 2011)



The majority of the employed people in the areas under investigation work in the formal sector (Figure 9).

Figure 10: Employment sector (those aged between 15 - 65 years, shown in percentage, source: Census 2011)

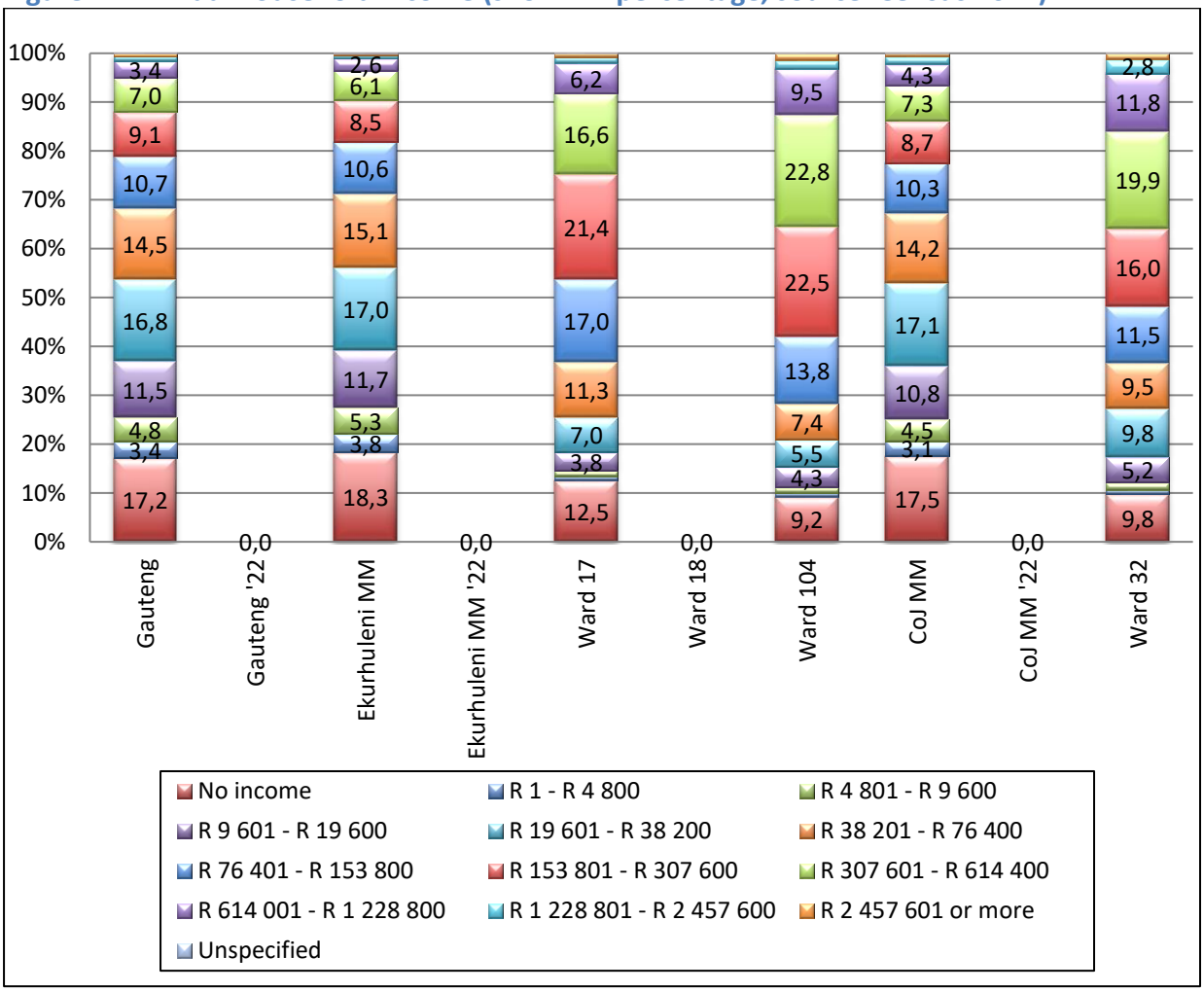


5.2.7 Household Income

Census 2022 has not yet released data on household income. In 2011 Ward 17 of the Ekurhuleni had the highest proportion of households (18.37%) with an average household income of R19 600 or less (Figure 10). Statistics South Africa (2022) has calculated the Food Poverty Line (FPL) as R663 per capita per month for 2022 where the FPL is the Rand value below which individuals are unable to purchase or consume enough food to supply them with the minimum per-capita-per-day energy requirement for good health. The FPL is one of three poverty lines, the others being the upper bound poverty line (UBPL) and the lower bound poverty line (LBPL). The LBPL and UBPL both include a non-food component. Individuals at the LBPL do not have enough resources to consumer or purchase both adequate food and non-food items and are forced to sacrifice food to obtain essential non-food items, while individuals at the UBPL can purchase both adequate food and non-food items. The LBPL was R945 per capita per month in 2022 and the UBPL R1 417 per capita per

month respectively. In 2011 a household with four members needed an annual household income of approximately R17 000 to be just above the FPL.

Figure 11: Annual household income (shown in percentage, source: Census 2011)



5.2.8 Housing

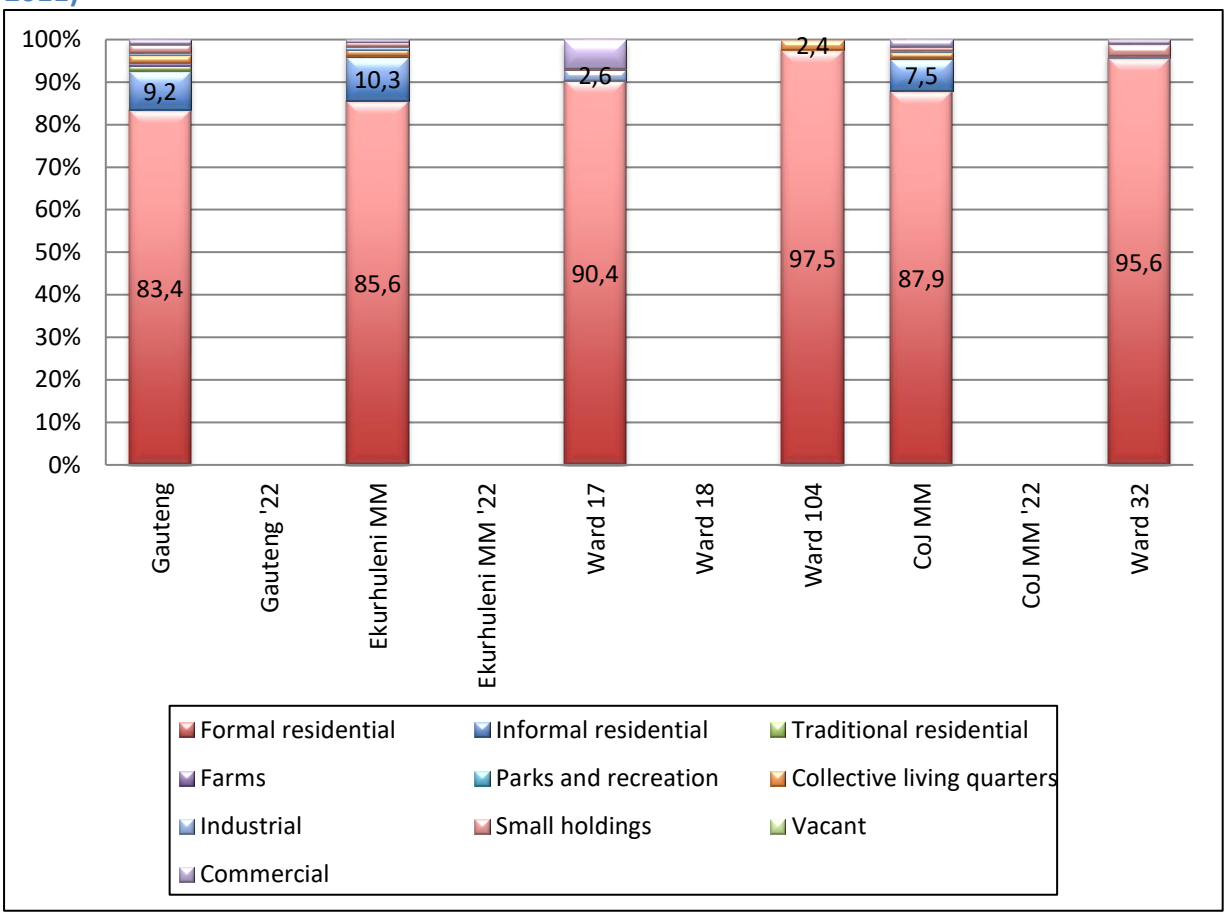
Census 2022 released limited data related to housing. Census 2011 shows that on a ward level all the households live in areas classified urban.

Table 6: Geotypes (source: Census 2011, households)

Area	Urban	Tribal/Traditional	Farm
Gauteng	97,57	0,93	1,50
Ekurhuleni MM	99,30	-	0,70
Ward 17	100,00	-	-
Ward 18	100,00	-	-
Ward 104	100,00	-	-
City of Johannesburg MM	99,79	-	0,21
Ward 32	100,00	-	-

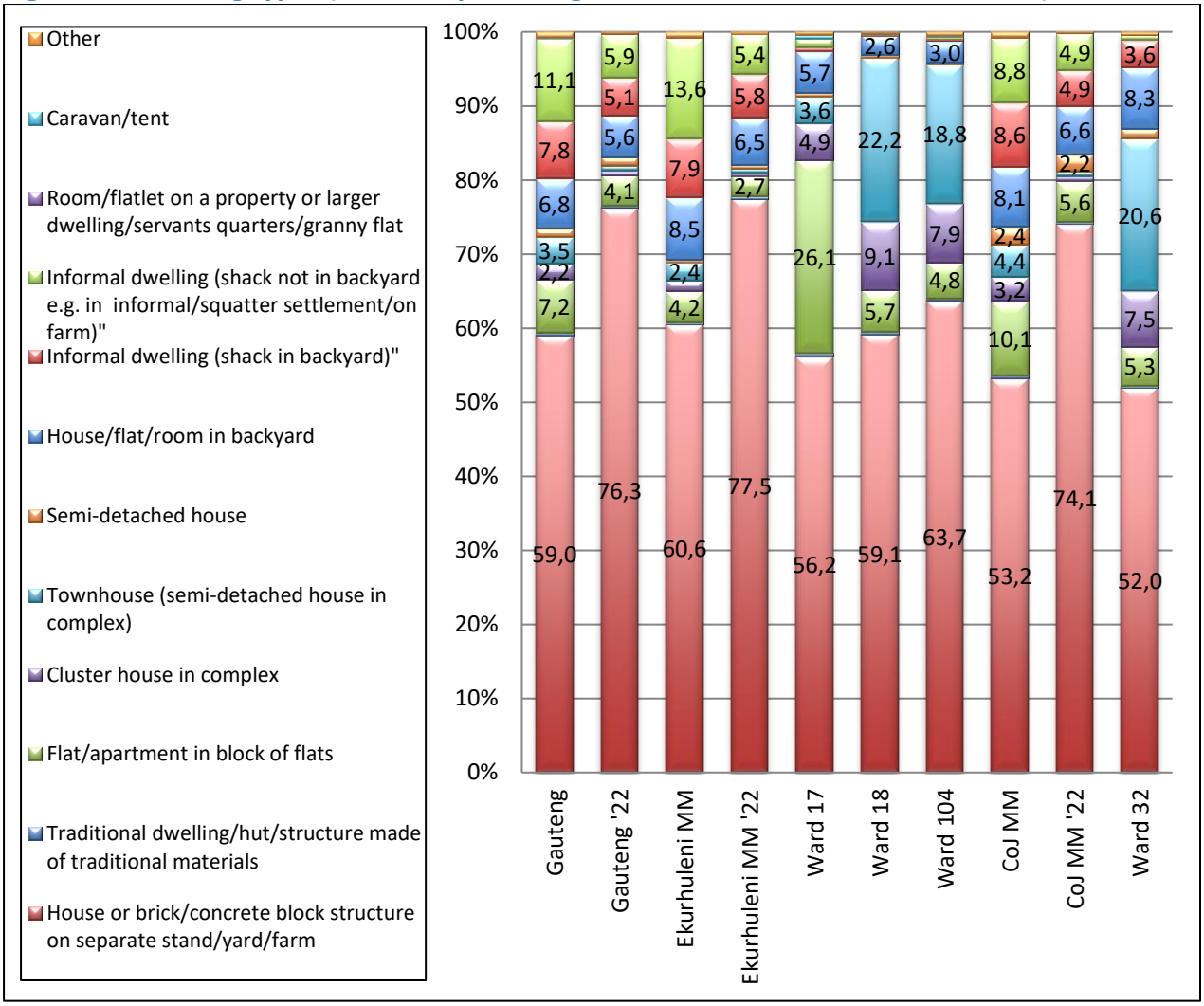
Most households live in formal residential areas (Figure 11), with the highest proportion of households (6.8%) living in commercial areas in Ward 17 of the Ekurhuleni LM

Figure 12: Enumeration area types (persons, shown in percentage, source: Census 2011)



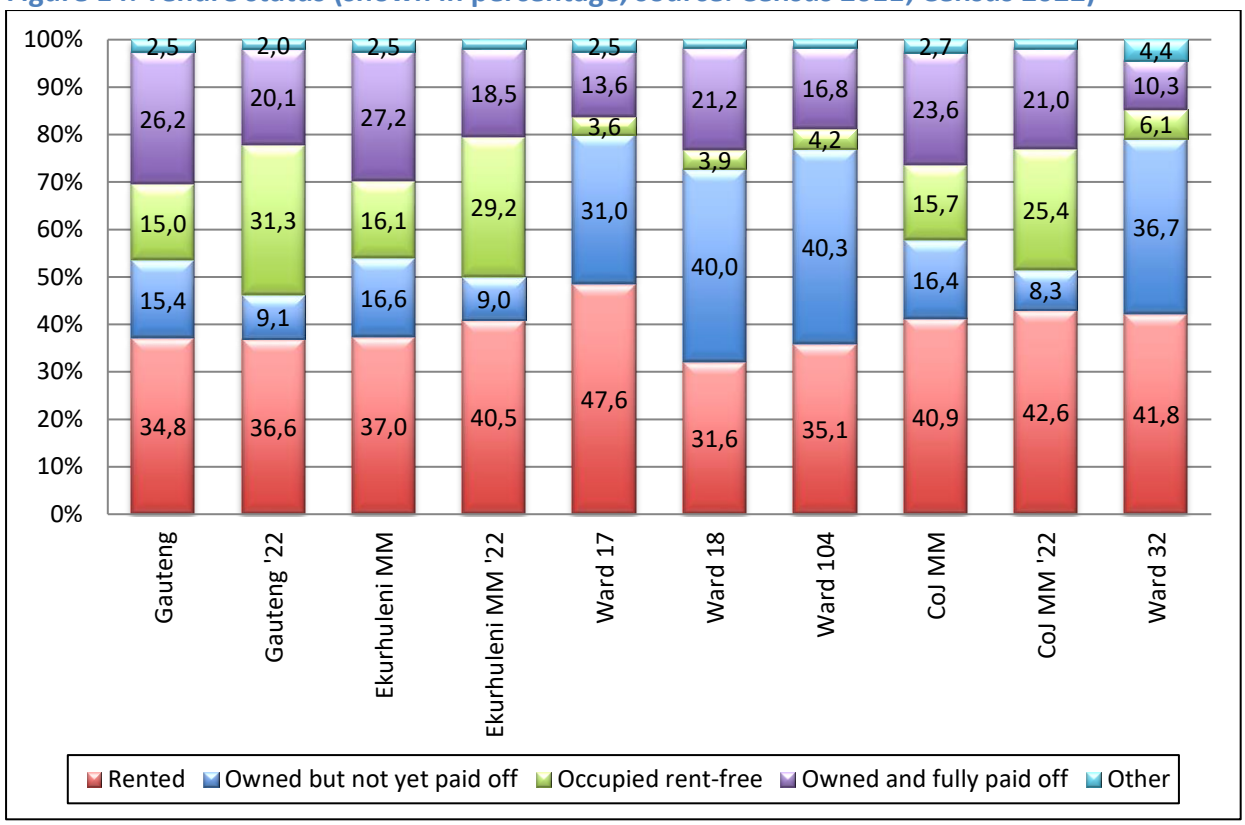
Most of the dwellings in the area are houses or brick/concrete block structures that are on a separate yard, stand or farm (Figure 12). Ward 17 of the Ekurhuleni MM had a high proportion of households living in informal dwellings while Wards 18 and 104 of the Ekurhuleni MM and Ward 32 of the City of Johannesburg MM had high proportions of households living in townhouse complexes. Census 2022 indicates that proportion of households living in formal dwellings have increased since 2011.

Figure 13: Dwelling types (shown in percentage, source: Census 2011, Census 2022)



In Ward 17 of the Ekurhuleni MM and Ward 32 of the City of Johannesburg MM most households in 2011 indicated that they rent their dwellings (Figure 13), while in Wards 18 and 104 of the Ekurhuleni MM most households indicated that they own their dwellings but had not paid it off in full yet. Census 2022 shows an increase of households renting their dwellings.

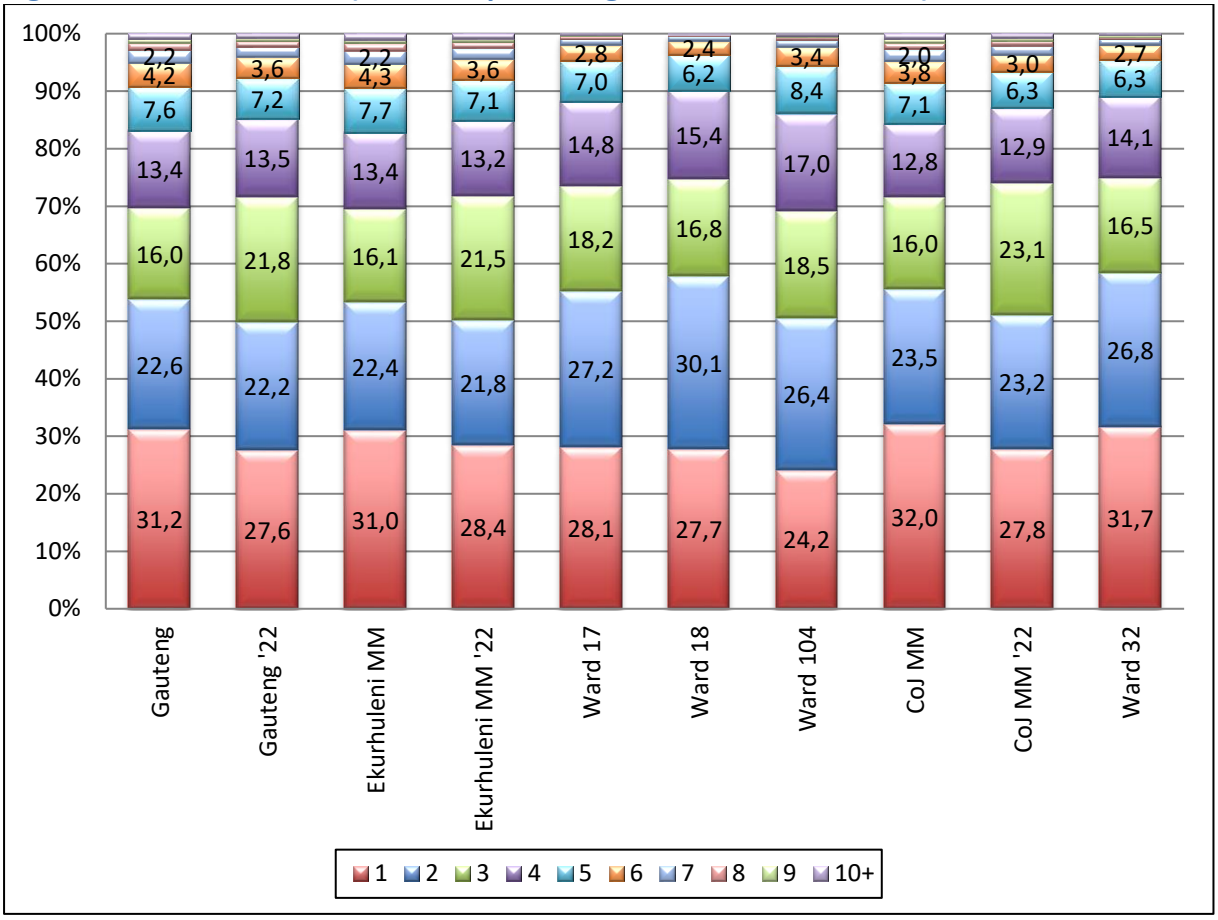
Figure 14: Tenure status (shown in percentage, source: Census 2011, Census 2022)



5.2.9 Household Size

In 2011 most households consisting of one to two members (Figure 14). Census 2022 shows a decrease in households consisting of one to two members since 2011.

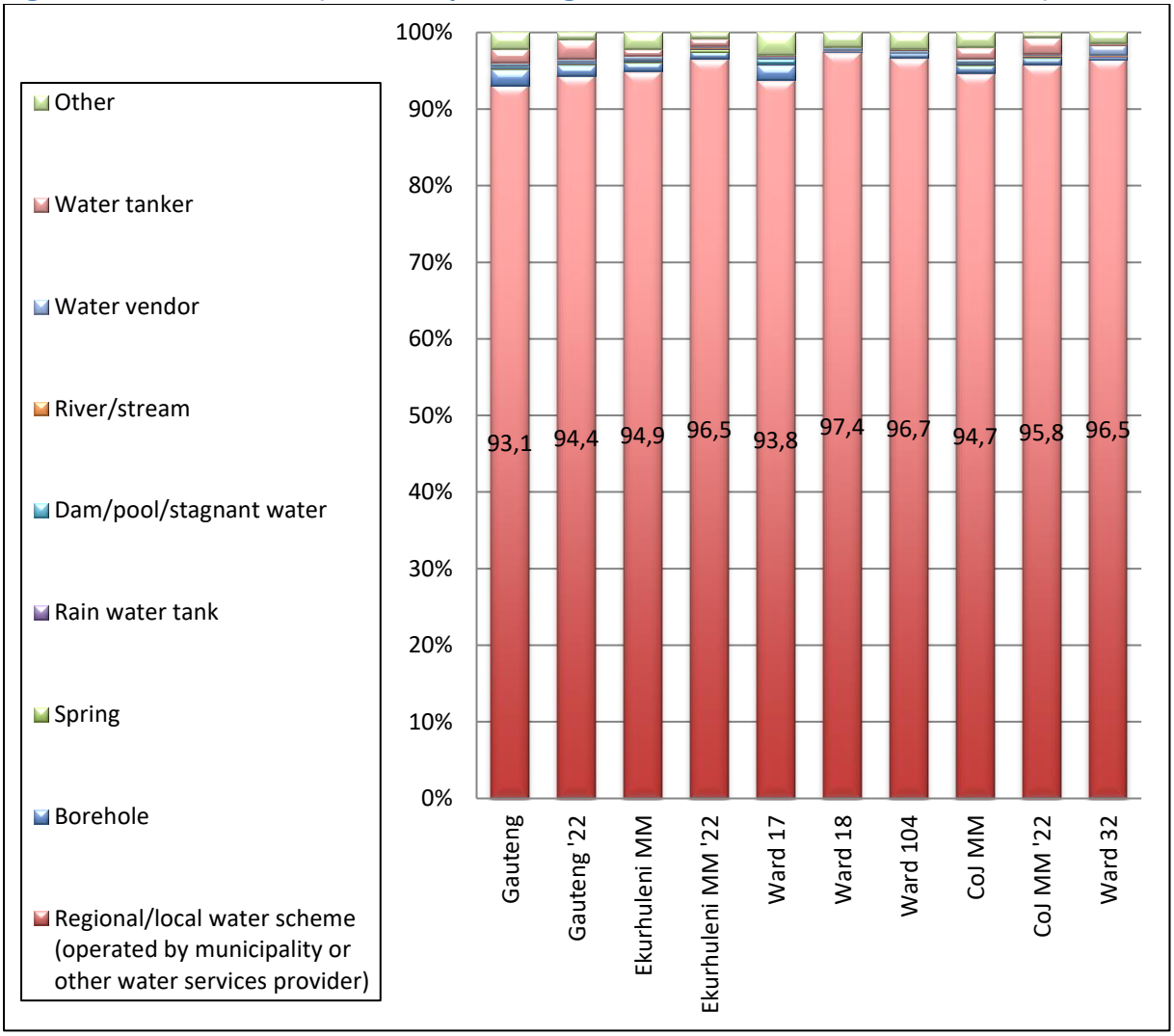
Figure 15: Household size (shown in percentage, source: Census 2011)



5.2.10 Access to water and sanitation

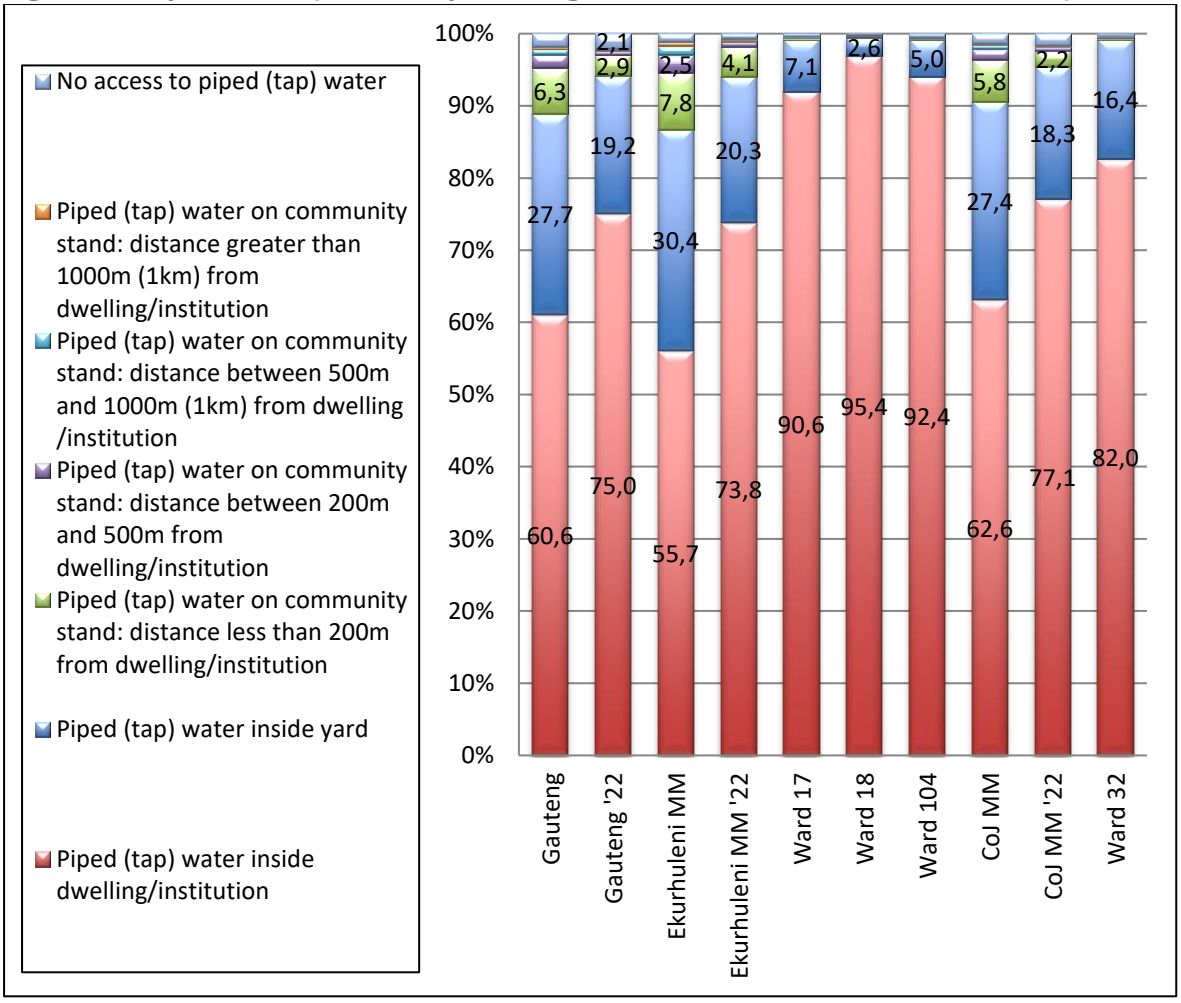
Census 2022 shows that the proportion of households that has access to water from a local or a regional water scheme (Figure 15) has increased since 2011. More than 90% of households get their water from a local or regional water scheme.

Figure 16: Water source (shown in percentage, source: Census 2011, Census 2022)



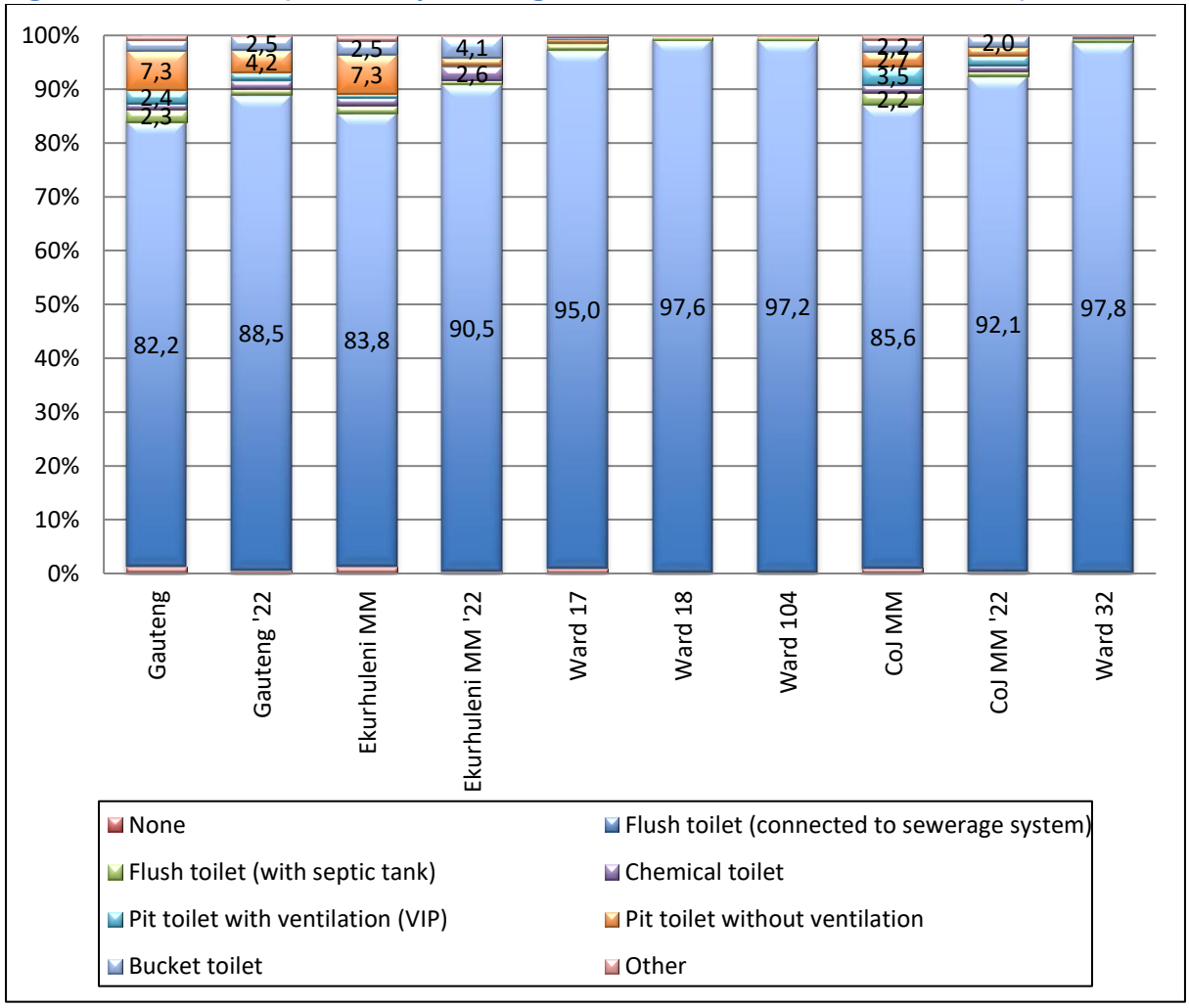
Access to piped water, electricity and sanitation relate to the domain of Living Environment Deprivation as identified by Noble et al (2006). Census 2011 shows on a ward level most households have access to piped water inside their dwellings, with the lowest incidence in Ward 32 of the City of Johannesburg MM (Figure 16). Census 2022 shows that access to piped water inside the dwelling has increased since 2011.

Figure 17: Piped water (shown in percentage, source: Census 2011, Census 2022)



Census 2011 shows that on a ward level most households have access to flush toilets that are connected to a sewerage system (Figure 17). Census 2022 shows a great increase in access to flush toilets connected to a sewerage system on provincial, district and local level.

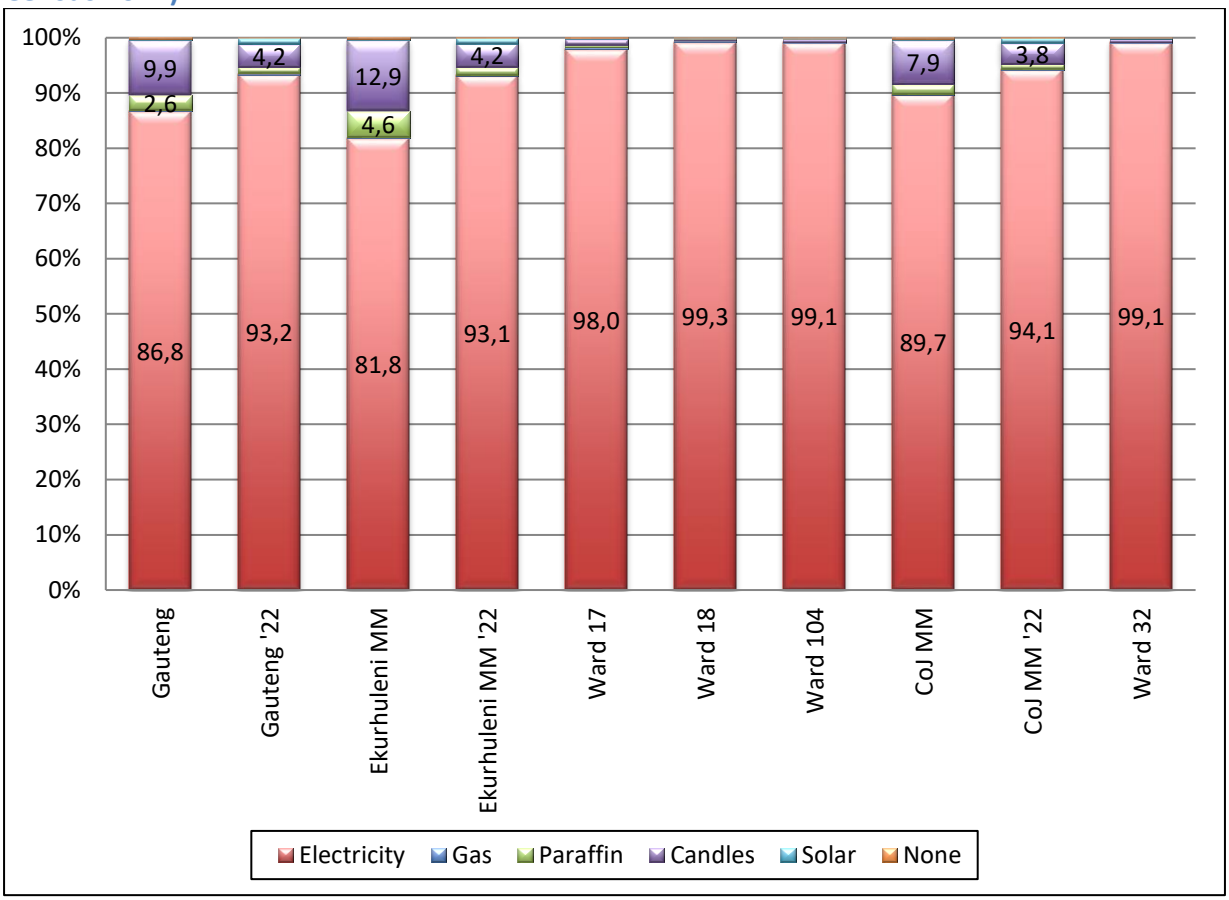
Figure 18: Sanitation (shown in percentage, source: Census 2011, Census 2022)



5.2.11 Energy

Electricity is seen as the preferred lighting source (Noble et al, 2006) and the lack thereof should thus be considered a deprivation. Even though electricity as an energy source may be available, the choice of energy for cooking may be dependent on other factors such as cost. More than 90% of households on a ward level had access to electricity as energy source for lighting (Figure 18) in 2011. Candles are the second most used source of energy for lighting. Census 2022 shows that the proportion of households with access to electricity as an energy source for lighting has increased since 2011 on provincial, district and local level.

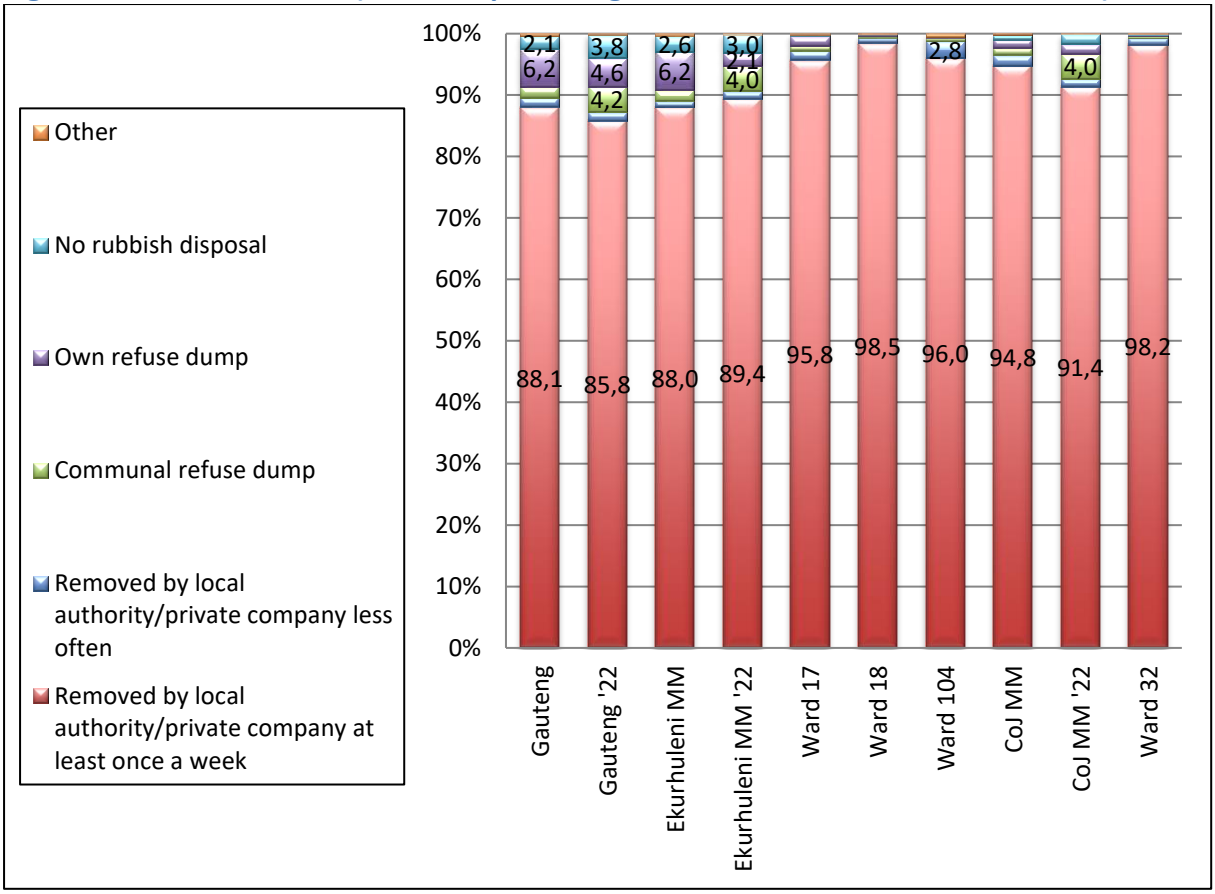
Figure 19: Energy source for lighting (shown in percentage, source: Census 2011, Census 2022)



5.2.12 Refuse removal

Census 2011 shows that most households have their refuse removed by a local authority or private company at least once a week (Figure 19). Census 2022 shows that the incidence of refuse removal has by a local authority or private company at least once a week has decreased on provincial and municipal level since 2011, except in the Ekurhuleni MM where it has increased.

Figure 20: Refuse removal (shown in percentage, source: Census 2011, Census 2022)



6 Stakeholder Identification and analysis

Stakeholders include all individuals and groups who are affected by, or can affect, a given operation. Stakeholders consist of individuals, interest groups and organizations (Vanclay, Esteves, Aucamp & Franks, 2015). Stakeholder analysis is a deliberate process of identifying all stakeholders of a project - the individuals and groups that are likely to impact or be impacted by it - and understanding their concerns about the project and/or relationship with it (Vanclay et al, 2015). Stakeholder analysis assists the proponent with understanding the local cultural and political context. It is acknowledged that different stakeholder groups have different interests, and that there are individual differences within stakeholder groups.

A stakeholder for this project is defined as any person or organisation that can be positively or negatively impacted on, or causes an impact on, the proposed project. Kelvin Power Station are surrounded by residential and industrial areas. The following tables represent the stakeholders that have been identified and their interest, impact and influence on the project are mentioned. An engagement strategy for each stakeholder group throughout the project cycle is also suggested.

6.1 Kelvin Power Station Staff and Contractors

Interest:	Job security, safety, and working conditions during and after the construction of the new plant.
Impact:	High - Directly involved in the construction and operation of the new plant.
Influence:	High - Can impact project timelines and quality through their work and expertise.
Engagement Strategy:	Regular meetings, safety briefings, training programs, and inclusion in planning processes.

6.2 Ward Councillors of Wards 17, 18, 104 (Ekurhuleni) and Ward 32 (Johannesburg)

Interest:	Ensuring that the project benefits the community, addressing concerns of residents and businesses, environmental impact.
Impact:	Medium - Represent community interests and can influence public

	opinion.
Influence:	High - Can facilitate or hinder project approval through political channels.
Engagement Strategy:	Regular briefings, community meetings, transparent communication about project benefits and mitigations of negative impacts.

6.3 Businesses in the Industrial Areas Adjacent to Kelvin Power Station

Interest:	Stability in energy supply, potential business disruptions during construction, opportunities for contracts or services.
Impact:	Medium - Can experience direct impacts from construction activities and operational changes.
Influence:	Medium - Can lobby through business associations or direct complaints
Engagement Strategy:	Information sessions, regular updates on construction schedules, opportunities for local business participation in contracts..

6.4 Residents' Associations of Cress Lawn, Isando, Esther Park, and Croyden

Interest:	Noise, air quality, property values, overall community well-being
Impact:	High - Directly affected by environmental and social impacts of the project.
Influence:	Medium - Can organize community support or opposition
Engagement Strategy:	Community consultations, addressing concerns transparently, showing benefits like improved infrastructure or community projects.

6.5 Local and Provincial Government

Interest:	Economic development, environmental regulations, energy policy alignment
Impact:	High - Approves necessary permits and ensures regulatory compliance
Influence:	High - Can facilitate or delay project through regulatory channels.
Engagement Strategy:	Close collaboration, regular reporting, ensuring compliance with regulations and alignment with energy policies.

6.6 Non-Profit Organizations Active in the Area

Interest:	Community welfare, environmental protection, social justice.
Impact:	Medium - Can raise awareness and mobilize public opinion
Influence:	Medium - Can influence public perception and pressure governmental bodies.
Engagement Strategy:	Collaborative projects, addressing their concerns in environmental and social plans, involving them in monitoring impacts.

6.7 Environmental Groups

Interest:	Minimizing environmental impact, ensuring sustainable practices, protecting local ecosystems.
Impact:	High - Can influence public opinion and regulatory scrutiny
Influence:	High - Can bring legal challenges, mobilize public opposition.
Engagement Strategy:	Environmental impact assessments, transparent reporting, involvement in environmental monitoring and mitigation strategies

Engaging with these stakeholders effectively requires a combination of transparent communication, addressing concerns proactively, and demonstrating the benefits and mitigations associated with the new CCGT power plant project. Building trust and maintaining open channels for feedback will be crucial in ensuring smooth project progress and community support.

7. Description of potential impacts

7.1. Social Impact Assessment

> *"Almost all projects almost always cause almost all impacts. Therefore, more important than predicting impacts is having on-going monitoring and adaptive management."* Frank Vanclay

Considering the statement above, it must be considered that some social impacts will not be discussed in detail and that the focus will be on the most severe impacts. The focus should rather be on the active management of social impacts than on the prediction and once-off mitigation thereof. Successful mitigation and management of social impacts requires long-term commitment and involvement and should form part of the strategic planning and management of the project until decommissioning. Suggestions for the management of social impacts are included in the report in the form of a social impact management plan (SIMP). The implementation of the relevant management suggestions should start as soon as possible since the social impacts of the project started when the project was announced. Another important consideration in this project is the social context in which it will be executed. Impacts are assessed from a community perspective, and where it will influence a specific group of stakeholders it will be indicated as such. An attempt was made to simplify the impact assessment and to focus on aspects that can aid the decision-making process.

Social impacts are the result of social change, and to fully understand the potential impacts it is important to know the impact pathways. A social change process is a discreet, observable, and describable process that changes the characteristics of a society, taking place regardless of the societal context (that is, independent of specific groups, religions etc.). Social change processes can be measured objectively. The way in which social change processes are perceived, given meaning, or valued, depend on the social context in which various societal groups act. Some groups in society are able to adapt quickly and exploit the opportunities of a new situation. Others (e.g. vulnerable groups) are less able to adapt and will bear most of the negative consequences of change. These social change processes may, in certain circumstances

and depending on the context, lead to the experience of social impacts. Social impacts are therefore completely context dependent (Vanclay, 2003).

7.2. Impact assessment criteria

The impact tables and ratings were adapted from the environmental sciences and that it is not always possible to compartmentalise the social impacts. For the sake of consistency this has been attempted, but it is not innate to social sciences. Allowance for the changing and adaptive nature of social impacts should be made when interpreting the impact tables.

The rating criteria used in determining the significance ratings are summarised in the tables below:

Table 7:Criteria for determination of impact consequence.

Aspect	Score	Definition
Nature	- 1	Likely to result in a negative/ detrimental impact
	+1	Likely to result in a positive/ beneficial impact
Extent	1	Activity (i.e. limited to the area applicable to the specific activity)
	2	Site (i.e. within the development property boundary),
	3	Local (i.e. the area within 5 km of the site),
	4	Regional (i.e. extends between 5 and 50 km from the site
	5	Provincial / National (i.e. extends beyond 50 km from the site)
Duration	1	Immediate (<1 year)
	2	Short term (1-5 years),
	3	Medium term (6-15 years),
	4	Long term (the impact will cease after the operational life span of the project),
	5	Permanent (no mitigation measure of natural process will reduce the impact after construction).
Magnitude/ Intensity	1	Minor (where the impact affects the environment in such a way that natural, cultural and social functions and processes are not affected),

	2	Low (where the impact affects the environment in such a way that natural, cultural and social functions and processes are slightly affected),
	3	Moderate (where the affected environment is altered but natural, cultural and social functions and processes continue albeit in a modified way),
	4	High (where natural, cultural or social functions or processes are altered to the extent that it will temporarily cease), or
	5	Very high / don't know (where natural, cultural or social functions or processes are altered to the extent that it will permanently cease).
Reversibility	1	Impact is reversible without any time and cost.
	2	Impact is reversible without incurring significant time and cost.
	3	Impact is reversible only by incurring significant time and cost.
	4	Impact is reversible only by incurring prohibitively high time and cost.
	5	Irreversible Impact

Table 8:Probability scoring.

Aspect	Score	Definition
	1	Improbable (the possibility of the impact materialising is very low as a result of design, historic experience, or implementation of adequate corrective actions; <25%),
	2	Low probability (there is a possibility that the impact will occur; >25% and <50%),
	3	Medium probability (the impact may occur; >50% and <75%),
	4	High probability (it is most likely that the impact will occur- > 75% probability), or
	5	Definite (the impact will occur),

Table 9:Criteria for the determination of prioritisation.

Aspect	Score	Definition
Cumulative Impact (CI)	Low (1)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is unlikely that the impact will result in spatial and temporal cumulative change.
	Medium (2)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is probable that the impact will result in spatial and temporal cumulative change.
	High (3)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is highly probable/definite that the impact will result in spatial and temporal cumulative change.
Irreplaceable loss of resources (LR)	Low (1)	Where the impact is unlikely to result in irreplaceable loss of resources.
	Medium (2)	Where the impact may result in the irreplaceable loss (cannot be replaced or substituted) of resources but the value (services and/or functions) of these resources is limited.
	High (3)	Where the impact may result in the irreplaceable loss of resources of high value (services and/or functions).
Degree of Confidence	Low	<30% certain of impact prediction
	Medium	>30% and <60% certain of impact prediction
	High	>60% certain of impact prediction

7.3. Social impacts and mitigation

This section describes and assesses the specific social impacts that will be associated with the proposed Kelvin CCGT plant. When the mitigation and management of social impacts are considered, one must consider that social impacts occur in communities surrounding the proposed project, and although the project proponent may be the catalyst for some impacts, there may be a number of external factors contributing to the impact. Many of these factors are outside the control of the project proponent. The proponent cannot mitigate many of the social impacts alone, and partnerships

with local government and Non-Profit Organisations are often required. Social impacts must be managed in the long term. This complex process requires insight in the social environment and community dynamics. The social environment adapts to change quickly, and social impacts therefore evolve and change throughout the project cycle.

7.4. Social impacts

Sources of social impacts are often not as clear-cut as those in the biophysical environment. Social impacts are not site-specific but occur in the communities surrounding the proposed site – where the people are. Mitigation measures are context specific and the mitigation measures in this report should be viewed as guidelines.

7.4.1. Existing and cumulative impacts

Given that Kelvin Power Station is an existing power station and that the CCGT plant will be constructed on the footprint of the previous Kelvin A site area, it must be considered that many of the impacts are existing impacts. When considering existing impacts, the complexity of the social environment must be contemplated. The activities taking place in the area surrounding the project site has also caused a number of impacts. From a social perspective it is not possible to pinpoint which percentage of any given impact result from a specific activity or proponent. For example, agricultural, tourism and mining activities may cause an influx of people into an area due to the possibility of employment creation. It is not possible to say, for example, that 30% of people moving into the area looked for an agricultural job, 60% for a mining job and 10% for a tourism job. It is possible to say that all these industries contributed to the honeypot effect (project-induced in-migration where people move to the project site in search of work or economic opportunities that arise from the project) that compounded unemployment in the area. Kelvin Power Station and its activities are not the only responsible party for the existing social impacts in the area, but the power station does contribute greatly to these impacts and will continue to do so through the life of the power station. The importance of perceptions of the public should not be under-estimated. Something perceived as a social impact should be dealt with as if it is a social impact, because the affected party experience it as an

impact. The following existing impacts that are associated with Kelvin Power Station are experienced in the surrounding communities:

7.4.1.1. Environmental impacts with social dimensions

- Dust/air pollution – residents complain about dust from the ash dams and coal delivery trucks.
- Noise from the power station and conveyor belts is a nuisance to people living close by.
- Impact on the catchment downstream from Kelvin.

7.4.1.3. Economic impacts

- Job creation – Especially in the lower socio-economic groups, each income can support a number of family members and dependents through remittances.

7.4.1.4. Impacts on infrastructure

- Traffic congestion and potential road surface damage through movement of coal trucks.

7.4.1.4. Community-based impacts

- Community perceptions – the community feel that they experience the impacts from the power station without getting any benefits. They also feel that the current operation can be managed more effectively in terms of environmental impacts.
- Health impacts – although the power station is adjacent to a light industrial area, and in a densely populated urban area, there are concerns about the impact that living and working close to the power station can have on people's health.

7.4.2. Social impacts specific to the proposed CCGT plant

The following impacts will be triggered by the proposed CCGT plant.

7.4.2.1. Concerns about the safety of a gas plant

The communities around Kelvin Power Station and the proposed site have been living close to a power station for a long time. They are familiar with the operation of a coal fired power station. They are not familiar with the operation of a CCGT plant and have fears about the safety aspects of gas.

7.4.2.2. Concerns about crime

Residents expressed concerns about crime during the construction phase due to the movements of construction workers, which will make it easier for opportunistic criminals to enter the area. They are also concerned that construction workers may get access to Kelvin Estate by scaling the shared wall.

7.4.2.3. Environmental nuisance

Residents are concerned that there will be an increase in noise and dust during the construction phase. They also expressed concerns about the potential of polluting the nearby stream.

7.4.2.4. Traffic-related impacts

The tertiary roads in and around the project area are already quite bad according to residents. There is a concern that heavy traffic during construction will cause the roads to deteriorate further. Another concern is that there will be an increase in traffic, making the roads less safe for locals to travel on.

7.4.2.5. Impact of cleaner energy

Although the CCGT plant will still use fossil fuels, residents view it as a cleaner and more efficient way of generating power. This is seen as a step in the right direction towards the transition to cleaner energy. Residents also view it as a better technology to use, since there will be no ash dams, and the stream is less likely to be polluted. They also think that the impact on their health will be less.

7.4.2.6. Job creation and economic benefits

It is estimated that 200 new skilled job opportunities, and 500 new unskilled jobs will be created during the construction period. This will have a significant temporary

impact on the local economy and the people doing the work, as well as their extended families. During the operation phase 50 new skilled and 50 new unskilled jobs will be created. In a country with such high unemployment levels as South Africa, this is a significant impact.

Table 10: Proposed mitigation measures.

No	Mitigation Measures	Phase	Timeframe	Responsible party for implementation	Monitoring party (frequency)	Target	Performance indicators (monitoring tool)
1.	Kelvin must develop a stakeholder engagement strategy specific to the CCGT plant	Design and planning, Construction Operation Decommission	Commence in the planning phase and continue through to the decommission phase of the project	Kelvin Management	N/A	Manage social and community aspects of the CCGT plant	A functional and Effective Stakeholder Relations Division with a Stakeholder Relations Manager and Community Relations Officer
2.	Kelvin must continue to implement their grievance mechanism and ensure that it is community friendly. Kelvin must continue to address and keep record of community grievances. Kelvin must continue to keep a grievance register. It is important to have documented evidence of community/power station interactions. This will assist Kelvin to track the issues, and the community to see what actions the power station has taken.	Design and planning, Construction Operation Decommission	Commence in the planning phase and continue through to the decommission phase of the project	Stakeholder Relations Manager (SRM) Community Liaison Officer (CLO) Community groups Kelvin management	Grievance register must be checked on a weekly basis. Feedback to community about grievances must be done on a monthly basis by the CLO to the SRM	Record, track and address grievances	Grievance register Monthly feedback reports

No	Mitigation Measures	Phase	Timeframe	Responsible party for implementation	Monitoring party (frequency)	Target	Performance indicators (monitoring tool)
3.	The relevant specialists will provide scientific mitigation measures for the dust and noise issues. From a social perspective it is important to continue to communicate the mitigation, monitoring and management measures to the affected parties.	Design and planning, Construction, Operation.	Commence in the planning phase and continue through to the operation phase of the project	SRM CLO Environmental Manager	As prescribed by specialists Feedback meetings arranged by SRM and CLO	Minimise the dust and noises impact on the neighbouring properties and communities.	Minutes of meetings Monitoring results from relevant specialist studies.
4.	Kelvin should put measures in place to ensure the most effective local employment strategy. The strategy must include women and vulnerable people.	Design and planning Construction Operation Decommission	Use the design and planning phase to refine strategy	SRM CLO HR manager Local leaders such as ward councillors	Advertise available jobs on a quarterly basis	Communicate the availability of jobs to the community in a mutually agreed and accessible manner.	Number of people of the local community employed by the power station.
5.	Kelvin should ensure a fair number of **secondary economic opportunities** are given to local contractors. A percentage of goods as determined by Kelvin and the relevant stakeholders must also be **procured** locally. Services and goods must be procured locally as far as reasonably possible.	Construction, operation, decommission, closure and rehabilitation	Throughout life of the power station	Kelvin Local business chamber	Review supplier list on a yearly basis	To ensure Kelvin contribute to the local economy through secondary opportunities	Signed service provider agreements

No	Mitigation Measures	Phase	Timeframe	Responsible party for implementation	Monitoring party (frequency)	Target	Performance indicators (monitoring tool)
6.	All contractors and employees need to wear photo identification cards. Vehicles should be marked as construction vehicles and should have logos clearly exhibited. Entry and exit points of the site should be controlled.	All phases	Throughout the life of the project	Kelvin Health and Safety officer	Security check-ins should be done monthly to ensure all aspects are attended to.	Ensure the safety and security of affected communities and landowners	All contractors and employees issued with photo identification cards. All vehicles marked Access control on site
7.	Kelvin should compile and implement a traffic safety plan in accordance with recommendations from the traffic specialist. This plan should form part of the Health and Safety requirements for all contractors. Appropriate road signage must be used at the entry and exit points to the site. Although Kelvin cannot take responsibility for all road users, they should include road safety toolbox talks.	Construction Operation	Commence before construction starts, for the life of the project	Kelvin Municipal road authority	CLO to check if signage is visible and in place on weekly basis. Communicate with roads authority if there are any issues	To ensure road safety of all road users around the power station	Signage on the roads Included in Health and Safety plans Toolbox talks
8.	Develop a pamphlet that describes the new technology, any safety issues and risks and how the risks are managed. Distribute to surrounding communities through existing channels such as WhatsApp groups and Home Owners Associations.	Construction	Commence before construction starts.	Kelvin CLO Health and Safety officer	Before construction start and repeat as needed	Ensure communities understand the technology and risk associated with CCGT plants	Pamphlet Distribution list

Table 11: Impact Ratings.

Impact	Phase	Pre-Mitigation							Post-Mitigation							Confidence	Impact Prioritisation		Priority Factor	Final Score
		Nature	Extent	Duration	Magnitude	Reversibility	Probability	Post-mitigation ER	Nature	Extent	Duration	Magnitude	Reversibility	Probability	Post-mitigation ER		Cumulative Impact	Irreplaceable Loss		
Concerns about safety of the CCGT Plant	Planning	-1	3	2	3	2	5	-12.5	-1	3	2	2	2	3	-6.75	High	1	1	1.00	-6.75
Concerns about crime	Construction	-1	3	2	4	2	5	-13.75	-1	3	2	3	2	4	-10	High	2	1	1.13	-11.25
Environmental nuisance	Construction	-1	3	2	2	2	5	-11.25	-1	3	2	2	2	4	-9	High	2	2	1.25	-11.25
Traffic related impacts	Construction	-1	3	2	3	2	5	-12.5	-1	3	2	2	2	4	-9	High	2	1	1.13	-10.125
Jobs and economic benefits	Construction	1	3	2	3	2	4	10	1	3	2	4	2	5	13.75	High	2	1	1.13	15.46875
Jobs and economic benefits	Operation	1	3	4	3	2	4	12	1	3	4	4	2	5	16.25	High	2	1	1.13	18.28125
Cleaner energy	Operation	1	4	4	3	3	4	14	1	4	4	4	3	5	18.75	High	2	1	1.13	21.09375

Table 12: Social Impact Management Plan.

SOCIAL IMPACT MANAGEMENT PLAN				
Phase	**Management action**	**Timeframe for implementation**	**Responsible party for implementation (frequency)**	**Responsible party for monitor/audit/review (frequency)**
Planning Phase	Develop social action plan. Ensure Social Relations Manager and CLO are appointed for the life of the CCGT to deal with social aspects	As soon as project enters public domain	Applicant	Human Resources Manager External but not legally required
	Develop stakeholder engagement strategy	Before consultation with stakeholders start Updated and revised throughout the life of the project as needed	Applicant Continued for the life of project	SRM CLO Internal No external review required
Construction Phase	Monitoring of social mitigation and management measures	Throughout construction	Applicant (SRM &CLO) Continued for the life of project	Management Once a year or as required
	Implementation of stakeholder engagement plan	Throughout construction	Applicant (SRM &CLO) Continued for the life of project	Management Once a year or as required
	Implement grievance mechanism.	Throughout construction	Applicant (SRM&CLO) Continued for the life of project	Management Once a year or as required

SOCIAL IMPACT MANAGEMENT PLAN				
Phase	**Management action**	**Timeframe for implementation**	**Responsible party for implementation (frequency)**	**Responsible party for monitor/audit/review (frequency)**
Operation Phase	Monitoring of social mitigation and management measures	Throughout operation	Applicant (SRM&CLO) Continued for the life of project	Management Once a year or as required
	Implementation of community relations strategy	Throughout operation	Applicant (SRM&CRO) Continued for the life of project	Management Once a year or as required
Decommissioning Phase	Continue with stakeholder engagement strategy	Throughout decommissioning	Applicant (SRM&CLO) Continued for the life of project	Management Once a year or as required
	Conduct SIA for closure and implement social mitigation for closure	Throughout decommissioning	External SIA consultant Applicant (SRM&CLO) Continued for the life of project	Closure SIA – once off Management Once a year or as required
Closure and Rehabilitation Phase	Continue stakeholder engagement strategy until all activities on site cease and rehabilitation is completed	Until all rehabilitation activities have ceased	Applicant (SRM&CLO) Continue until all rehabilitation activities have been completed	Management Once a year or as required

8. Stakeholder Engagement Plan

Social impacts already start in the planning phase of a project and as such it is imperative to start with stakeholder engagement as early in the process as possible. A stakeholder engagement plan will assist Kelvin to outline their approach towards communicating in the most efficient way possible with stakeholders throughout the life of the project. Such a plan cannot be considered a once off activity and should be updated on a yearly basis to ensure that it stays relevant and to capture new information. Stakeholders must provide input in the Stakeholder Engagement Plan.

The Kelvin Stakeholder Engagement Plan should have the following objectives:

- To identify and assess the processes and/or mechanisms that will improve the communication between local communities, the wider community and Kelvin.
- To improve relations between Kelvin staff and the people living in the local communities.
- To provide a guideline for the dissemination of information crucial to the local communities in a timely, respectful, and efficient manner.
- To provide a format for the timely recollection of information from the local communities in such a way that the communities are included in the decision-making process.

The Stakeholder Engagement Plan should be compiled in line with International Finance Corporation (IFC) Guidelines and should consist of the following components:

- Stakeholder Identification and Analysis – time should be invested in identifying and prioritising stakeholders and assessing their interests and concerns.
- Information Disclosure – information must be communicated to stakeholders early in the decision-making process in ways that are meaningful and accessible, and this communication should be continued throughout the life of the project.

- Stakeholder Consultation – each consultation process should be planned out, consultation should be inclusive, the process should be documented, and follow-up should be communicated.

- Negotiation and Partnerships – add value to mitigation or project benefits by forming strategic partnerships and for controversial and complex issues, enter into good faith negotiations that satisfy the interest of all parties.

- Grievance Management – accessible and responsive means for stakeholders to raise concerns and grievances about the project must be established throughout the life of the project.

- Stakeholder Involvement in Project Monitoring – directly affected stakeholders must be involved in monitoring project impacts, mitigation, and benefits. External monitors must be involved where they can enhance transparency and credibility.

- Reporting to Stakeholders – report back to stakeholders on environmental, social and economic performance, both those consulted and those with more general interests in the project and parent company.

- Management Functions – sufficient capacity within the company must be built and maintained to manage processes of stakeholder engagement, track commitments and report on progress.

It is of critical importance that stakeholder engagement takes place in each phase of the project cycle and it must be noted that the approach will differ according to each phase.

9. Proposed Grievance Mechanism

In accordance with international good practice Kelvin should establish a specific mechanism for dealing with grievances. A grievance is a complaint or concern raised by an individual or organisation that judges that they have been adversely affected by the project during any stage of its development. Grievances may take the form of specific complaints for actual damages or injury, general concerns about project activities, incidents and impacts, or perceived impacts. The IFC standards require Grievance Mechanisms to provide a structured way of receiving and resolving grievances. Complaints should be addressed promptly using an understandable and transparent process that is culturally appropriate and readily acceptable to all segments of affected communities and is at no cost and without retribution. The mechanism should be appropriate to the scale of impacts and risks presented by a project and beneficial for both the company and stakeholders. The mechanism must not impede access to other judicial or administrative remedies.

The grievance mechanism should be based on the following principles:

- Transparency and fairness;
- Accessibility and cultural appropriateness;
- Openness and communication regularity;
- Written records;
- Dialogue and site visits; and
- Timely resolution.

Based on the principles described above, the grievance mechanism process involves four stages:

- Receiving and recording the grievance;
- Acknowledgement and registration;
- Site inspection and investigation; and

- Response.

10. Conclusions and recommendations

The proposed CCGT will be situated between a residential and a light industrial area. The communities are already exposed to a number of social and environmental impacts from different sources. Given its location, it is not expected that the project will cause a significant influx of people into the area, as there are already people with some skills in the area that the power station could employ.

From an SIA perspective, the construction of the CCGT plant will not create significant social impacts, because it is on an industrial site in an industrial area. The project will create significant employment opportunities, which is a positive impact.

The following recommendations are made:

- Kelvin must develop a stakeholder engagement strategy specific to the CCGT plant;
- Kelvin must implement a community-friendly external grievance mechanism in conjunction with farmers and communities;
- Kelvin should put measures in place to ensure the most effective local employment strategy, in conjunction with local leadership;
- Kelvin must ensure that social requirements as specified in the mitigation measures are included in their contracts with sub-contractors.

The list of recommendations should be included in the environmental authorisation. From a social perspective, there are no fatal flaws. Therefore, the recommendation is that the construction of the CCGT plant should be approved on the condition that Kelvin put certain social processes such as a grievance mechanism and community engagement strategy in place.

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forestry, fisheries
& the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

Private Bag X447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, 0002 Tel: +27 12 399 9000, Fax: +27 86 625 1042

SPECIALIST DECLARATION FORM – AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE
Kelvin Power Station CCGT project Social Impact Assessment

Kindly note the following:

1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
2. This form is current as of August 2023. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.dffe.gov.za/documents/forms.
3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
4. The specialist must be aware of and comply with '*the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation - GN 320/2020)*', where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Social Impact Assessment
Specialist Company Name	Equispectives Research and Consulting Services
Specialist Name	Ilse Aucamp
Specialist Identity Number	7301180022084
Specialist Qualifications:	DPhill Social Work, M Env Management
Professional affiliation/registration:	SACSSP 10 –16558
Physical address:	429 Basco Street, Silverton, Pretoria, 0184
Postal address:	PO Box11019
Postal address	Erasmuskloof, Pretoria, 0048
Telephone	0828280668
Cell phone	0828280668
E-mail	ilse@equispectives.co.za

2. DECLARATION BY THE SPECIALIST

I, Ilse Aucamp declare that –

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols") and in Government Notice No. 1150 of 30 October 2020.
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing –
    - any decision to be taken with respect to the application by the competent authority; and;
    - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.

Signature of the Specialist

Equispectives Research and Consulting Services

Name of Company:

29 Jul 2024

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, _ Ilse Aucamp_____, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Specialist

Equispectives Research and Consulting Services

Name of Company

29 Jul 2024

Date

Signature of the Commissioner of Oaths

Click or tap to enter a date. 29/07/2024

Date

COMMISSIONER OF OATHS (RSA)
Monique Woodborne
Psychologist HPCSA PS0051004
Certificate Number: PO-08/01/2023
23 Spanish Bay Street
Silverlakes
Pretoria
0081