

APPENDIX 3: GLOSSARY OF TERMS

Cultural significance (Burra Charter)

Aesthetic, historic, scientific, social or spiritual importance, meaning or noteworthiness for past, present or future generations

Cultural significance is embodied in the place itself (intrinsic significance), its fabric, setting, use, associations, meanings, records, related places and related objects.

Cultural significance is assessed in terms of the following criteria, some of which are embodied in the NHRA:

- Historic value: Material or intangible evidence resulting from changing social, political and environmental circumstances or conditions
- Rarity: Unique or unusual features also possess rarity value, apart from their age. Section 34 of the NHRA provided general protection for all structures older than 60 years. This does not imply that recently erected structures cannot possess rarity, or for that matter cultural value.
- Scientific value: Indicates research potential (the capacity to yield more knowledge)
- Typical: Indicates that the feature is a good example of a certain class or type of heritage resource
- Aesthetic: Other than artistic or architectural expression, aesthetic value can also be evident in craftsmanship, technique, visual cohesion (harmony), visual evidence of permanence and stability, setting etc.
- Technological: Indicates value in terms of a technological achievement
- Personal/Community: Indicates value in terms of association with a certain person, community, organisation or cultural group
- Landmark: A sense of place or belonging involves the physical and visual relationship between a feature and its environment.
- Condition (material integrity): Indicates substantial evidence of authentic fabric with minor degree of lost or obliterated fabric; also refers to a structure's restoration potential
- Sustainability: The potential for lasting economic viability (use) and the perpetuation of the original use or part thereof.

Heritage resources/features (NHRA)

Any place or object of cultural significance, including:

- (a) places, buildings, structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and palaeontological sites;
- (g) graves and burial grounds, including—
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders;
 - (iii) graves of victims of conflict;
 - (iv) graves of individuals designated by the Minister by notice in the *Gazette*;
 - (v) historical graves and cemeteries; and
 - (vi) other human remains, which are not covered in terms of the Human Tissue Act, 1983 Act No. 65 of 1983);
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) movable objects, including—
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - (ii) objects to which oral traditions are attached or which are associated with living heritage;
 - (iii) ethnographic art and objects;
 - (iv) military objects;

- (v) objects of decorative or fine art;
- (vi) objects of scientific or technological interest; and
- (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

Heritage significance (NHRA)

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- (i) sites of significance relating to the history of slavery in South Africa.

Historic period

Since the arrival of the white settlers - c. AD 1840 in this part of the country

Impact

A description of the effect of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space

Impact assessment

Issues that cannot be resolved during screening (Level 1) and scoping (Level 2) and thus require further investigation

Intangible heritage

Defined in terms of the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (2003) as:

- Oral traditions and expressions, including language as a vehicle of the intangible cultural heritage;
- Performing arts;
- Social practices, rituals and festive events;
- Knowledge and practices concerning nature and the universe;
- Traditional craftsmanship.

The "intangible cultural heritage" means the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity.

Visual and social impact assessments as part of an HIA are directly associated with intangible cultural heritage.

Iron Age

Early Iron Age (EIA)	AD 200 - AD 1000
Late Iron Age (LIA)	AD 1000 - AD 1830

Issue

A question that asks what the impact of the proposed development will be on some element of the environment

Maintenance

Keeping something in good health or repair

Management actions

Actions that enhance benefits associated with a proposed development or avoid, mitigate, restore, rehabilitate or compensate for the negative impacts

Preservation

Conservation activities that consolidate and maintain the existing form, material and integrity of a cultural resource

Reconstruction

Re-erecting a structure on its original site using original components

Rehabilitation

Re-using an original building or structure for its historic purpose or placing it in a new use that requires minimal change to the building or structure characteristics and its site and environment.

Restoration

Returning the existing fabric of a place to a known earlier state by removing additions or by reassembling existing components

SAHRA - South African Heritage Resources Agency

Stone Age

Early Stone Age (ESA)	2 000 000 - 150 000 Before Present
Middle Stone Age (MSA)	150 000 - 30 000 BP
Late Stone Age (LSA)	30 000 - until c. AD 200

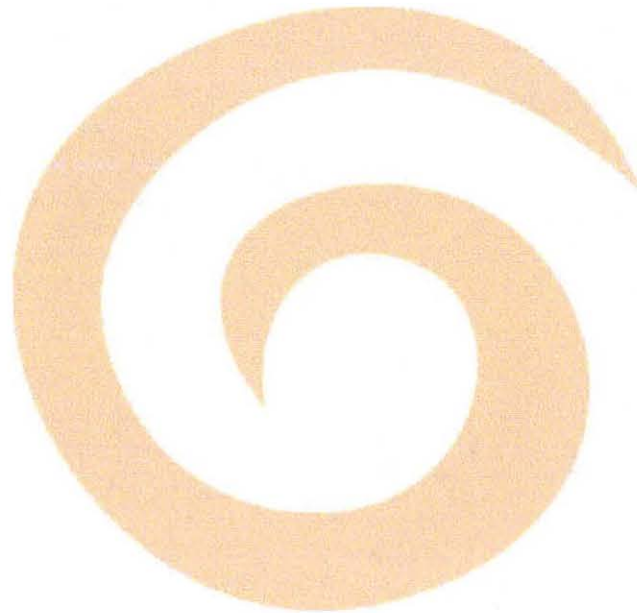
Value

Worth, conservation utility, desirability to conserve etc in terms of physical condition, level of significance (importance), economy (feasibility), possible new uses and associations/comparisons with similar features elsewhere

**SOCIO-ECONOMIC IMPACT ASSESSMENT WITH COGNISANCE OF TOURISM
IMPACTS**
As part of the
ENVIRONMENTAL IMPACT ASSESSMENT PROCESS
For the
**KUYASA INDEPENDENT POWER PRODUCER'S PROPOSED POWER GENERATION
PLANT IN THE DELMAS AREA, MPUMALANGA PROVINCE**

DRAFT SCOPING REPORT

MAY 2010



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EXPERIENCE RECORD

This report was compiled by **Ms Nonka Byker** (social specialist) and **Mr Raoul de Villiers** (economic specialist), both of **MasterQ Research**.

Nonka holds a B.Psych (Adult Mental Health) from the University of Pretoria and is a social impact assessment specialist with approximately 4 years experience in this field. She specialises in the assessment of potential social impacts, which includes the collection and analysis of data and superimposing a proposed project on a baseline social profile to determine the potential social impacts from which mitigation measures can be developed. In total she has approximately 11 years experience in the social development field, of which 7 years were spent as a public participation consultant. Ms Byker is registered with the Health Professions Council of South Africa (HPCSA) and is a member of the International Association for Impact Assessment South African Affiliate (IAIASa).

Raoul holds two Masters Degrees in Economics and Management and is a specialist in the manner in which large project based work is planned, with a special focus on determining the business and economic viability of projects. He is also is an experienced Project Manager and has assisted large corporations and government departments with the execution of capacity building, restructuring and systems development projects. He has had a strong strategic focus, being involved in projects that have an organisation wide or industry wide impact.

Some of the Social and Socio-Economic Impact Assessments that MasterQ Research have been involved with as social and economic specialists, include amongst others, the following projects:

Date	Project	EAP
<i>July 2009 - ongoing</i>	Social Impact Assessment for the proposed Trekkopje Mine access road in the Arandis area, Erongo Region, Namibia	Turgis Consulting for AREVA Resources
<i>July 2009 – ongoing</i>	Social Impact Assessment and Micro Economic Impact Assessment for the proposed 140MW Open Cycle Gas Turbine (OCGT) demonstration plant and associated Underground Coal Gasification (UCG) plant in the Amersfoort area, Mpumalanga Province	Bohlweki-SSI Environmental for Eskom Generation & Transmission
<i>March 2009 – ongoing</i>	Socio-Economic Impact Assessment on the Bus Rapid Transport (BRT) system, section 6 along Oxford Road in the City of Johannesburg, Gauteng Province	Bohlweki-SSI Environmental for Eskom Generation & Transmission
<i>February 2009</i>	Socio-Economic Impact Assessment for the proposed town development with associated infrastructure and services in Steenbokpan, Limpopo	Enviro-Solution for the Steenbokpan Development

	Province	Consortium
January 2009 - ongoing	Social Impact Assessment for the establishment of a Coal Fired Power Station, and its associated infrastructure (a substation and transmission power lines) in the Musina area, Limpopo Province	Arcus Gibb for Mulilo Power
January 2009 - ongoing	Social Impact Assessment for the proposed upgrading of the existing Welgedacht Water Care Works to facilitate a capacity extension of up to 100ml/d, in the Ekurhuleni Metropolitan Municipality area, Gauteng Province	Savannah Environmental for ERWAT
January 2009 - ongoing	Social Impact Assessment for the proposed provision of wastewater infrastructure to improve quality of effluent discharge from the Hartebeesfontein Water Care Works, in the Ekurhuleni Metropolitan Municipal area, Gauteng Province	Savannah Environmental for ERWAT
November 2008 - January 2009	Economic Impact Assessment for the proposed Kyalami Transmission Project	Savannah Environmental for Eskom Generation & Transmission
October 2008 - November 2008	Social Impact Assessment for the proposed Bravo Integration Project, Govan Mbeki Local and Delmas Local Municipalities, Mpumalanga Province; Kungwini Local Municipality, City of Tshwane, Ekurhuleni Metro and City of Johannesburg, Gauteng Province	Cymbian Socio-Environmental Consultants for Eskom Generation & Transmission
April 2008 - April 2009	Social Impact Assessment for the proposed liquid fuels transportation infrastructure from the Milnerton refinery area to the Ankerlig power station in the Atlantis Industrial area, City of Cape Town, Western Cape	Bohlweki-SSI Environmental for Eskom Generation & Transmission

DECLARATIONS OF INDEPENDENCE

The Independent Social Specialist

I, **J.W. NONKA BYKER**, declare that I –

- act as the Independent Social Specialist in this application for the proposed construction and operation of the Kuyasa Independent Power Producer's (IPP) power generation plant in the Delmas area of the Mpumalanga Province;
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2006;
- have and will not have any vested interest in the proposed activity proceeding;
- have no, and will not engage in, conflicting interests in the undertaking of the activity; and
- will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.



Signature of the Specialist

MasterQ Research (Pty) Ltd.

Name of company

2010-05-14

Date

The Independent Economic Specialist

I, **RAOUL DE VILLERS**, declare that I –

- act as the Independent Economic Specialist in this application for the proposed construction and operation of the Kuyasa Independent Power Producer's (IPP) power generation plant in the Delmas area of the Mpumalanga Province;
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2006;
- have and will not have any vested interest in the proposed activity proceeding;
- have no, and will not engage in, conflicting interests in the undertaking of the activity; and
- will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.



Signature of the Specialist

MasterQ Research (Pty) Ltd.

Name of company

2010-05-14

Date

EXECUTIVE SUMMARY

In accordance with the South African government's decision that future power generation capacity should be divided between Eskom and Independent Power Producers (IPP), Kuyasa Mining Ltd (Kuyasa), as the current owner of coal reserves suitable for power generation, has submitted a Statement of Qualification (SOQ) to Eskom and has been conditionally pre-qualified to participate in the base load IPP Programme. Kuyasa proposes to develop a 600MW mine-mouth power generation facility with possible future expansion to 2,400MW.

Five potential sites were evaluated on general criteria required to support the proposed power station, three of which were deemed technically feasible and that will be assessed during this Environmental Impact Assessment (EIA) process, as the proposed project would require multiple environmental permits and authorisations from national, provincial and municipal governmental agencies for various construction and operational activities.

The sites under investigation are all located in close proximity to Kuyasa's Delmas and Ikhwezi Colliers, approximately 16km southeast of the town of Delmas in the Mpumalanga Province. A number of surface infrastructure features are planned, covering an area of 200ha. An additional area will be used for ash disposal. Current land-use activities in the area include mining and farming.

MasterQ Research (Pty) Ltd was appointed as specialised social and economic sub-consultants to the Environmental Assessment Practitioner (EAP), Jones & Wagner. This particular report details the findings of the scoping phase as part of the Socio-Economic Impact Assessment (SIA) and includes an assessment of the possible future tourism potential of the area.

The definition of a SIA as defined by Vanclay (2002) gives an understanding of the backdrop against which this SIA was conducted. According to this definition, a **social impact assessment** is *"the process of analyzing (predicting, evaluating and reflecting) and managing the intended and unintended consequences on the human environment of planned interventions (policies, programmes, plans and projects) and any social change processes invoked by those interventions so as to bring about a more sustainable and equitable biophysical and human environment."*

The economic assessment (EA) in turn aims to examine all aspects that might contribute to the creation (gain) and destruction (loss) of individual, community, regional or national resources. This gain or loss in resources is most easily understood when it is quantified and expressed in monetary value and therefore the EA relies mostly on quantitative data. However, many of the underlying causes of economic effects like perception, opinion, and sentiment cannot be easily quantified and therefore qualitative data is used to support

conclusions in the EA. In most cases a series of options exist, which have different implications in terms of gain and loss and these must be compared to determine a minimum negative and maximum positive economic impact.

The main objectives of the Scoping Phase are to identify issues and concerns to guide the ensuing detailed assessment that will take place during the Impact Assessment Phase, and to provide a framework within which the assessment will be undertaken. Secondary objectives include the following:

- Gain an understanding of the proposed project, including the nature and timeframe of the activities that will take place across the lifespan of the project (i.e. construction, operation and maintenance, and decommissioning);
- Obtain information on the baseline socio-economic and tourism profile characterising the study area in terms of the following socio-economic processes (cf. Vanclay, 2002):
 - * **Geographical processes:** land use patterns, including tourism;
 - * **Demographical processes:** the composition of the local community;
 - * **Economical processes:** the way in which people make a living and the economic activities in a society;
 - * **Institutional and Legal processes:** the role and efficiency of the local authority and other service providers in the area in terms of their capacity to deliver services to the local area; and
 - * **Socio-cultural processes:** The way, in which humans behave, interact and relate to each other, their environment, and the belief and value systems that guide these interactions.
 - * Potential **tourism** impacts will be identified and described for each of the above change processes, where relevant.
- Identify and describe how these processes might change as a result of the proposed project;
- Identify and describe the potential socio-economic and tourism impacts that may occur as a result of the change processes brought about by the proposed project;
- Identify key issues and impacts of significance that would have to be addressed during the EIA phase, which includes the identification of further information requirements; and
- Describe the proposed studies for the Impact Assessment Phase that would ultimately address the identified information requirements and result in a detailed assessment of the potential impacts.

For the purposes of this scoping study the impact variables were categorised in terms of change processes. A **change process** can be defined as change that takes place within the receiving environment as a result of a direct or indirect intervention from an outside source. A potential **impact** follows as a result of the change process. However, a change process can only result in an impact once it is experienced as such by an individual or a community on a physical and/or cognitive level.

The infrastructure development associated with the proposed project is located within the Delmas Local Municipality, which forms part of the Nkangala District of the Mpumalanga Province.

According to the Mpumalanga Province Growth and Development Strategy (MPGDS), the economic growth within the province averaged around 2.5% between 1996 and 2001, increasing to an average of around 4.3% between 2004 and 2007. This places the province more or less on par with the country's Geographic Domestic Product (GDP) growth. In 2004 the main economic sectors in the province were the mining, energy, and manufacturing industries that, collectively, comprised approximately 60% of the province's Gross Value Addition. Despite these industries being the largest, they only provided employment to around 20% of the province's population. During 2005 the energy sector was replaced by community services as a key industry, contributing approximately 20% to the province's employment rate.

Mpumalanga is also home to large coal deposits and for this reason most of the country's coal fired power stations can be found in the province (eight of the eleven operational coal fired power stations are located in Mpumalanga). These power stations contribute approximately 70% of the country's total generated power. Linked to the coal deposits is mining, which contributes approximately one fifth of Mpumalanga's Gross Geographic Product (GGP). The coal resources are mostly situated in the western and south-western parts of the province and are used to sustain the coal-fired power stations between Witbank, Standerton, Piet Retief and Carolina. Coal is further used to sustain the petrochemical plants in the province.

Geographical Processes

Geographical processes relate to land use patterns, both established and planned. Land use is defined as "... the human modification of the natural environment or wilderness into a built environment such as fields, pastures, and settlements."¹ During the orientation site visit in March 2010, the following land use trends were identified within a 5km radius of the proposed sites:

- Small-scale human settlement (scattered households);
- An informal settlement along the R50, approximately 1km west of site alternative 2;
- Commercial farming (mostly maize), but some cattle were also observed;
- Mining activities; and
- Commercial and retail activities.

¹ www.wikipedia.org.za/wiki/Land_use.html

The Delmas Local Municipality covers an area of approximately 1,570km², of which more than 60% are utilised for agricultural activities (Delmas IDP, 2009/10). The municipal area further consists of a mixture of urban and peri-urban areas and includes the towns of Delmas, Botleng, Eloff and Sundra. In addition to these formal urban areas, the IDP makes mention of a number of villages scattered around farms in the area. It further states that there has been a high migration rate in the past couple of years from these villages into areas such as Botleng, and Botleng Extensions 3 and 4, causing further expansion of informal settlements in these areas. In 2009/10, the Delmas Local Municipality estimated that informal settlements around the area constituted approximately 5,000 households, most of which were located in and around Botleng.

In terms of the specific site alternatives, the following land uses were observed during the site visit undertaken in March 2010:

- **Site Alternative 2:** Crop farming (maize). At the time of the study it was unclear who the landowner of this farm portion is. If Kuyasa is the landowner, it is assumed that the land in question is leased to the current occupier, but the terms of such a lease agreement was not known. No houses or other structures were observed within the confines of the site.
- **Site Alternative 3:** Mining activities were observed on parts of the site, but it was not clear whether it was open cast mining or just a storage area. It is believed that the site belongs to Kuyasa and that the activities taking place on the site is part of their operations. One structure was observed within the confines of the site, but it was unclear from the aerial photograph what the structure is or whether or not it has been abandoned.
- **Site Alternative 5:** The site appears to be an open field located adjacent to Kuyasa's Delmas Colliery. At the time of the study the site was covered in cosmos flowers, illustrating why Delmas and surrounds form part of the Mpumalanga Tourism and Park Agency's so called *Cosmos Country*. No houses or structures were observed within the confines of the site.

The development proposals for the area as contained in the SDF and summarised in the IDP mainly relate to development along major linear spatial features such as national and provincial roads.

The identification of geographical (land use) change process from a social perspective looks at how the presence of the proposed power station and associated infrastructure might change the behaviour/lives of land owners and/or land users in the project area. This is done by considering actual or perceived land use changes, whether on a temporary or permanent basis.

- If site 2 is selected, the presumed lease agreement with the occupier will be terminated and the existing crops will be cleared from the area. This will have an immediate

economic impact on the land occupier in question. It will reduce the crop yielding ability of maize production in the country as a whole, but due to the size of the land in question, this is not deemed to be a significant reduction. Immediate land use changes are not foreseen on sites 2 and 5 as the activities on these sites are already mining related.

- The construction and operation of the proposed power station and associated infrastructure (i.e. the presence of such infrastructure in the area) should form part of the local municipality's future spatial development planning and can therefore influence the placement of certain land uses to a certain extent.
- The presence of a power station might detract from the tourism experience, which in turn might yield an economic impact if visitors choose to rather visit more unspoilt areas. However, this impact is highly dependent on the reasons why tourists visit a certain area, which at the time of the study was unclear.

Demographical Processes

Demographical processes relate to the size and composition of a community. The baseline demographical profile includes an overview of demographical aspects such as the population size, the racial composition, age, gender and the educational profile of the population. It also provides a broad overview of household arrangements.

In 2001, Delmas had a total population of 56,199 people. The population size decreased by some 5,747 people between 2001 and 2007, so that, in 2007, the population size was estimated at around 50,452 people. It is unclear why so many people left the area or where they went to, but presumably the majority left for the bigger urban areas either within the province itself or for neighbouring Gauteng in search of employment opportunities. In 2007 the population density in the area was around 32 persons per km², which is indicative of the mostly rural nature of the area.

Delmas has a fairly young population and in 2007 well over a third of the population (42.0%) were below the age of 15. The economically active population group (defined by StatsSA as the ages between 15 and 65) accounts for just over a half (54.1%) of the total population. It is noteworthy that the biggest decline in population between 2001 and 2007 was in the economically active population (by some 8,562 people), whereas the biggest increase in the population during the same period was in the age category 0-14 (by some 3,247 people). This tie in with the possibility that economically active individuals are leaving the area in search of employment elsewhere.

In 2001, Delmas had a total of 13,949 households, with an occupancy rate of approximately 4 persons per household. Despite the outflow of people, the number of households increased so that in 2007, Delmas had a total of 15,130 households, reducing the occupancy rate to 3.3 persons per household.

In 2001, a quarter (25.9%) of the population aged 20 years and older had no form of schooling. Coupled with those individuals who only completed some form of primary education (a further 28.3%), this means that, in 2001, more than half (54.2%) of Delmas' population had limited educational skills, which in turn would hinder their employability on the general job market. A further quarter (27.1%) of the population completed some form of secondary education, which could enhance their employability, but it is believed that it would only slightly increase their chances of finding employment. Only 14.0% of the total population completed Grade 12 with a further 4.7% who went on to obtain a tertiary qualification. The situation only improved marginally between 2001 and 2007: Although the number of people who had no form of education decreased drastically to 10.7%, those who completed Grade 12 also decreased to 12.7%, whereas those who only completed some form of primary or secondary education still accounted for more than two thirds of the population (71.8%).

The construction of the proposed power station and associated infrastructure will lead to a (mostly temporary) change in the number and composition of the population within the affected local area, which in turn could lead to economic, land use, and socio-cultural change processes. The following change processes are expected:

- It is expected that the construction and operation of the proposed power station and its associated infrastructure (including mine expansion, if required) will lead to an influx of people to the area. Based on the conservative estimate of around 1,000 new employment opportunities, this would represent an approximate 2% increase in population, which is more than double the current population growth rate of 0.58% (Delmas IDP, 2009/10). A change in the number and composition of the local population can lead to economic, health, safety and social-wellbeing impacts. However, the impact is expected to significantly decrease during the operation and maintenance phase as the size of the operational team will be considerably smaller than that of the construction team.
- The presence of the construction team and the prospect of employment might reverse the outflow of people, i.e. an influx of unemployed work seekers is expected. It is difficult to predict what the impact would be as a result of this, as it is coupled to the number of people who return to the area. However, as is the case with the more controlled influx of people due to formalised employment, the influx of unemployed work seekers can lead to economic, health, safety and well-being impacts. It can further lead to the expansion of informal settlements, which can amplify the expected impacts.
- It appears that the biggest cluster of households and other structures are located around site 3, to the north, east and south of the site. This is also the only site where there is a structure located within the site's footprint, but at this stage it is unclear what the structure is used for and whether or not it is inhabited. Although households and structures immediately surrounding the site might not be directly affected, indirect impacts (e.g. visual impacts, air quality impacts, etc.) are likely due to the close proximity of the power station to these households/structures. Depending on the extent and intensity of such indirect impacts, the relocation of these households/structures might become necessary.

The relocation of households' impacts on the affected households' way of life – but this is to a large degree influenced by the affected family's level of attachment to their environment, which in turn is influenced by the family history, years spent in the area, etc.

Economical Processes

Economical processes relate to the way in which people make a living and the economic activities within that society. The employment status within any given area gives an indication of the economic stability of such an area and also serves as an indicator of such an area's general well-being.

The economic growth rate of the Nkangala District area was on average 3% per year between 1996-2003, compared to the 2% for the Mpumalanga Province and the national average of 2.5%. Nkangala contributed 3.32% to the national economy in 2003, compared to the 6.87% contribution by the Mpumalanga province to the national economy (Department of Cooperative Governance and Traditional Affairs, 2005). The overall economic growth for the Nkangala District area declined to 1.9% during the period 2005-2007 (Mpumalanga Provincial Government, 2008).

The main sector in the Delmas area is trade and hospitality followed by agriculture. Both mining and manufacturing do however play a major role, contributing just over 10% each. The electricity, gas and water industry contributes less than 5% of the local economy despite the fact that Eskom operates a number of large power stations in the district area that comprise a large portion of South Africa's electricity generation capacity.

When local employment figures are considered in the context of provincial and district information it seems that employment levels in the Delmas area are higher than that of either the district or the province. Better local employment may be due to the migration of unemployed work seekers to larger economic centres such as Gauteng or the Witbank/Middelburg area, a phenomenon which is often associated with rural areas with limited opportunities.

Although fewer households in Delmas has no form of income compared to the district as a whole, Delmas is still characterised by poorer households given the fact that by far the majority of households earn less than minimum standard (\leq R 20,000 per annum), including a vast number of households who have no income whatsoever. Given the increased employment rate in the area between 2001 and 2007, the household income profile might have changed significantly in recent years, although Community Survey 2007 did not include household income as a variable.

Economic activity on site alternatives 2 and 3 is limited to maize farming on unused and undeveloped sections. There seems to be no cultivation agriculture activities found on site

alternative 5. The project proponent, Kuyasa², indicated that the land on which the sites are located belongs to Billiton Energy Coal South Africa (BECSA) and that the land is currently leased to users such as the mine and farmers. Grazing cattle was spotted south of site alternative 3, but they may graze on other sites as well. The exact nature of the lease agreements and the rights of farmers to the sites is not known and must be investigated further.

Residents on the northern border of Site 3 (who also seem to be farming in the area) have set up a small kiosk and fast food restaurant near their residence and seem to benefit from business as a result of passing traffic on the R50 due to mining and power generation activities in the area. A lodge is in operation near the current Delmas colliery to the west of site alternative 2. The economic activity of local residents and the lodge are unverified at this stage and need to be confirmed during the impact assessment phase.

Economical change processes relate to the changes brought about to the employment and general economic profile of an area as a result of the introduction of any development. For example, job opportunities might be created as a result of the construction and maintenance of the proposed power station and associated infrastructure. Employment creates a source of income, which in turn enables the employed individual to access services as a support mechanism for his/her family. The following change processes are expected:

- The project has the potential of "securing" economic activity by assisting in removing supply constraints if Eskom generation activities result in a supply shortfall.
- The proposed project is likely to contribute to economic recovery by creating economic injections, supply opportunities and increased consumer spending both during construction as well as operations. A large component of construction costs would involve the purchase of overseas equipment, but South African construction firms will likely benefit to a large degree. The level on local beneficiation from construction is uncertain and requires further investigation. There is a greater chance that the operational phase will supply opportunities that will be regional or local in nature due to the existing power generation industry.
- The proposed project will likely improve the current baseline profile through the creation of employment opportunities. Increased household spending and upstream industry activity will result in indirect employment. Employment will in turn result in better income earnings and an improved local and regional income profile. The exact level to which local opportunities will be created must be investigated further.
- The proposed project will probably impact on farming activities if site 2 or 3 is chosen by denying access to current rented farmland. This will in turn reduce local agricultural production and farmer income from agricultural activities. In respect to this impact there are indications that site 5 may be a preferred site.

² Mr M Saliwa of Kuyasa, personal communication

- The proposed project may result in increases in revenue for businesses in close proximity that supply essential services, such as accommodation, catering and basic consumer products. Negative impacts are expected to be minimal as the establishments are already located in an area of industrial development close to the Delmas coal mine. It is thus unlikely that these businesses' customer patronage is based on a pristine environment – however, this will have to be confirmed during the impact assessment phase.

Institutional and Legal Processes

Institutional and Legal processes refer to the role and efficiency of the local authority and other service providers in the area in terms of their capacity to deliver a quality and uninterrupted service to the local area.

Although the overall number of households in the Delmas area who make use of electricity for lighting has increased between 2001 and 2007, large segments of the population still make use of coal for cooking and heating purposes. At least three quarters of households within Delmas have their refuse removed once a week, which is much higher than the standard for the district where the majority of households make use of their own (informal) waste disposal sites, which means that waste is not properly stored or treated, which in turn leads to unhealthy living conditions. At least a quarter of households in Delmas access to water and sanitation services are below RDP standard.³

According to the Delmas IDP (2009/10), water in the area is mostly supplied from boreholes. Numerous developments in the area, including residential and industrial developments, have placed an enormous demand on the water supply, so much so that the demand for water now exceeds the supply (the demand is estimated at 18 Ml/day, while the boreholes are only able to supply 16 Ml/day). Currently the Rand Water supply is used to augment the water supply to Delmas, but this in turn had a negative effect on the water supply in certain areas, e.g. Eloff Agricultural Holdings.

Two sewer plants serve the Delmas area, one within Delmas itself with a capacity of 5 Ml/day and the other in Botleng with a capacity of 4 Ml/day. Both these plants are over capacity, with the Delmas plant receiving up to 8 Ml/day and the Botleng plant receiving approximately 6 Ml/day. This has the effect that waste water is not treated properly and that discharge from these plants into rivers and streams are not on par with the standards required in the National Water Act (Act 36 of 1998). The IDP ascribes the overload of the sewerage system to the numerous new residential and industrial developments in the area.

³ RDP standard in terms of water supply implies piped water to a dwelling or within 200m of a dwelling, whereas sanitation services in line with RDP standard is defined as toilet facilities connected to a waterborne sewerage system or at least a ventilated pit latrine.

The Delmas Local Municipal area is serviced by 2 police stations, one in Delmas and one in Sundra. According to the South African Police Service's website, the ratio of police officers in the Mpumalanga province as at February 2010 was 1 police officer for every 406 citizens. On a population size of 50,452 theoretically this means that there should be approximately 124 police officers deployed throughout the area.

Although it appears as if crime is on the decline in both areas, in general Delmas had almost double the crime rate than neighbouring Sundra. During the period under review a total of 2,390 crimes against the person were reported in Delmas, whereas only 754 cases were reported in Sundra. As far as property related crimes are concerned, a total of 2,375 cases were reported in Delmas and 1,071 cases in Sundra.

According to the Delmas IDP (2009/10), the area is serviced by one hospital, three primary health care clinics and three mobile clinics, of which only one is operational. In addition there are six private general practitioner practices and one private clinic. There are a total of 14 non-governmental organisations operating within the public health sector, but it appears as if most of these NGOs operate within the realm of HIV/AIDS care.

Institutional and Legal Change Processes assesses the way in which a development of this nature could change the face of service delivery in the affected area and how this change in turn could affect the quality of life of local residents. The following change processes are expected:

- Additional demand on municipal services, such as water, sewerage and roads could impact on health and safety if such services are not available.
- It is foreseen that the proposed development could enhance the equal access of households to at least some basic services such as electricity as a result of the broadening of the local network. The availability of additional services in turn can lead to economic growth.
- An influx of unemployed job seekers can lead to the expansion of informal settlements. This can impact on health (as services are not provided or further taxed) and safety (an increase in crime is possible as people do not find employment and become frustrated with their living conditions).
- The influx of job seekers might lead to an increase in opportunistic crime. The health and emergency services in the area might not be able to cope with accidents and emergencies, which will have obvious health impacts.

Socio-Cultural Processes

Socio-cultural processes relate to the way in which humans behave, interact and relate to each other and their environment, as well as the belief and value systems which guide these interactions.

Mpumalanga has been inhabited since earliest times, with Middle Stone Age implements being found in the province dating back some 100,000 BC. It is also believed that red ochre was mined in the area around 46,000 BC. Nguni tribes in the area forged friendships with other clans and through marriage, new clans were formed. In those early years the provincial area was characterised by warrior clans who was only concerned for their own safety and that of their cattle.

Little information could be obtained on the history of Delmas itself. What is known is that locals refer to the area as Botleng, meaning "beautiful". The area is an important agricultural and milling centre. The town of Delmas was laid out on a small farm, Witklip, in 1907, from which it also obtained the name Delmas (*de le mas*), which means "of the small farm" in French. The town is mostly surrounded by farmland that produces maize, wheat, potatoes and chickens.

As socio-cultural processes recount the way in which humans behave, interact, and relate to each other and their environment, socio-cultural change processes in turn looks at the way in which the proposed developments can alter the interactions and relationships within the local community. The following change processes are expected:

- It is possible that construction workers and job seekers have a different cultural background and dissimilar social practices than local residents, which can lead to the development of conflict situations that impact on community cohesion and social well-being.
- The construction and operation of the power station and associated infrastructure might affect people's relationship with their environment (their sense of place) as the presence of such infrastructure changes the landscape from unspoilt to 'spoilt'.
- Although it is not foreseen that the development per se will alter family cohesiveness and the traditional role played by families, the introduction of strangers to the area might have this affect. This can happen when social integration is hindered (through conflict) and also because migratory workers have a certain legacy when it comes to establishing relationships that can increase the risk of spreading HIV and other contagious infections. Apart from the obvious health implications, HIV infection in particular also has an economic impact.

Conclusions and Recommendations

At this stage, no issues emerged that can be considered as fatal flaws from a social perspective. Although there are currently no fatal flaws, there following issues are highlighted:

- At least two of the three alternative sites proposed is currently being used for agricultural purposes (mostly crop farming, but also to some extent for grazing). Agriculture plays an

important economic role in the local area, although it is not the most dominant economic sector of employment.

- A number of development activity corridors and economic activity nodes are planned in the area. These corridors and nodes are mostly concentrated around major linear spatial features. Planned residential developments mostly concentrate on in-fill developments of existing residential areas, none of which are in close proximity to the proposed project sites.
- The Delmas IDP (2009/10) states that, to date, the tourism potential of the Delmas area has not been fully developed and that tourism development is one of the 'untapped areas' in Delmas. This might mean a considerable effort in future to develop the tourism market in the area, an effort which might be affected by the presence of a coal-fired power station (although this is highly dependent on the tourism niche market that will be catered for).
- The presence of the construction team and the prospect of employment might reverse the outflow of people, i.e. an influx of unemployed work seekers is expected. It is difficult to predict what the impact would be as a result of this, as it is coupled to the number of people who return to the area. However, as is the case with the more controlled influx of people due to formalised employment, the influx of unemployed work seekers can lead to economic, health, safety and well-being impacts. It can further lead to the expansion of informal settlements, which can amplify the expected impacts.
- The current world-wide emphasis that is being placed on 'cleaner' energy sources might lead to significant public opinion and increase the likelihood of social mobilisation against the project as the project proposes the more 'traditional' form of energy generation through the use of coal.
- The baseline municipal profile suggests that municipal and other services and infrastructure is inadequate. Any additional pressure on these services can have far reaching effects, e.g. the inconsistency of health and emergency services can result in help not being available when needed.
- According to the Delmas IDP (2009/10), water in the area is mostly supplied from boreholes. Numerous developments in the area, including residential and industrial developments, have placed an enormous demand on the water supply, so much so that the demand for water now exceeds the supply (the demand is estimated at 18 MI/day, while the boreholes are only able to supply 16 MI/day).
- Although it is not foreseen that the development per se will alter family cohesiveness and the traditional role played by families, the introduction of strangers to the area might have this affect. This can happen when social integration is hindered (through conflict) and also because migratory workers have a certain legacy when it comes to establishing relationships that can increase the risk of spreading HIV and other contagious infections. Apart from the obvious health implications, HIV infection in particular also has an economic impact.

Initial indications are that the local negative economic impact will not be extensive due to the limited activity occurring on the properties and due to current ownership arrangements. Economic benefits will most likely be regional and national in nature due to the location of the project close to Gauteng.

Most of the expected change processes and potential impacts that was identified during the course of the study will result in category 1 impacts, i.e. these impacts are expected to occur irrespective of the site selected in the end. Where category 2 impacts have been identified, the difference between the various alternatives is marginal, i.e. indirect social impacts will be experienced irrespective of which site is selected in the end. However, it at this stages it appears as if site 5 might yield the least amount of direct social impacts and therefore this site has been nominated as a preliminary preferred site from a social and economic perspective.

1. BACKGROUND AND INTRODUCTION

In accordance with the South African government's decision that future power generation capacity should be divided between ESKOM and Independent Power Producers (IPP), Kuyasa Mining Ltd (Kuyasa), as the current owner of coal reserves suitable for power generation, has submitted a Statement of Qualification (SOQ) to Eskom and has been conditionally pre-qualified to participate in the base load IPP Programme. Kuyasa proposes to develop a 600MW mine-mouth power generation facility with possible future expansion to 2,400MW.

Five potential sites were evaluated on general criteria required to support the proposed power station, three of which were deemed technically feasible and that will be assessed during this Environmental Impact Assessment (EIA) process, as the proposed project would require multiple environmental permits and authorisations from national, provincial and municipal governmental agencies for various construction and operational activities.

The sites under investigation are all located in close proximity to Kuyasa's Delmas and Ikhwezi Colliers, approximately 16km southeast of the town of Delmas in the Mpumalanga Province. A number of surface infrastructure features are planned, covering an area of 200ha. An additional area will be used for ash disposal. Current land-use activities in the area include mining and farming.

MasterQ Research (Pty) Ltd was appointed as specialised social and economic sub-consultants to the Environmental Assessment Practitioner (EAP), Jones & Wagner. This particular report details the findings of the scoping phase as part of the Socio-Economic Impact Assessment (SIA) and includes an assessment of the possible future tourism potential of the area. In general, the SIA will be conducted in parallel to the overall EIA process and will consist of the following two phases:

- Phase 1: Scoping Phase (current phase) during which a baseline socio-economic and tourism profile will be developed, from which any pertinent socio-economic and tourism issues will be identified for assessment during phase 2; and
- Phase 2: Impact Assessment Phase during which the detailed assessments and studies that were identified during phase 1 will be undertaken. This will also include detailed input into the Environmental Management Plan (EMP).

The first subsection below provides some key definitions, followed by the objectives of the study. The third subsection details the approach and methodology that were followed to meet these objectives. This section is concluded with the assumptions and limitations of study.

1.1 Key Definitions

The definition of a SIA as defined by Vanclay (2002) gives an understanding of the backdrop against which this SIA was conducted. According to this definition, a **social impact assessment** is *“the process of analyzing (predicting, evaluating and reflecting) and managing the intended and unintended consequences on the human environment of planned interventions (policies, programmes, plans and projects) and any social change processes invoked by those interventions so as to bring about a more sustainable and equitable biophysical and human environment.”*

The social team made a clear distinction between change processes and impacts. According to Van Schooten, Vanclay and Slootweg (2003:78-79), **“Social change processes are set in motion by project activities or policies. They take place independently of the social context. Resettlement, for example, is a social change process, set in motion by, inter alia, the activity of land clearing... social change processes can lead to several other processes. Depending on the characteristics of the local social setting and mitigation process that are put in place, social change process can lead to social impacts.”** Furthermore, *“The way in which the social change processes are perceived, given meaning or value depend on the social context in which various societal groups act. Some sectors of society, or groups in society, are able to adapt quickly and exploit the opportunities of a new situation. Others (for example, various vulnerable groups) are less able to adapt and will bear most of the negative consequences of change. Social impacts, therefore, are implicitly context-dependent.”*

Vanclay (2002) defines **social impacts** as:

“The consequences to human populations of any public or private actions (these include policies, programmes, plans and/or projects) that alter the ways in which people live, work, play, relate to one another, organise to meet their needs and generally live and cope as members of society. These impacts are felt at various levels, including individual level, family or household level, community, organisation or society level. Some social impacts are felt by the body as physical reality, while other social impacts are perceptual or emotional.”

The economic assessment (EA) in turn aims to examine all aspects that might contribute to the creation (gain) and destruction (loss) of individual, community, regional or national resources. This gain or loss in resources is most easily understood when it is quantified and expressed in monetary value and therefore the EA relies mostly on quantitative data. However, many of the underlying causes of economic effects like perception, opinion, and sentiment cannot be easily quantified and therefore qualitative data is used to support conclusions in the EA. In most cases a series of options exist, which have different implications in terms of gain and loss and these must be compared to determine a minimum negative and maximum positive economic impact.

Bearing these definitions in mind, we see impacts as the difference between the current and future development of the affected human environment **with** vis-à-vis **without** the project.

1.2 Objectives of the Study

The overall business objective of the SIA is to assess the probable social and economic that can occur because of the construction and operation of the proposed power generation plant. Detailed Scoping and SIA Reports will be developed, which in turn will inform the Environmental Scoping and EIA reports that is submitted to the competent authority, the Department of Environmental Affairs (DEA), who will the decide whether or not to grant environmental authorisation, and if so, subject to which conditions.

The main objectives of the Scoping Phase are to identify issues and concerns to guide the ensuing detailed assessment that will take place during the Impact Assessment Phase, and to provide a framework within which the assessment will be undertaken. Secondary objectives include the following:

- Gain an understanding of the proposed project, including the nature and timeframe of the activities that will take place across the lifespan of the project (i.e. construction, operation and maintenance, and decommissioning);
- Obtain information on the baseline socio-economic and tourism profile characterising the study area in terms of the following socio-economic processes (cf. Vanclay, 2002):
 - * **Geographical processes:** land use patterns, including tourism;
 - * **Demographical processes:** the composition of the local community;
 - * **Economical processes:** the way in which people make a living and the economic activities in a society;
 - * **Institutional and Legal processes:** the role and efficiency of the local authority and other service providers in the area in terms of their capacity to deliver services to the local area; and
 - * **Socio-cultural processes:** The way, in which humans behave, interact and relate to each other, their environment, and the belief and value systems that guide these interactions.
 - * Potential **tourism** impacts will be identified and described for each of the above change processes, where relevant.
- Identify and describe how these processes might change as a result of the proposed project;
- Identify and describe the potential socio-economic and tourism impacts that may occur as a result of the change processes brought about by the proposed project;
- Identify key issues and impacts of significance that would have to be addressed during the EIA phase, which includes the identification of further information requirements; and

- Describe the proposed studies for the Impact Assessment Phase that would ultimately address the identified information requirements and result in a detailed assessment of the potential impacts.

The approach and methodology that were followed to fulfil the objectives of the Scoping Phase are listed in section 1.3 below.

1.3 Approach and Methodology

The following procedures were implemented to meet the objectives of the study.

1.3.1 Data Collection

To obtain baseline information on the socio-economic and tourism profile currently characterising the study area on individual, settlement, institutional and organisational level in terms of current and predicted future socio-economic changes with and without the project, data collection methods took on the following forms:

- An orientation site visit by vehicle and on foot on Monday 30 March 2010;
- A desktop study to compare Census 2001 and Community Survey 2007 data with the aim to develop a baseline socio-economic profile and to identify any significant socio-economic trends in the area;
- A desktop study to determine the current tourism profile of the area;
- A desktop aerial study of the affected area through the use of Google Earth (2007);
- A desktop study of the Integrated Development Plan (IDP) of the affected Local (Delmas) and District (Nkangala) Municipalities.

Information that was relevant to the project was identified and assessed from these sources, and within the context of the construction, operation and maintenance, and decommissioning phases of the proposed project.

1.4 Limitations and Assumptions

- This study was carried out with the information available to the specialists at the time of executing the study, within the available timeframe and budget. The sources consulted are not exhaustive and additional information which might strengthen arguments or contradict information in this report might exist.
- The specialists did endeavour to take an evidence-based approach in the compilation of this report and did not intentionally exclude scientific information relevant to the assessment.
- It was assumed that the motivation for, and the ensuing planning and feasibility studies of the project were done with integrity, and that the information provided to date by the

project proponent, the independent EAP and the public participation consultant was accurate.

- Areas that might yield socio-economic or tourism sensitivities have been identified through a desktop study making use of Google™ Earth. The areas that have been marked are the sensitive areas visible to the socio-economic specialists at the time of the study, which are in close proximity to the proposed three sites under investigation. However, the sensitivity map is not meant as a final, all-inclusive indication of sensitive areas, as it is possible that more sensitive areas might be found during the Environmental Impact Assessment Phase when a more detailed assessment will be undertaken.
- The statistics that informed this report were primarily taken from Census 2001 and the more recent Community Survey 2007 (CS). The comparative analyses of these sets of data should only be regarded as an indication of broad trends in the area, because of the South African Statistics Council's (SASC) concerns about data integrity in CS. The SASC was concerned about the following regarding CS:
 - * Institutional population is merely an approximation to 2001 numbers and not new data;
 - * Unemployment in the Community Survey is higher and less reliable because of questions that were asked differently;
 - * Grants do not match the (SASSA) data and should be interpreted with great care;
 - * Income includes unreasonably high income for children – presumably misinterpretation of the question, listing parents' income for the child; and
 - * Distribution of households by province has very little congruence with the General Household Survey or last census.

A number of systematic errors were observed in the statistical data, which included:

- * An underestimate of men relative to women;
- * An underestimate of children younger than 10 years;
- * An excess of those aged 85+, in particular among men;
- * Missing women aged 20–34 from the Coloured population;
- * Misdistribution of the population by province;
- * Excess of people aged 10–24 in Western Cape and Gauteng;
- * A shortfall of women aged 20–34 in Free State, KwaZulu-Natal and Limpopo.

The SASC states (2008): *"In the absence of a comprehensive sampling frame, it is difficult to determine whether the differences are due to sampling error, biases or the reality that has changed beyond our expectations. There may be other variables that will require similar warnings after further interrogation."*

2. PROJECT BACKGROUND

This section aims to address the following objective:

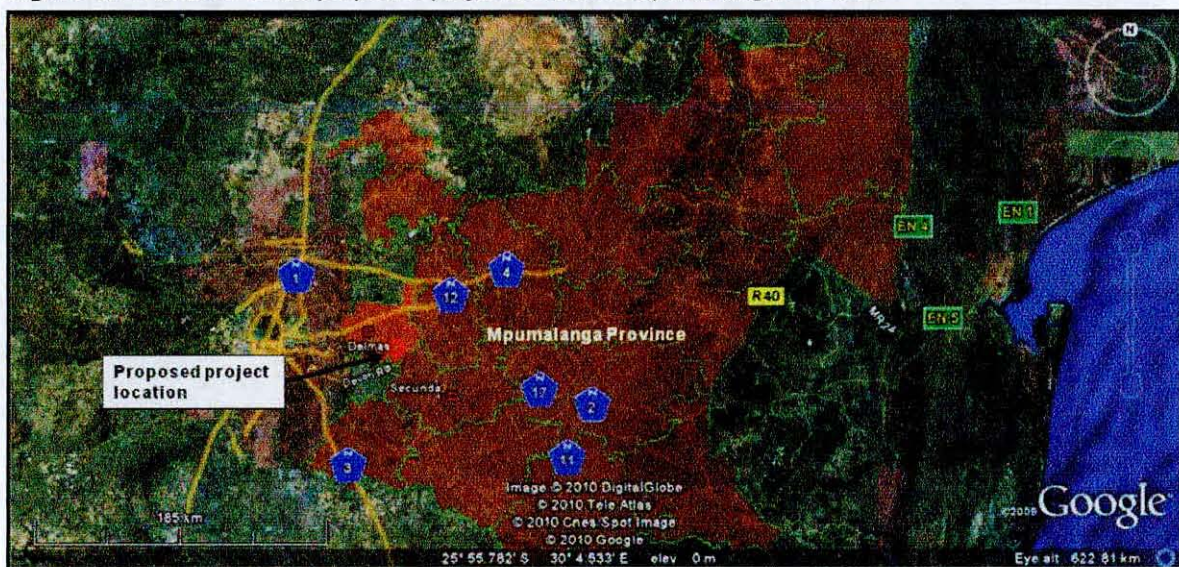
- Gain an understanding of the proposed project, including the nature and timeframe of the activities that will take place across the lifespan of the project (i.e. construction, operation and maintenance, and decommissioning).

This section briefly describes the information relevant to the study area and the proposed project. The first subsection provides a general overview of the study area on provincial level (a more detailed baseline profile of the study area in terms of the identified social processes follows in Section 3), followed by a brief description of the proposed project.

2.1 Provincial Overview⁴

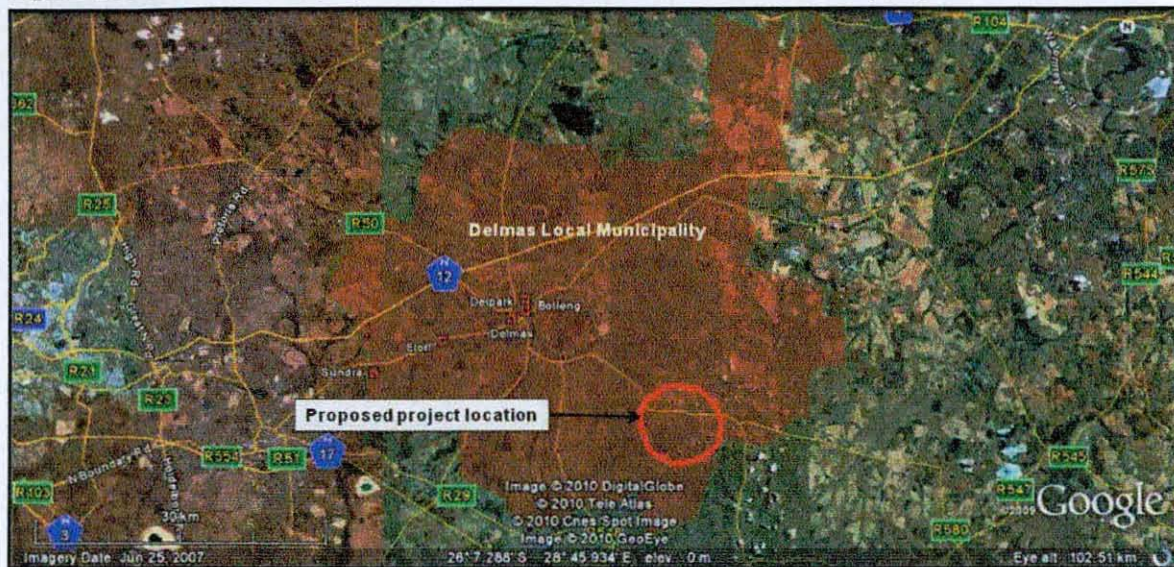
The infrastructure development associated with the proposed project is located within the Delmas Local Municipality, which forms part of the Nkangala District of the Mpumalanga Province. An indication of the study area within the Mpumalanga Province is reflected in figure 2.1 below, whereas figure 2.2 provides a close-up view of the proposed project's location in relation to the affected local municipality.

Figure 2.1: Location of the proposed project within the Mpumalanga Province



⁴ The information in this subsection was primarily drawn from the *Mpumalanga State of the Environment Report (2003)*, available online at http://www.environment.gov.za/soer/reports/mpumalanga_report.html.

Figure 2.2: Location of the proposed project within the Delmas Local Municipality



Mpumalanga means "place where the sun rises". The province is located to the north eastern part of South Africa, and is bordered by Mozambique to the east and the Kingdom of Swaziland to the south and east. On its western border is the province of Gauteng, with the Free State to the south west and KwaZulu-Natal to the south east.

Mpumalanga has a land surface area of approximate 79 511.5km², which represents approximately 6.5% of South Africa's total land surface. According to Community Survey 2007⁵, the province is home to approximately 3,643,435 people, which represents a population growth of approximately 7.6% (or 277,550 people) over the 6-year period between 2001 (when the last census was conducted) and 2007. The population in Mpumalanga accounts for 7.5% of South Africa's total population of 48,502, 063 people as of 2007. The province appears to be largely rural in nature, which is evident in the fairly low population density of 45.8 persons per km².

According to the Mpumalanga Province Growth and Development Strategy (MPGDS), the economic growth within the province averaged around 2.5% between 1996 and 2001, increasing to an average of around 4.3% between 2004 and 2007. This places the province more or less on par with the country's Geographic Domestic Product (GDP) growth. In 2004 the main economic sectors in the province were the mining, energy, and manufacturing industries that, collectively, comprised approximately 60% of the province's Gross Value Addition. Despite these industries being the largest, they only provided employment to around 20% of the province's population. During 2005 the energy sector was replaced by community services as a key industry, contributing approximately 20% to the province's employment rate.

⁵ Statistics South Africa. Community Survey 2007: Key Municipal Data. Report No: 03-01-22 (2007)

The main aim of the province's GDS (2004-2014) is to improve the local inhabitants' quality of life by promoting sustainable development. It is believed that sustainable development in turn will create a stable investment climate that will aid in creating employment opportunities, which will then create income generating capabilities for those individuals involved.

Agriculture is also one of Mpumalanga's largest economic sectors, producing some 15% of South Africa's total agricultural output. Products produced in the province include sugar cane, sunflowers, sorghum, potatoes, onions, cotton and maize. Most of the agricultural activities in Mpumalanga centre on dry farming land, although extensive irrigation schemes can be found in the Loskop area near Groblersdal and in the lowveld area adjacent to the Crocodile and Komati rivers.

Mpumalanga is also home to large coal deposits and for this reason most of the country's coal fired power stations can be found in the province (eight of the eleven operational coal fired power stations are located in Mpumalanga). These power stations contribute approximately 70% of the country's total generated power. Linked to the coal deposits is mining, which contributes approximately one fifth of Mpumalanga's Gross Geographic Product (GGP). The coal resources are mostly situated in the western and south-western parts of the province and are used to sustain the coal-fired power stations between Witbank, Standerton, Piet Retief and Carolina. Coal is further used to sustain the petrochemical plants in the province.

Apart from industries such as mining and energy, Mpumalanga is rated as one of South Africa's most popular tourist destinations. Some of the major attractions in the area include:

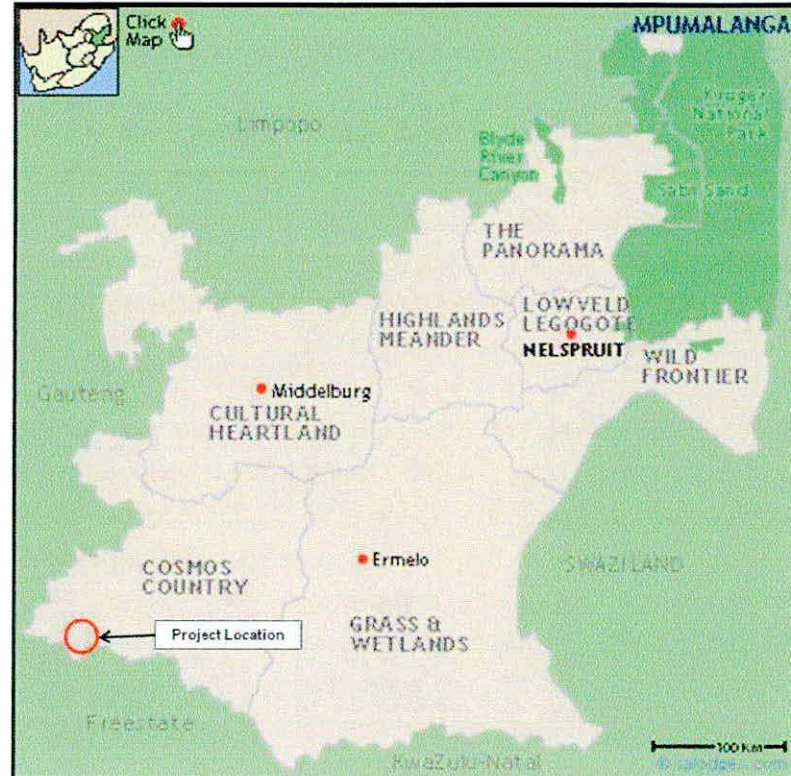
- The Kruger National Park;
- A number of Game Lodges;
- Big catch country (fly-fishing);
- Gold-digging in Pilgrim's Rest;
- The green belt (at Sabie);
- Majestic viewpoints (at God's Window, the Blyde River Canyon, etc.); and
- Arts and culture (the Shangaana Cultural Village, Nyani Shangaan Cultural Village, and the Matsulu Village).

According to *Mpumalanga Companies*⁶, a business and investment guide for the Mpumalanga Province, the tourism sector makes up approximately 8% of the province's Gross Geographic Product (GGP). It is expected that the sector would further increase its contribution to the GGP during the period leading up to the Soccer World cup. It was estimated that international tourists spent roughly R4.5 billion in the province in 2006.

⁶ http://www.mpumalangacompanies.co.za/pls/cms/ti_secout_secout_prov?p_sid=24&p_site_id=150

The province is divided into seven tourist regions (refer to figure 2.3), as follows:

Figure 2.3: Tourism regions within the Mpumalanga Province



Source: SA Lodges
(www.salodges.com)

- The **Cultural Heartland** in the north-western part of the province includes destinations such as the Ndebele Cultural Village at Botshabelo, near Middelburg. An Anglo-Boer War route meanders through the cultural heartland. Other areas of interest include Loskop Dam and Witbank Dam.
- **Cosmos Country** is located in the south-western part of the province. This region is well known for its underground coal and gold mining, and includes towns such as Bethal, Secunda and the current study area, Delmas. During the summer months this region is covered in cosmos flowers, hence its name.
- The **Grass and Wetlands** tourism region is located in the south-east of Mpumalanga and with its many large lakes it is famous for bird watching. The eastern part of this region borders on Swaziland, with many forests to the south. The region lends itself to further tourism development in certain activities such as hiking and horse trials. The Lubombo Tourism Route traverses this region.
- The **Wild Frontier** region is home to historical towns that formed part of the gold-rush in the late 19th century. This region is one of the most important regions in Mpumalanga's tourist economy. The Songimvelo Game Reserve within the region forms part of a transfrontier project with its counterpart in Swaziland.
- The Kruger Mpumalanga International Airport and the N4 highway forms part of the **Lowveld Legogote** region, which enhances the accessibility and visibility of the region as a tourist destination. The N4 forms part of the Maputo Development Corridor, which

aims to stimulate development from neighbouring Gauteng up to the capital of Mozambique. The capital of the region, Nelspruit, is a host city for the Soccer World Cup in 2010.

- The **Panorama** region offers scenic views and is home to the Blyderiver Canyon, God's Window and the Bourke's Luck Potholes. Adventure tourism is on the rise in the region as it offers waterfalls, white waters, cliffs and muddy paths. The region includes towns such as Lydenburg, Graskop and Hazyview.
- The **Highlands Meander** offers activities such as trout-fishing in the areas around Dullstroom, Belfast and Waterval Boven. The region is home to Verloren Vallei Nature Reserve, which is an internationally recognised wetland.

The province is home to 70 game and nature reserves, of which only 13 are managed by South African National Parks (SANParks) – the remainder are all private reserves. Cultural tourism is being utilised in the northwest of Mpumalanga as a means of community upliftment and capacity building. A Heritage Project that was commissioned by the Mpumalanga Provincial Government indicated that the province's history could open new tourism markets, in addition to existing historical sites such as Pilgrim's Rest. Other potential areas of development include the following:

- Rock art;
- The Lydenburg Heads; and
- Struggle tourism, particularly in Delmas where the famous treason trial took place.

According to the Mpumalanga State of the Environment Report (2003), the tourism potential in the province is well developed, but rapid growth is expected in the lowveld area, which would require large-scale investment in tourism facilities. It is also expected that the respective casinos in Nelspruit, Witbank and Secunda would further enhance the tourism industry, requiring additional accommodation, tourist attractions and entertainment facilities.

So What?

- Local economic development should be enhanced by affording local businesses, service providers and/or local individuals with job and supply opportunities;
- Agriculture contributes significantly to the economic growth of the province and therefore agricultural land should be preserved as far as possible;
- The tourism market appears to be a well established industry in some places, whereas it is deemed a growth point in others. Overall it is viewed as an important economic sector that should be enhanced through new initiatives in support of existing practices and establishments;
- The mining industry also contributes significantly to the province's local economy and therefore any current and future mining activities should be considered.

2.2 Project Overview

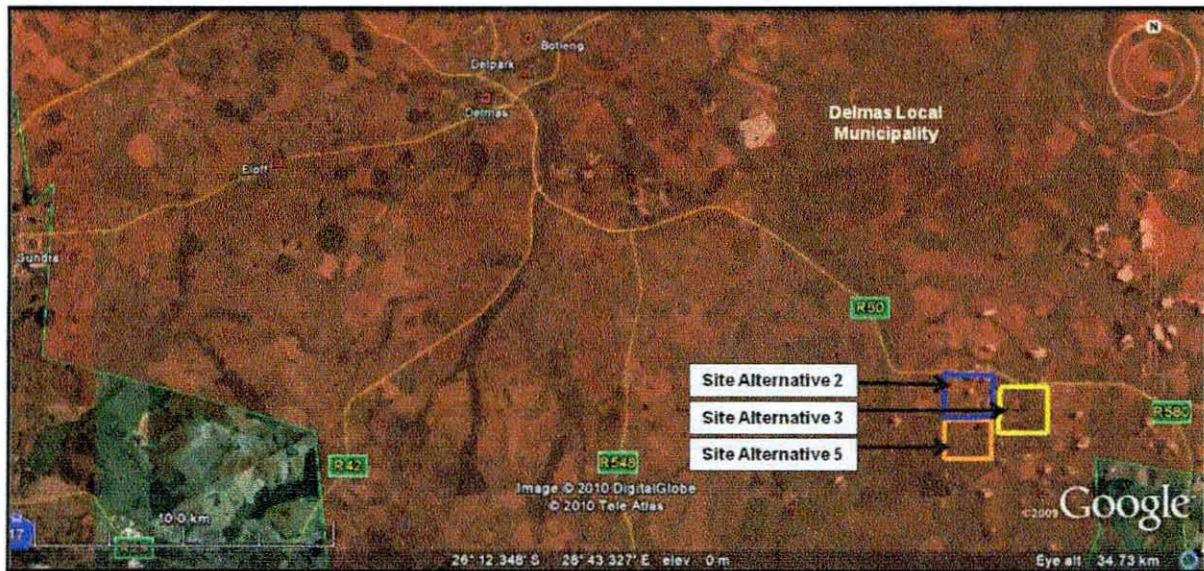
Eskom abides by an Integrated Strategic Electricity Planning (ISEP) process with the aim to identify and implement long term electricity supply options in the country. The latest review of the ISEP (2005) stated that an increased electricity base load will be required by 2010. Although the National Energy Regulator of South Africa (NERSA) determined that alternative and renewable electricity generation should be investigated, it also states that coal should still be utilised as the main fuel source and therefore coal-fired power stations will still be utilized to expand the country's electricity generation capacity for the following 20 years.

As part of the ISEP and in line with the Medium Term Power Purchase Programme (MTPP), Eskom called for tenders from interested parties for the generation and/or provision of energy. These interested parties are known as Independent Power Producers (IPP), of which the project proponent of the current proposed project, Kuyasa Power (Pty) Ltd (Kuyasa) is one of the pre-qualified IPPs.

Kuyasa proposes the construction and operation of a new coal-fired power station in the Delmas area of the Mpumalanga Province. Initially the proposed power station will be a 600MW mine-mouth power generation facility, with the possibility to expand the plant by a further 1,800MW in future. The thermal coal required as fuel will be sourced from Kuyasa's own Delmas Colliery. The proposed power station will consist of four units that will each produce 150MW gross electricity.

Initially five potential sites were evaluated, all of which are located in close proximity to Kuyasa's Delmas and Ikhqezi Collieries in the Delmas area. Of these five sites, three sites were identified as technically and environmentally feasible and will therefore be further assessed during the EIA process. The sites are located on the farms Haverglen 269 IR, Haverklip 265 IR and Brakfontein 264 KR, as reflected in Figure 2.4 below.

Figure 2.4: Site Alternative locations for the proposed Kuyasa IPP power station



In addition to the power plant itself, the following infrastructure is associated with the proposed new coal-fired power station:

- A landfill site and ashing facilities;
- A coal stock yard and ash conveyors;
- Water supply pipelines;
- Water and wastewater treatment facilities;
- An ash disposal system;
- Access roads (including haul roads);
- Storage dams;
- Railway siding and/or railway line for sorbent supply; and
- Offices and administration buildings.

The total development area will comprise approximately 200ha. The actual placement of the proposed power station and the associated infrastructure, as detailed above, within a particular site still needs to be determined, and will be based on the technical and environmental feasibility of suitable areas within a particular site.

2.3 EIA Project Processes

During the EIA the public will encounter various project processes as part of the EIA phases (Scoping and Impact Assessment). Although the various processes are always clear about their respective intent and purpose, there is often confusion about processes that might look similar, but that have different outcomes. Most notably Interested & Affected Parties (I&APs) often confuse the **Social Impact Assessment** specialist study with the **Public Participation Process** and vice versa. In an attempt to clear up some of this confusion, table 2.1 below

provides a comparative overview of the above-mentioned processes to enable the reader to make a clear distinction between these processes.

Table 2.1: Comparative overview of the SIA & PPP

	Social Impact Assessment	Public Participation Process
Practitioner	MasterQ Research	Sivest
Definition	<i>"The process of analyzing (predicting, evaluating and reflecting) and managing the intended and unintended consequences on the human environment of planned interventions (policies, programmes, plans and projects) and any social change processes invoked by those interventions so as to bring about a more sustainable and equitable biophysical and human environment."</i> (Vanclay, 2002).	The "...process leading to a joint effort by stakeholders, technical specialists, the authorities and the proponent who work together to produce better decisions than if they had acted independently" (Greyling, 1999). The process aims at improving "...communication between stakeholders – including the proponent – in the interest of facilitating better decision-making and/or sustainable development" (DEAT, 2002).
Objectives	The overall business objective of the SIA is to assess the probable/potential social impacts on the human environment that can occur because of the design, construction, operation and decommissioning of a proposed project for consideration by the competent authority and the project proponent in their decision-making process. Part of the process is to identify and describe measures to mitigate against negative impacts and to enhance positive impacts.	The main objectives of the public participation process are to: <ul style="list-style-type: none"> • Inform any and all identified I&APs with sufficient information on a proposed project in such a way that the I&APs are empowered to actively participate in the decision-making process; and • Create an entry point for I&APs to raise their viewpoints (issues, comments and concerns) with regard to potential impacts, benefits and drawbacks related to a proposed project.
Timing & Activities	The SIA is undertaken in parallel to the overall EIA process and is normally subjected to the same timeframes as that of the EIA. The SIA consists of two distinct phases, namely a Scoping Phase and an Impact Assessment Phase. During the Scoping Phase, the baseline social context is determined, potential social impacts identified and, based on these results, develop the terms of reference/scope of work for the next phase. Depending on the scope of works, an SIA consist of varying activities, including: <ul style="list-style-type: none"> • Literature reviews and review of existing databases (secondary data sources); • Baseline profiling; • Site visit(s); • Social Research, including the use of surveys, interviews and/or 	The PP process spans across all the phases of the EIA process (scoping, EIA, etc.) and normally includes the following activities: <ul style="list-style-type: none"> • Identify stakeholders; • Disseminating project information; • Managing incoming correspondence regarding the project and follow ups with other project team members; • Responding to stakeholder queries; • Organising and facilitating public events such as open days, public meetings, etc.; • Inform specialists about issues raised by stakeholders; and • Reporting on the process itself as well as the outcomes of the

	Social Impact Assessment	Public Participation Process
	<p>focus group meeting discussions (primary data sources);</p> <ul style="list-style-type: none"> • Data assessments of primary and secondary data sources • Data modelling; • Impact Assessment; • Identifying mitigation and/or enhancement measures; • Development of a Construction Social Management Plan. <p>Qualitative and quantitative research methods are used to inform the SIA. Both these methods use a systematic approach to collect information. Quantitative methods focus on the “why” and quantitative methods focus on “how many.”</p> <p>A focus group is a qualitative social research method, which is one of the methods used when the social specialist wants to gain a depth understanding of specific issues, concerns and/or recommendations that I&APs raised. The results of these discussions are confidential to allow participants to freely participate, although a summary of issues and concerns might be made public. The results of the discussions are used in the assessment of social impacts with consideration of other data sources, e.g. structured interviews, literature. These inputs are not seen as representative of the whole population but are regarded as indicative of the range of sentiments/viewpoints/feelings etc. present in the population. Ideally, a group should not consist of more than 12 people – ordinarily the whole population, e.g. farmers in a corridor, has to be invited to ensure adequate numbers.</p>	<p>process.</p> <p>The public participation consultant also makes use of focus group discussions and these are usually aimed at gathering issues, concerns and opinions from a targeted group of I&APs. Minutes, issues and concerns are reflected in the public participation report and specialists are informed about issues and concerns pertaining to their field of expertise. Specialists have to address these in their assessments.</p>
Applicable Legislation	<p>Cognisance is taken of the following legal requirements and regulatory documents during the execution of an SIA:</p> <ul style="list-style-type: none"> • Constitution of the Republic of South Africa, Act No. 108 of 1996; • Construction regulations under the Occupational Health and Safety Act; 	<p>The approach and methodology as well as the legal framework for the PPP are based on the principles embodied in the following legal framework:</p> <ul style="list-style-type: none"> • The Constitution of the Republic of South Africa, Act No. 108 of 1996; • National Environmental Management Act (NEMA), Act No. 107

	Social Impact Assessment	Public Participation Process
	<ul style="list-style-type: none"> • Extension of Security of Tenure Act (Act 62 of 1997) (ESTA); • National Environmental Management Act (NEMA), No. 107 of 1998, as amended and Environment Conservation Act, No. 73 of 1989, as amended; • The Environmental Impact Assessment Regulations of 21 April 2006; • Relevant Labour Relations legislation; • Development plans in the relevant IDP/s and SDF/s; and • Applicable local by-laws. 	<p>of 1998; and</p> <ul style="list-style-type: none"> • Specific regulations, notably Regulation 28 and Chapter 6 of GN 385.
Deliverable(s)	<ul style="list-style-type: none"> • Social Scoping Report as part of the Environmental Scoping phase; • Social Impact Assessment Report as part of the Environmental Impact Assessment phase; and • In some cases, a Social Management Plan as part of the Environmental Management Plan. 	<ul style="list-style-type: none"> • Public documentation, such as Background Information Documents, meeting minutes, an issues register, I&AP database, etc; and • Public participation reports as part of the Scoping and EIA phases.
What is it NOT?	<p>It is not the official body with which to formally raise issues and concerns, i.e. it is an independent specialist study that is separate process from the public participation process, although the public participation can often be used as a vehicle to undertake public consultation.</p>	<p>It is not a marketing tool to 'sell' a particular project to the public or to gain public support for such a project.</p> <p>It is not an assessment tool, i.e. comments and issues received by the public participation practitioner will not be addressed or assessed by them, but will be communicated to the relevant specialist.</p>
Your responsibilities	<ul style="list-style-type: none"> • Attend and participate in social research activities when invited to do so. • Although you are welcome to contact and/or submit written comments, questions, or concerns directly to the social specialist, formal submissions should also be directed to the public participation consultants to ensure that your comments are formally registered on a project's issues register. The public 	<ul style="list-style-type: none"> • Respond to invitations to participate in projects that might affect you by registering on the project database. EIA processes are normally advertised in the local and/or regional press and in some cases, even in the national press; • Complete and return project comment sheets if you are asked to do so;

	Social Impact Assessment	Public Participation Process
	<p>participation consultants will in turn direct your comments to the appropriate specialist for consideration in their assessment, at times requesting the specialist to formally respond to your comments.</p> <ul style="list-style-type: none"> • At times it might be necessary that you disclose sensitive information, e.g. future development plans, financial information, etc., so that such information can be considered during the assessment. Information gathered in the research process is analysed as part of the group of respondents' input and is usually not linked to your name in a report. Should you wish your name to be linked to information, you should indicate to the specialist how the information should be handled. 	<ul style="list-style-type: none"> • Attend public participation events that are held throughout an EIA process. Registered I&APs normally receive personal invitations to such events; • Feel free to contact the public participation consultants with your comments and queries; and • Review and comment on reports that are placed in the public domain within the stipulated public review periods.

2.4 Relevant Legislation

The following legislation and regulatory documents are relevant to the SIA process:

- Constitution of the Republic of South Africa (Act No. 108 of 1996);
- The Occupational Health and Safety Act (Act No. 85 of 1993);
- Extension of Security of Tenure Act (Act 62 of 1997) (ESTA);
- National Environmental Management Act (NEMA), No. 107 of 1998, as amended and Environment Conservation Act, No. 73 of 1989, as amended;
- The Environmental Impact Regulations of 21 April 2006;
- Relevant Labour Relations legislation.

2.4.1 *Constitution of the Republic of South Africa (Act No. 108 of 1996)*

The Constitution mostly relates to human rights with the intention of establishing “a society based on democratic values, social justice and fundamental human rights”, which should be achieved through the promotion of human dignity, equality and the advancement of human rights and freedoms. Some of the human rights that are explicitly stated in the Constitution are a person’s right to equality, freedom of expression and association, political and property rights, housing, healthcare, education, access to information, and access to courts.

The Constitution is made up of a preamble, fourteen chapters each relating to a specific topic, and seven schedules. Of these fourteen chapters, chapter 2 (The Bill of Rights) is mostly applicable to the implementation and management of social mitigation measures.

The Bill of Rights outlines detailed provisions on civil, political, social and economic rights. According to the Bill of Rights, it is therefore illegal to discriminate against any person on any of the following grounds:

- Race and colour;
- Sexual orientation (be that heterosexual, homosexual or transsexual);
- Marital status (be that single, married, divorced or widowed);
- Gender in terms of social and cultural ascribed gender roles, e.g. not permitting women to work on a construction team because she is a woman;
- Sex, relating to the physical differences between men and women;
- Pregnancy;
- Age;
- Disability;
- Ethnic origin;
- Culture, e.g. traditional practices;
- Language;
- Religion, conscience, belief; and

- Birth.

2.4.2 The Occupational Health and Safety Act (Act No. 85 of 1993)

The occupational health and safety act outlines the clear responsibilities of employers and employees alike in ensuring that a safe work environment is created and maintained at all times. The creation of a safe work environment also applies to any and all work equipment that is required in carrying out assigned duties.

Noteworthy to consider is the fact that this act stipulates that a health and safety representative has to be appointed where a workforce consists of 20 or more people. A health and safety representative has to be a fulltime employee and there should be at least one such a representative per every 50 employees or part thereof, either per workplace or per section of the workplace. Where a workplace has more than one health and safety representative, a health and safety committee should be formed that meets at least once every 3 months. Health and safety representatives should carry out the following functions in terms of this act:

- Review the effectiveness of health and safety measures;
- Identify potential hazards at the workplace that could lead to potential major incidents;
- Examine the causes of incidents at the workplace, in collaboration with the employer;
- Investigate any complaints made by employees in terms of health and safety aspects at the workplace;
- Provide feedback to the health and safety committee on the aspects mentioned above;
- Provide feedback to the employer on matters relating to the health and safety of employees at the workplace; and
- Inspect all aspects relating to the safety of the workplace, including the workplace itself, any plants, machinery, articles, health and safety equipment, etc. at intervals agreed upon with the employer.

2.4.3 Extension of Security of Tenure Act (Act 62 of 1997) (ESTA)

This act provides for measures to facilitate the long-term security of land tenure, and also regulates the conditions of residence on certain land, the circumstances under which a person's right to reside on a particular piece of land may be terminated, and to provide for regulatory matters where persons have been evicted from a particular piece of land or land portion.

Chapter 4 of this act relates to the measures that have to be implemented when right of tenure is terminated on any lawful ground (e.g. in the case of relocation), provided that such a termination is just and has regarded the following factors:

- The fairness of the agreement on which the owner relies;

- The conduct of the parties giving rise to the termination;
- The interests of the parties involved in relation to the comparative hardship of the owner and/or occupier of the land;
- The existence of a reasonable expectation for the renewal of an agreement; and
- The fairness of the procedure leading to termination, including whether or not the owner/occupier had been granted a reasonable opportunity to make representations before termination became effective.

Section 14 under Chapter 4 outlines the procedures for the restoration of residence, the use of land, and compensation for damages. A person who was the rightful owner of the land may institute proceedings in a court of law, where after the court may make the following orders:

- The restoration of residence and land use;
- The repair, reconstruction or replacement of any building, structure or any other installations that the owner/occupier have enjoyed on his land prior to the removal and/or eviction;
- The restoration of any services that the owner/occupier has a right to;
- The payment of compensation;
- The payment of damages, including but not limited to, damages inflicted by the removal process; or
- Any other compensation the court may see fit.

2.4.4 National Environmental Management Act (NEMA), No. 107 of 1998, as amended and Environment Conservation Act, No. 73 of 1989, as amended

Both the National Environmental Management Act (NEMA) as well as the Environmental Conservation Act (ECA) promotes citizens' right to an environment that is not harmful to their health and well being. This right is closely linked to the Constitution where clause 32 of the Bill of Rights stipulates that current and future generations have a right to a healthy environment. NEMA defines the environment as the natural environment as well as the physical, chemical, aesthetic and cultural properties that influences a person's health and well-being.

Part of the scope of works of this particular SIA is also to take cognizance of potential tourism impacts that may result from the construction and operation of the proposed power station and associated infrastructure. In this regard the following regulatory documents are applicable:

- The White Paper on the Development and Promotion of Tourism in South Africa, 1996;
- Institutional Guidelines for Public Sector Tourism Development and Promotion in South Africa, 1999; and

- The Tourism Act, 1993.

2.4.5 *The White Paper on the Development and Promotion of Tourism in South Africa, 1996*

The main aim of the White Paper on the Development and promotion of tourism in South Africa is to provide a broad structure to steer the planning, development and management of tourism and tourism initiatives in the country. The document provides a discussion on the potential economic role that tourism can play and goes on to identify and discuss possible constraints that can prevent the realization of this goal.

The White Paper further sets forth a vision to guide responsible and sustainable economic growth, supported by certain key principles, including:

- A safe and established tourism environment;
- The involvement of local communities, especially previously neglected and vulnerable groups;
- Sustainable environmental management;
- The creation of a tourism industry that can compete with the rest of the world;
- Ensuring a tourism environment and experience that meet tourists requirements and expectations;
- Ensuring product development that offers visitors a variety of choice;
- The effective training and capacity building of those individuals who are involved in the tourist industry by promoting awareness of the importance of the tourism industry as an important economic sector;
- The establishment of a creative marketing campaign;
- Establishing and strengthening economic linkages with other economic sectors within the country;
- Establishing appropriate institutional structures; and
- Establishing appropriate support infrastructure to aid the sustainability of tourism development in the country.

The White Paper was developed on a national level and as such it does not address any specific requirements on a provincial or local level. Although provincial and local governments can take their direction from the White Paper, it does imply that these departments have to develop their own tourism development strategies to fit in with their specific context.

2.4.6 *Institutional Guidelines for Public Sector Tourism Development and Promotion in South Africa, 1999*

The Institutional Guidelines for Public Sector Tourism Development and Promotion in South Africa was first published by the then Department of Environmental Affairs and Tourism (DEAT) in 1999. The aim of this document was to formulate institutional systems and mechanisms that would facilitate synergy between the various spheres of government concerned with tourism development. In support to the White Paper, this document further outlined the roles and responsibilities of National, Provincial and Local Government as it pertained to tourism.

2.4.7 *The Tourism Act, 1993*

The Tourism Act makes provision for the promotion of tourism in South Africa by providing a framework within which the industry can be regulated. This is done by setting forth measures aimed at the maintenance and enhancement of the tourist industry to ensure that tourism in South Africa complies with certain standards.

Through the Act the South African Tourism Board (SATB) came into being, who acts as the juristic person in terms of the Act. The main objective of the SATB is to ensure the sustainable use of natural resources, and to promote tourism in and to South Africa by:

- Taking measures to ensure that services rendered to tourists comply with the highest attainable standards;
- Managing information and undertaking further research pertaining to the tourism sector;
- Advising the Minister on tourism policy, either by their own choice or when so requested by the Minister.

3. CHANGE PROCESSES AND POTENTIAL IMPACTS

This section aims to address the following objectives:

- Obtain information on the baseline socio-economic profile characterising the study area in terms of the following socio-economic processes:
 - * **Geographical processes:** land use patterns;
 - * **Demographical processes:** the composition of the local community;
 - * **Economical processes:** the way in which people make a living and the economic activities in a society;
 - * **Institutional and Legal processes:** the role and efficiency of the local authority and other service providers in the area in terms of their capacity to deliver services to the local area; and
 - * **Socio-cultural processes:** The way, in which humans behave, interact and relate to each other, their environment, and the belief and value systems that guide these interactions.
- Identify how these processes might be changed by the proposed project and identify major concerns; and
- Identify any gaps in knowledge.

In order to address the overall objective of this study, it was necessary to compile a detailed description of the study area. Each subsection first presents the baseline profile (status quo) of the receiving environment in terms of the various socio-economic processes (cf. Vanclay, 2002). It is believed that the baseline profile would be maintained to a large degree (not taking into account variables outside of the project) in the event that a 'no go' option was implemented.

Each subsection concludes with a table summarizing how the project is likely to change the baseline profile, and the related impacts that could be expected as a result of the introduction of the project to the local area. The following section (section 4) outlines the plan of study for the Impact Assessment phase, based on the information requirements identified during this section.

Unless otherwise stated, the baseline profile was compiled based on data obtained from Census 2001 and the more recent Community Survey (CS) 2007. It is important for readers to note that CS data does not replace Census data, but that the CS is merely an attempt to adjust measurements to a best estimate. In this regard, Statistics South Africa has stated the following: *"Any adjustment done [in CS 2007] has maintained the profiling of the community in terms of the people and households while compensating and correcting the undercounted bias by different projections on national, provincial and municipalities level."*⁷ Therefore,

⁷ Statistics South Africa: Community Survey 2007: Key Municipal Data: ix.

please bear in mind that the following data should only be viewed as suggestive of the broad socio-economic trends within an area and not as a fixed representation of the area.

For the purposes of this scoping study the impact variables were categorised in terms of change processes, as previously mentioned. A **change process** can be defined as change that takes place within the receiving environment as a result of a direct or indirect intervention from an outside source. A potential **impact** follows as a result of the change process. However, a change process can only result in an impact once it is experienced as such by an individual or a community on a physical and/or cognitive level.

Figure 3.1 below provides an overview of the preliminary social sensitivity within a 5km radius of the proposed project location. The social sensitivity map was developed based on a desktop study through the use of *Google™ Earth*. The social specialist endeavoured to identify social sensitive areas such as residential areas (human settlement), scattered households, commercial/industrial areas, irrigated farmlands, etc. However, it should be noted that these were the areas visible to the social specialist at the time of the Scoping study and therefore the map might not be all inclusive at this stage, i.e. it is possible that more areas of a social sensitive nature might be found during the Impact Assessment phase.

Following on the social sensitivity map, the various subsections discuss the respective change processes and the potential impacts that could be experienced by the receiving environment as a result of the construction and operation of the proposed Kuyasa IPP Power Station and associated infrastructure. The categories of processes are as follows:

- **Geographical Processes:** the land use pattern within the (affected) area;
- **Demographical Processes:** the number and composition of the local population;
- **Economical Processes:** the way in which people make a living and the economic activities within a specific (affected) area;
- **Institutional and Legal processes:** the role and efficiency of the local authority and other service providers in the area in terms of their capacity to deliver services to the local area; and
- **Socio-Cultural Processes:** the way in which humans interact and relate to each other within the context of their environment, and how this interaction is guided by their value systems.

Figure 3.1: Preliminary Social Sensitivity Map (based on a 5km radius) for the Proposed Kuayasa IPP Power Station site alternatives



2.5 Baseline Geographical Process

Geographical processes relate to land use patterns, both established and planned. Land use is defined as "... the human modification of the natural environment or wilderness into a built environment such as fields, pastures, and settlements."⁸ This subsection therefore describes the current and future land use in the project area (baseline profile), followed by the description of the expected change processes and potential social impacts that can result from project implementation.

During the orientation site visit in March 2010, the following land use trends were identified within a 5km radius of the proposed sites:

- Small-scale human settlement (scattered households);
- An informal settlement along the R50, approximately 1km west of site alternative 2;
- Commercial farming (mostly maize), but some cattle were also observed;
- Mining activities; and
- Commercial and retail activities.

2.5.1 Current Land Use

The Delmas Local Municipality covers an area of approximately 1,570km², of which more than 60% are utilised for agricultural activities (Delmas IDP, 2009/10). The municipal area further consists of a mixture of urban and peri-urban areas and includes the towns of Delmas, Botleng, Eloff and Sundra. In addition to these formal urban areas, the IDP makes

⁸ www.wikipedia.org.za/wiki/Land_use.html

mention of a number of villages scattered around farms in the area. It further states that there has been a high migration rate in the past couple of years from these villages into areas such as Botleng, and Botleng Extensions 3 and 4, causing further expansion of informal settlements in these areas. In 2009/10, the Delmas Local Municipality estimated that informal settlements around the area constituted approximately 5,000 households, most of which were located in and around Botleng.

Although agriculture constitutes the largest portion of land use in the Delmas area, it is not the largest contributor to the local economy (Delmas IDP, 2009/10).

Major roads and railway linkages traverse the Delmas area, which makes the area more accessible to people from outside of town. Major roads in the area include the following:

- The N12 highway linking Delmas with other towns in the province (Ogies, Witbank, and Nelspruit), and major cities and towns in neighbouring Gauteng;
- The R555 between Delmas and Springs;
- The R50 between Delmas and Pretoria; and
- The R42 between Delmas and Bronkhorstspuit.

In terms of the specific site alternatives, the following land uses were observed during the site visit undertaken in March 2010:

- **Site Alternative 2:** Crop farming (maize). At the time of the study it was unclear who the landowner of this farm portion is. If Kuyasa is the landowner, it is assumed that the land in question is leased to the current occupier, but the terms of such a lease agreement was not known. No houses or other structures were observed within the confines of the site.

Figure 3.2: Crop farming (maize) on Site Alternative 2, with Eskom 275kV transmission power lines in the background



- **Site Alternative 3:** Mining activities were observed on parts of the site, but it was not clear whether it was open cast mining or just a storage area. It is believed that the site belongs to Kuyasa and that the activities taking place on the site is part of their operations. One structure was observed within the confines of the site, but it was unclear from the aerial photograph what the structure is or whether or not it has been abandoned.



Figure 3.3: Mining activity taking place on Site Alternative 3

- **Site Alternative 5:** The site appears to be an open field located adjacent to Kuyasa's Delmas Colliery. At the time of the study the site was covered in cosmos flowers, illustrating why Delmas and surrounds form part of the Mpumalanga Tourism and Park

Agency's so called *Cosmos Country*. No houses or structures were observed within the confines of the site.

Figure 3.4: Land use on Site Alternative 5 with Eskom 275kV transmission power lines in the background



2.5.2 Future Land Use

The Delmas Spatial Development Framework (SDF) (as sections within the Delmas IDP) identified the following objectives:

- The optimal economic development associated with the area around the N12 corridor in the vicinity of the R42;
- The provision of land for housing projects that cater for various socio-economic groups;
- The provision of adequate social facilities to the Delmas area, for both urban and rural areas, including promoting the development of multi-purpose community centres in the area;
- Enhancing the tourism potential of the area by balancing the land use needs between the various sectors (mining, agriculture, conservation and tourism); and
- Promoting the establishment of agri-processing industries to complement the existing agricultural activities taking place in the area.

The development proposals for the area as contained in the SDF and summarised in the IDP mainly relate to development along major linear spatial features such as national and provincial roads. The following development proposals for the Delmas area are outlined in the SDF and the IDP:

Development Activity Corridors

The main aim of these development activity corridors is to promote economic development in the area between the railway and the N12. It comprises five strategic development areas, namely:

- The N12 development corridor that will link the Maputo Corridor to the Gold Reef Band. It is believed that this corridor will provide visual exposure to traffic along the N12 and also the planned Delmas Airport.
- Together with the N12, the R42, R50 and R555 form another economic activity node between Delmas and Botleng. Within Botleng Extensions 3 and 4, the area along Nelson Mandela Drive will be utilised to serve the surrounding community with an activity spine that will comprise of mixed land use. Secondary to this activity spine, is the activity spines located on the southern portion of the R42 (between the R50 and the R555), and along Samuel Road.

Economic Activity Nodes

The area south of the N12/R42 interchange has been earmarked for business and retail use. The southern section of Leeuwpoort (along the N12) will be earmarked for commercial and light industrial activity and house public services such as municipal offices, commercial and light industries. A tourism gateway is also planned within the same area, which will house services such as restaurants, a tourism information centre, and a special education academy.

Another economic activity node is planned further to the south along the R42 between Botleng, Delmas Extension 4, and the agricultural holdings. This activity node will be an extension of the existing node that comprises of commercial, light industrial and business/retail land uses. Existing and planned residential areas are located around this node.

A third economic activity node is planned along the R555 that will include the Delmas Central Activity District (CAD), currently comprising of business and light industrial areas. At the same time the development potential of the area around the R50/R555 intersection will be further expanded to make use of the road and railway infrastructure in the area.

Residential Developments

Residential development will take on the form of in-fill developments and will include developments such as the densification of Delmas West Extension 4 adjacent to the railway line, and south of Delpark up to the flood line. Other residential development areas include the east of Botleng, the area south of the Old Witbank Road into the Union Forest Plantation

Agricultural Holdings, the area north of Delmas Extension 4, the southern portion of the Remainder of the farm Leeuwpoot, and portion 6 of the farm Middelburg.

The IDP states that medium to long term pressure for residential developments can be expected into the Leeuwpoot area and in the area to the west of the R42. The area between Botleng and Botleng Extensions 4 and 5 will be utilised for mixed land use developments such as sports and recreation, as most of the area is regarded as unsuitable for residential development due to the geological instability of the area. The housing backlog in Delmas is currently estimated at around 5,000 units.

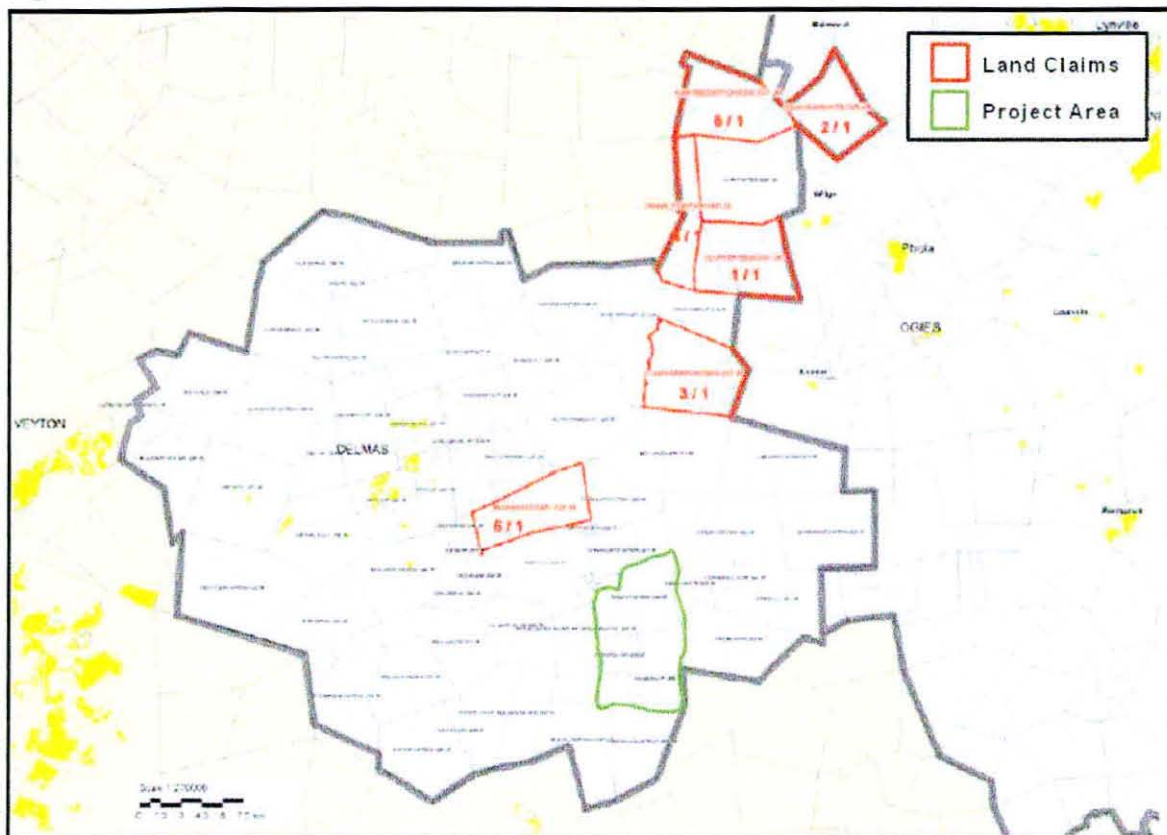
Land Claims

The majority of land claims are located in the north and north-eastern part of the municipality. Apart from one, these land claims have not been settled and are still being considered by the Department of Land Affairs and the Land Claims Commission. Claims were laid against the following farms:

- Klipfontein 568 JR;
- Honingkranz 536 JR;
- Dwaalfontein 565 JR;
- Hartbeesfontein 537 JR; and
- Moabsvelden/Middelbult 248 IR (settled in 2006).

Figure 3.5 below gives an indication of the location of these farms. No land claims exist within the proposed project area.

Figure 3.5: Land claims within the Delmas Local Municipality



Source: Delmas IDP 2009/10

Tourism

The Delmas IDP (2009/10) states that, to date, the tourism potential of the Delmas area has not been fully developed and that tourism development is one of the 'untapped areas' in Delmas. Some of the potential tourist sites identified includes the Bronkhorstspuit pans and the fact that Delmas is the main entry point from neighbouring Gauteng Province along the N12. For this reason the Delmas local municipality deems it necessary to establish a tourism information centre on the N12 just before the town of Delmas. Other sites of interest include cultural sites such as the Ndebele Heritage sites as well as the Voortrekker houses in the area. The length and depth of the caves at the Modder-east Orchards have to be determined after which it might be declared as a tourist attraction site.

The IDP further quotes from a document entitled *Formalisation of Cultural and Historical Sites in the Nkangala District* (2004), which states the following:

"The most prominent natural feature of the Delmas Local Municipal Area is the Skurweberg Mountain, so named for the ancient sandstone outcroppings that are a rare example of an ancient seabed from the Godwana period. This mountain stretches down the Hell's Kloof Pass into the gorges and canyons cut by the Bankspruit, Elands and Komati Rivers. From a heritage point of view the Delmas municipal area is mainly agricultural with a few important

Iron Age sites, such as Kwahlanga which is the grave site of Inkosi Fene Mahlangu. One of the longest running court cases in South African history ran at the Delmas magisterial court. It was associated with the liberation struggle and was popularly known as the Delmas Treason Trial. It is recommended that a conservation & tourism strategy and guidelines should be formulated, which should look at the historical town and some of its more outlying elements."

The IDP therefore highlighted the following strategic objectives as part of tourism development in the Delmas area:

- The positioning of Delmas as tourist information nerve centre to serve the Mpumalanga Province;
- The creation of employment in the Bed & Breakfast sector;
- The establishment of a one-stop tourism information centre on the N12;
- Promoting the Ndebele and Voortrekker heritage sites that are prevalent in the area; and
- The development of refreshment nodes in the Delmas area where tourists can stop and rest before they venture deeper into the province.

So What?

- Although agriculture constitutes the largest portion of land use in the Delmas area, it is not the largest contributor to the local economy (Delmas IDP, 2009/10).
- Any new development has to take cognisance of the local government's formal planning for an area to ensure that such a development is not to the detriment of other planned activities – in some instances new development can enhance future development plans, e.g. broadening the municipal services base, enabling wider development to take place.

2.6 Expected Geographical Change Processes

The identification of geographical (land use) change process from a social perspective looks at how the presence of the proposed power station and associated infrastructure might change the behaviour/lives of land owners and/or land users in the project area. This is done by considering actual or perceived land use changes, whether on a temporary or permanent basis.

2.6.1 Potential Impacts

Table 3.1 below provides an overview of the expected geographical change processes as well as the potential impacts that might occur as a result of the changes taking place. The potential impacts will be expanded and assessed in detail during the Impact Assessment phase.