Southern Hemisphere

. . .consulting and development services. . .

SOCIAL SCOPING STUDY FOR THE PROPOSED CONVERSION OF ESKOM'S ANKERLIG POWER PLANT IN ATLANTIS FROM OCGT TO CCGT, AND ASSOCIATED 400kV TRANSMISSION LINE TO OMEGA SUBSTATION

Prepared by: Liezl Coetzee

Southern Hemisphere Consultants

For: Savannah Environmental

Date: 10 January 2008

Introduction

Eskom Holdings Limited ("Eskom") is investigating the conversion of the nine Open Cycle Gas Turbine (OCGT) units at the existing Ankerlig Power Station (located in Atlantis Industria) to Combined Cycle Gas Turbine (CCGT) units in order to increase the generating capacity of this existing power station by approximately 720 MW. Eskom is also proposing the construction of a 400kV transmission power line between the Ankerlig Power Station and the already-authorised Omega Substation (to be located on the Farm Groot Oliphantskop 81) to transmit the additional power generated at this power station into the National electricity grid. Savannah Environmental has been appointed as an independent consultant to undertake the required Environmental Impact Assessment (EIA) and public participation for the proposed project. Savannah Environmental contracted Southern Hemisphere to undertake a specialist social assessment as part of the EIA.

Alternatives assessed for the proposed Ankerlig conversion process include the conversion as proposed and the no-go alternative. Alternatives assessed for the transmission power line include three alternative alignments for the proposed power line between the Ankerlig and Omega stations, referred to as Options A, B, and C (*see Map of Study Area and Alternatives*).

Approach

The approach to this study follows guidelines outlined in the Western Cape Department of Environmental Affairs and Development Planning's "Guidelines for involving Social Specialists in an EIA."

This scoping study of potential social impacts that may be associated with the proposed Ankerlig Power Station Conversion and transmission line was conducted through a combination of:

- a desk-top study in which available information was reviewed,
- attendance of selected Focus Group Meetings held as part of the Public Participation process in November 2007,
- analysis and presentation of findings in accordance with principles laid out in the Provincial Guidelines, and specific reporting requirements.

Socio-economic profile of potentially impacted population

The study area is located within the Koeberg and Blaauwberg sub-councils of the City of Cape Town Metropolitan Municipality in the Western Cape Province. The transmission power line will pass through the Blaauwberg sub-council, through the Klein Zoute River Agricultural Holdings, past the residential areas of Melkbosstrand, Van Riebeeckstrand and Duynefontein.

The population potentially affected by the development include:

- Residents of Atlantis, particularly the suburbs of Avondale, Wesfleur, Protea Park, Beacon Hill and Robinvale, and the nearby informal settlement of Witsand, situated in close proximity to the Industrial area.
- Residents of Melkbosstrand, Duynefontein and Van Riebeeckstrand
- Users of land situated between Atlantis and the Omega substation site (transmission power line), including the Brakkefontein Shooting Range; Apollo Bricks; the Delta 200 Airstrip; the Corobrick Four Wheel Drive Challenge site; residents of Klein Zoute River Agricultural Holdings and landowners of farms situated in the Malmesbury non-urban area immediately south of Atlantis Industrial Area.
- Residents of Morning Star Agricultural Holdings south of the Omega substation.

This report presents socio-economic data based on 2001 Census Statistics, as compiled in the City of Cape Town's Suburb Profiles. Suburbs used in this assessment include:

- City of Cape Town as a whole, to provide a comparative base,
- Atlantis - including Atlantis Industria, as well as the suburbs of Avondale, Wesfleur, Protea Park, Beacon Hill, Robinvale, Saxonsea, Sherwood, Beaconhill and the Town Centre, and the nearby informal settlement of Witsand
- Melkbosstrand, including the residential areas of Duynefontein and Van Riebeeckstrand.
- Atlantis non-urban, comprised of the rural area surrounding Atlantis to the north, south, east and west stretching South to include the Klein Zoute Rivier and Morning Star Agricultural Holdings, as well as the regions indicated as 'Malmesbury non-urban' and 'Koeberg' on the Census suburb map (see Appendix 1).

Demographic profile

At the time of the 2001 Census, the total population of the City of Cape Town was about 2.9 million people. Within the study area, the Atlantis population comprised of just under 55 000 people, while the surrounding non-urban areas (Atlantis non-urban according to suburb profiles) housed just over 4 000 people, and just under 6 500 people resided in the Melkbosstrand area. Females outnumber males in all areas except Atlantis non-urban, where males predominate by a slight margin.

The age distribution in Atlantis is slightly younger than the average for the City of Cape Town, with a larger percentage (just under 40%) aged under 17. The corresponding percentage in Melkbosstrand is significantly lower at only 24%. By

contrast the percentage of older people in the age categories above 35 is significantly higher in Melkbosstrand (~55%) than in the broader Cape Town (~35%) or Atlantis (28%) and surrounding non-urban areas (37%). Almost a third of the population in Atlantis are between the ages of 18 and 34, while a quarter is aged 35 to 54. These age groups may be considered as the potential labour force, together comprising about 55% of the Atlantis population, and 57% of Atlantis non-urban.

The Atlantis population is predominantly Coloured (92.6%), with a small percentage (6.6%) Black African and less than one per cent respectively White and Indian. The population of Atlantis non-urban is also predominantly Coloured (68%) according to the 2001 census, with a significantly greater percentage of Whites (22%) and slightly more Black African (10%). By contrast Melkbosstrand is predominantly White (89%).

Afrikaans is the most common language spoken in Atlantis (87%), Atlantis non-urban (78%) and to a somewhat lesser extent Melkbosstrand (58%). English is the first language of 38% of Melkbosstrand residents, 16% of those in Atlantis non-urban, and less than 10% of the Atlantis community.

Education, Health and Social Services

Educational facilities in Atlantis include four high schools, 13 primary schools, three special schools catering for students with special needs, and two higher institutions. Just over 20% of Atlantis residents aged over 20 had completed matric in 2001, and of these less than 4% had attained any further levels of education. The percentage with 'no schooling' was slightly higher in Atlantis non-urban at 9%, compared to 4% in Atlantis. By contrast Melkbosstrand had less than 2% with no education, over three quarters had completed matric, and just under a third had attained some level of tertiary education, about half of which is certificates, with the other half being various levels of degrees.

Health facilities in and around Atlantis include the Wesfleur Hospital, Wesfleur Medical Centre and Wesfleur Private Clinic, as well as Protea Park and Saxon Sea clinics, and the Mamre Clinic. While the most common cause of death recorded in Blaauwberg district in 2002 (9.4% of deaths) as well as 2003 (8.7%) was Ischaemic heart disease, HIV/ AIDS had risen to the greatest killer by 2004 (7% of total deaths). TB accounted for a further 4.5% of deaths in 2004. HIV Prevalence in the Blaauwberg Health District was estimated at 4.5% in 2003/4 according to an ANC HIV Prevalence Survey. Total TB incidence in the District stood at 513 people in 2002, while the total rate recorded for Cape Town was 7 366 infections.

There is a lack of suitable state welfare programmes to meet the specific needs of the area. A Multi-Purpose Community Centre that was erected in Atlantis, and that is capable of providing various social services, remains largely under-utilised. The rapidly growing incidence of HIV/AIDS infection is placing an increasing burden on existing health services, including hospital and medical facilities. The Red Door Database (2007) lists a total of 67 Community Based Organisations

(CBOs) operating in Atlantis. Local Government Offices of the Blaauwberg District Council dealing with Social Services include a District Office situated in Atlantis Industria, and a Satellite Office in Sherwood.

Employment and income

The economically active population comprised of about 46% of City of Cape Town residents aged between 15 and 65 in 2001. Figures for the study area are similar, though slightly lower for Atlantis at 44%, and higher for Melkbosstrand (48%). Of those indicated as economically active, 31% in Atlantis are unemployed, slightly higher than the average for the City of Cape Town as a whole. Corresponding percentages are much lower for Atlantis non-urban (13%), and Melkbosstrand (7%).

Of the economically active residents of Atlantis that are employed, approximately 12% commute to jobs outside Atlantis. Another 25% are employed by local industries, and 5% are employed by small- medium- and micro-enterprises (SMMEs). A significant number of jobs in Atlantis are held by outsiders who commute to the area. These jobs generally fall in the educational and other professional occupational categories.

Over 40% of those employed in the Atlantis non-urban area in 2001 were engaged in elementary occupations. By comparison only 22% of employed Atlantis residents were cited in such elementary occupations, although this was still the predominant occupation. Also common however were plant and machine operators and assemblers (19%) as well as craft and related trade workers (18%), while 12% were cited as clerks. The presence of these skills should be considered with regards to possible employment opportunities that the proposed development may offer.

Manufacturing represents the largest source of employment in the area. A total of 107 Manufacturers are listed in the Red Door database. The area experienced increases in employment in the construction, financial, real estate, business and wholesale sectors between 1996 and 2001. Sectors which experienced the largest setback in terms of growth includes the mining industry (a decrease of 32%) and, to a much smaller extent electricity, gas and water services (a decrease of 10%). The Red Door Database lists a total of 59 SMMEs concerned with construction and building activities. Other SMMEs listed include Automotives (4), Bed and Breakfasts (9), Manufacturing (6), Catering (5), Cleaning services (4), Engineering (8), Information Technologies (2) Labour Consultants (4), Maintenance (18), Retain Suppliers (5), Security Services (5), Services (19), and Transport (11).

Over half of those employed in Atlantis, and 62% in Atlantis non-urban earned less than R1 600 per month in 2001, with almost all the remainder (45% in Atlantis and 32% in Atlantis non-urban) earning between R1 600 and R6 400 per month. Income of Melkbosstrand residents was notably higher, with about half earning over R6 400 per month. Over a third of Atlantis households lived on less than R19 200 per annum in 2001, with a further 50% citing an annual household income of between R19 200 and R76 800. The corresponding percentage for the

lowest income group in Atlantis non-urban was 10% higher, with 44% with an annual household income of less than R19 200, with a further 40% in the group between R19 200 and R76 800. By contrast Melkbosstrand only had 14% and 20% of households in these lower income brackets, with about 65% of households citing an income of greater than R76 800 per annum.

Housing and Services

Atlantis has experienced land invasions and the growth of informal settlements, especially in the area that has become known as Witsand. The percentage in informal dwellings is lower than that for the broader Cape Town (18%) in all parts of the study area, but notably higher in Atlantis non urban (11%) and Atlantis (9% - which would include residents of the Witsand settlement) than in Melkbosstrand (1%). While over 70% of Atlantis households live in dwellings which they own, only 22% have fully paid these off. By comparison, 36% of Melkbosstrand households live in houses that are owned and fully paid, and a further 40% in houses they are paying off. In Atlantis non-urban the majority of households either reside rent-free (46%), or rented housing (31%). Housing ownership is relevant to consider when assessing potential impact on people's sense of and attachment to place and personal investment in the area.

According to the 2001 Census, 70% of South Africa's population used electricity as primary source of energy for lighting. The corresponding figure in the Western Cape was significantly higher at 88%, with that in the City of Cape Town being 89%. The current project is intended to provide additional capacity to the National grid, which will thus have a National impact affecting the South African population of close to 50 million people belonging to about 12 million households according to the 2001 Census. Within the study area electricity use for lighting is almost universal in Melkbosstrand (98% of households) and only slightly less common in Atlantis (92%) where paraffin is the other form most cited (7%). Atlantis non-urban noted this to be slightly less common at only 64% of households using electricity for lighting, while 32% rely on candles, and smaller percentages on gas, paraffin and other sources of energy.

Atlantis receives the bulk of its water supply from the Atlantis Aquifer. Access to piped water inside dwellings is higher in Atlantis (83%) and Melkbosstrand (93%) than in the broader Cape Town (69%). This percentage is significantly lower in Atlantis non-urban at only 36%, with 23% citing piped water in the yard, and over 30% piped water on a community stand, mostly over 200m from the dwelling.

The comparatively lower levels of living prevalent in the Atlantis non-urban area is highlighted in terms of access to sanitation facilities, with only half of all households having access to flush toilets (including both sewerage and septic tanks), compared to over 90% in Atlantis and Melkbosstrand. About a fifth of Atlantis non-urban households have no sanitation facilities, while 17% rely on bucket latrines. The remainder use chemical toilets and pit latrines.

While almost all households in Atlantis and Melkbosstrand had refuse removed by the local authority in 2001, this was true for less than a quarter of households in Atlantis non-urban, the majority (65%) of whom use their own refuse dumps. The potential impact of the proposed transmission line on a proposed municipal landfill site planned for the area needs to be considered in selecting a preferred corridor.

Travelling by foot is the dominant mode of transport to work or school, followed by minibus taxis. The use of buses is somewhat less frequent. Due to the absence of passenger train services in the area, very little use is made of this form of transport.

City Development Index

The City Development Index (CDI) is a composite index looking at: infrastructure (water, sewerage, telephone and electricity) health (life expectancy, divided by infant mortality), education (adult literacy and gross enrolment ratio) and income (mean household income). Overall, the City of Cape Town has a higher CDI of 0,88 compared to 0,81 for the rest of the Western Cape Province. Cape Town out-performed the rest of the province in terms of infrastructure, income and waste disposal. Atlantis rates slightly lower than the City average at 0.86, but still higher than the broader Western Cape Province. Its rating for health is however slightly lower than that for both City and Province. Melkbosstrand by contrast rates higher than the City of Cape Town at 0.92, scoring higher in all indices.

Plans for economic development

Despite its current problems, Atlantis offers significant potential for economic development. Its assets include proximity to the West Coast Biosphere, the historical settlements of Mamre and Pella and the expanding high-income housing developments on the West Coast. Large areas of land are currently services for industrial investment, and are available at very low cost. Because of this development potential, the Cape Town Metropolitan Municipality IDP (2004) identified Atlantis as one of the focal areas for residential upgrading. The City is currently in the process of developing an economic development action plan for the area.

Current land uses

The Ankerlig Power Station site is situated in the Atlantis Industrial area, and is currently occupied by the OCGT power station which will be converted into a CCGT power station. The existing power station consists of 9 OCGT units (i.e. four existing OCGT units, plus an additional five OCGT units, currently under construction).

The alternative alignments proposed for the transmission power line to the Omega substation are situated to the south of Atlantis, passing through the ‘Atlantis non-urban’ area as defined above. Current (and proposed) land-uses include: Portions of Farms falling within the Malmesbury non-urban (classified as part of Atlantis non-urban for suburb population profiles) area between Atlantis

and Klein Zoute River AH. - predominantly fallow land; Cape West Coast Biosphere Reserve; Klein Zoute Rivier Agricultural Holdings; Existing Transmission Line to Koeberg; Brakkefontein Shooting Range; Proposed Municipal Landfill Site; Delta 200 Flying School; Cement Factory: Apollo Bricks; Municipal sewage works; Railway line; and the Corobrick Four Wheel Drive Challenge site.

Policy Directives

A number of national and local policy directives give guidelines regarding the assessment of a development of the nature proposed.

National policy directives noted in this document are the country's macro-economic strategy plan of ASGI-SA, as well as a summary of relevant legislation that should be considered in project implementation to ensure the meeting of socio-economic objectives.

Priority focus areas identified in the Western Cape Policy Framework, *iKapa elihlumayo,* include: Building Human Capital with an emphasis on the youth; Micro-Economic strategy (MES); Building Social Capital with an emphasis on the youth; Strategic Infrastructure Investment; A Spatial Development Framework (SDF); Co-ordination and Communication; Improving Financial Governance; Provincialisation of Municipal rendered services.

The City of Cape Town's seven Strategic Focus Areas as articulated in the 5-year plan for the City (CoCT 2007) are as follows: 1) Shared economic growth and development; 2) Sustainable Urban Infrastructure and Services; 3) Public Transport Systems; 4) Integrated Human Settlements; 5) Safety and Security; 6) Health, Social and Human Capital Development; 7) Good Governance and Regulatory reform.

Impact Assessment

Summary of Impacts and Plan for SIA

Potential social impacts that may result from the proposed development include: provision of electricity and associated macro-economic linkages; temporary employment; (limited) ongoing employment; social investment; population influx; increase in traffic; impacts on health & safety; interest group activity; impacts on current land-uses; and impacts on sense of place. The Table below provides a summary of potential social impacts, noting the project component and phase [Construction: (C) or Operation: (O)] for which impacts may be expected, significance of the impact, whether or not it will be assessed as part of the detailed Social Impact Assessment to be undertaken during the Environmental Impact Assessment phase of this project, and methods to be used for assessment of impacts.

Recommendations regarding preferred alternatives

The conversion process as proposed is considered the preferred alternative to the no-go alternative from a social perspective, as the positive impact of electricity

provision outweighs potential negative impacts that may be associated with the development. Such negative impacts can be mitigated, while other potential positive impacts such as social investment and employment creation during construction can be optimised through appropriate management measures to be addressed in the detailed SIA to be undertaken during the EIA phase.

Option A is considered the preferred alternative for the proposed Transmission Line from a social perspective, as impacts to current land-uses and sense of place will be minimal along this route. Options B and C may both be considered acceptable, but would require more detailed investigation to determine the significance of impacts on current land-uses and sense-of-place, which could require additional mitigation measures to be put in place.

Summary of Impacts to be addressed in Social Impact Assessment (SIA)

Impact	Ankerlig Conversion		Transmission Line		Anticipated Significance	To Assess in SIA	Method(s) of Assessment
Phase:	**C**	**O**	**C**	**O**			
Provision of electricity		X		X	Very High	N	• Significance already noted and assessed in previous EIA processes undertaken (2005 and 2007)
Temporary Employment	X		X		Low to Medium	Y	• Obtain employment estimates from Eskom; • Propose mitigation to optimise impact.
Ongoing Employment		X			Low to Medium	Y	• Obtain employment estimates from Eskom; • Propose mitigation to optimise impact.
Social Investment	X	X	X	X	Low to High	Y	• Obtain information on current social investment in area; • Propose mitigation to optimise impact.
Population influx	X		X		Low to Medium	Y	• Consult with community representatives regarding experience in terms of impacts of influx and how to address; • Propose mitigation to minimise social disruption.
Increase in traffic	X	X	X		Low to High	Y	• To be assessed based on review of previous transport study.
Impacts on health & safety		X		X	Low to Medium	Y	• Note key findings of relevant specialist studies.
Interest group activity	X	X			Low to High	Y	• Consult with community representatives to determine current perceptions and concerns with project that may lead to interest group activity; • Propose mitigation to minimise potential for interest group activity.
Impact on current land-uses			X	X	Low to Medium	Y	• Impact of selected transmission power line alternative will be investigated based on specific land-uses to be impacted; • Get information on current land-users; • Propose mitigation to minimise potential impact on land-uses.
Impact on sense of place	X	X	X	X	Low to Medium	Y	• Impact of selected transmission power line alternative will be investigated based on specific land-uses to be impacted; • Note key findings of relevant specialist studies.

Conclusion

This report provided an overview of the social environment in and around Atlantis in the City of Cape Town, where Eskom proposes to convert nine OCGT Units at its Ankerlig Power Station to CCGT Units, and construct a transmission power line between the Ankerlig Power Station and the already approved Omega substation. This was followed by a brief look at the existing policy environment at National, Provincial and Municipal level, to serve as context for assessing potential social impacts identified. A scoping assessment of social impacts on the social fabric of surrounding communities looked at potential impacts of both the Conversion process and proposed transmission power line, for construction as well as operational phases.

The most significant positive social impact that may be associated with the proposed developments is provision of electricity, and its related linkages to the broader national economy. Other potential positive impacts include provision of temporary employment during construction and limited employment opportunities for locals during the operational phase for the Ankerlig CCGT station.

Potential negative impacts that may result from the proposed CCGT development include an influx of jobseekers as well as temporary workers, particularly during the construction period as well as potential impacts on health and safety, an increase in traffic, impacts on air quality and groundwater, as well as potential impacts on sense-of place resulting from visual and noise impacts. The possibility of interest group activity that may result from local perceptions of impacts on health and safety is considered as a separate impact to be addressed in the SIA with recommendations on means to minimise its likelihood.

The conversion process as proposed is considered the preferred alternative to the no-go alternative from a social perspective, as the positive impact of electricity provision outweighs potential negative impacts that may be associated with the development. Option A is considered the preferred alternative for the proposed Transmission Line from a social perspective, as impacts to current land-uses and sense of place will be minimal along this route.

Table of Content

List of Tables

List of Figures

List of Acronyms

AH	Agricultural Holdings
ASGI-SA:	Accelerated Shared Growth Initiative of South Africa
BEE:	Black Economic Empowerment
CCGT	Combined Cycle Gas Turbine
CDI	City Development Index
CMC	Community Monitoring Committee
CoCT	City of Cape Town
DEA&DP:	Department of Environmental Affairs and Development Planning
EIA:	Environmental Impact Assessment
EMFs	Electric and Magnetic Fields
ESDEF:	Eskom Social Development Forum
IDP:	Integrated Development Plan
LED:	Local Economic Development
OCGT:	Open Cycle Gas Turbine
SIA:	Social Impact Assessment
SME/SMME:	Small Medium and Micro Enterprises
TBA	To be assessed

LIST OF APPENDICES:

1. INTRODUCTION

Eskom Holdings Limited is investigating the conversion of the nine Open Cycle Gas Turbine (OCGT) units at the existing Ankerlig Power Station (located in Atlantis Industria) to Combined Cycle Gas Turbine (CCGT) units in order to increase the generating capacity of this existing power station by approximately 720 MW. The proposed conversion involves the establishment of infrastructure associated with CCGT units and will be developed on the site of the existing Ankerlig OCGT power station.

Eskom Holdings Limited is proposing the construction of a 400kV transmission power line between the Ankerlig Power Station and the already authorised Omega Substation (to be located on the Farm Groot Oliphantskop 81) to transmit the additional power generated at this power station into the National electricity grid.

Savannah Environmental has been appointed as an independent consultant to undertake the required Environmental Impact Assessment (EIA) and public participation for the proposed project. Savannah Environmental contracted Southern Hemisphere to undertake a specialist social assessment as part of the EIA. The consultant's approach to undertaking this assessment is described in Section 2 below.

1.1. Study Area

The proposed conversion is to take place at the existing Ankerlig OCGT site in the Atlantis Industrial zone, which is located approximately 500m southwest of the residential area of Atlantis, situated approximately 40 km north of the Cape Town city centre.

The proposed transmission power line will follow an alignment between the Ankerlig Power Station and the already authorised Omega Substation (to be located on the Farm Groot Oliphantskop 81) situated to the north of Morning Star Agricultural Holdings.

1.2. Alternatives to assess for scoping

Alternatives that have been identified for investigation as part of this social scoping assessment include:

1. Ankerlig Conversion[1]:
    a. No-go Alternative
    b. Conversion of nine OCGT units to CCGT units.

[1] As potential Social Impacts related to the conversion can be expected similar for different technology alternatives, the Social Study will not attempt to assess these technology alternatives, and only focus on the conversion process and no-go option as alternatives for assessment.

2. Transmission line (see **Figure 1**)

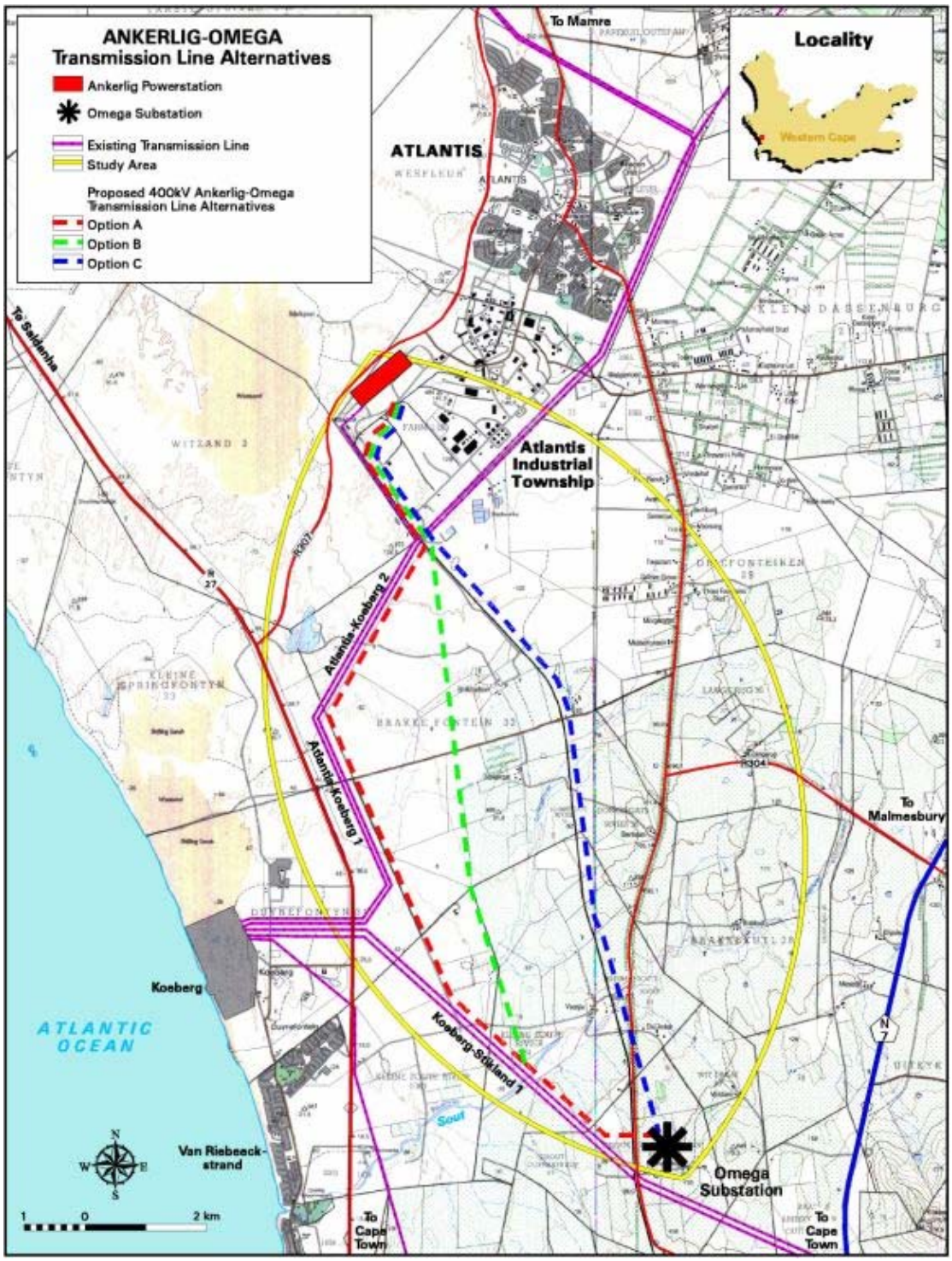
    a. No go option

    b. Proposed Option A (Red) - This alignment will follow existing transmission lines from Ankerlig to Koeberg, continuing in a straight line where the existing lines turn to the Koeberg power station, and meeting up again with lines from Koeberg to the Omega substation at a point situated in the Klein Zoute Rivier Agricultural Holdings (AH).

    c. Proposed Option B (Green) - This alignment will follow an approximately straight line route from Ankerlig to the Omega site, crossing through a portion of the Brakkefontein Shooting Range and between the Delta 200 Airstrip and the proposed municipal landfill site before passing through the Klein Zoute Rivier AH where it joins with proposed Option A at a point situated approximately 1.5km northwest of the Omega substation.

    d. Proposed Option C (Blue) - This alignment will follow the existing railway line from Atlantis Industria, passing to the east of the Brakkefontein Shooting Range and the proposed landfill site, and west of the municipal sewage works, Apollo Bricks and the Corobrick Four Wheel Drive Challenge site, before crossing through the eastern portion of the Klein Zoute Rivier AH.

Figure 1: Study area showing proposed alternatives to be assessed in this study



2. APPROACH TO STUDY

The approach to this study follows guidelines outlined in the **Western Cape Department of Environmental Affairs and Development Planning's Guidelines for involving Social Specialists in an EIA.** Box 1 below provides the definition of Social Impacts and Social Impact Assessments according to these guidelines:

Box 1: Definition of Social Impacts and Social Impact Assessment

(from Western Cape Department of Environmental Affairs and Development Planning Guidelines for involving Social Specialists in an EIA)

Social impacts can be defined 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 a physical reality, while other social impacts are perceptual or emotional." (Vanclay, 2002).

However, the issue of social impacts is complicated by the way in which different people from different cultural, ethic, religious, gender, and educational backgrounds etc view the world. This is referred to as the "social construct of reality". The social construct of reality informs people's worldview and the way in which they react to changes.

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 (Vanclay, 2002).

(Barbour, 2007:9)

This scoping study of potential social impacts that may be associated with the proposed Ankerlig Power Station Conversion and transmission line was conducted through a combination of:

- a desk-top study in which available information was reviewed,
- attendance of selected Focus Group Meetings held as part of the Public Participation process in November 2007,
- analysis and presentation of findings in accordance with principles laid out in the Provincial Guidelines, and specific reporting requirements.

These aspects are discussed in more detail below.

2.1. Desk Study

The desk study consisted of a review of:

1. Western Cape Guidelines for conducting Social Impact Assessments.
2. Previous Environmental and Social Impact Assessments undertaken for:
    a. OCGT plant (2005)
    b. OCGT Expansion (2007)
    c. Omega substation (2003)
3. City of Cape Town Integrated Development Plan and budget plans for 2007 to 2010.
4. City of Cape Town website (http://www.capetown.gov.za)
5. City of Cape Town Suburb Profiles based on statistics from Census 2001, to compile an updated socio-economic profile of the affected population.
6. Minutes of Focus Groups conducted as part of the Public Participation process for the current study.
7. Red Door Database of organisations, institutions and businesses operating in Atlantis.
8. Review of Spatial Data
    a. Maps provided by the City of Cape Town Corporate GIS Division were used to locate the study area within existing council, ward and suburb demarcation, and identify potentially affected land uses.
    b. Google Earth was used for a closer examination of current land uses along proposed transmission power line alternative alignments.

A full list of references consulted is provided at the end of this document.

2.2. Consultation

Stakeholder consultation involved attendance of selected focus group sessions that were held as part of the Public Participation process, including:

- Atlantis Residents' Association (21 November 2007)
- Melkbosstrand & Duinefontein Ratepayers Ass (21 November 2007)
- Atlantis Area Development Forum (22 November 2007)

- Atlantis Local Economic Development Forum (23 November 2007)

The purpose of attending these sessions was to serve as introduction to key community stakeholders with whom further consultation may be undertaken as part of the EIA phase, as well as get an understanding of potential social impacts based on issues raised.

2.3. Analysis and Presentation of findings

Findings from the research described above are presented in this report as follows:

Section 3 provides a description of the affected social environment with a detailed socio-economic population profile based on statistics from the 2001 Census. While the previous two OCGT assessments also used 2001 census statistics as basis for the socio-economic profile of surrounding populations, these were based on Ward delineations, while this document uses Suburb Profiles published by the City of Cape Town in 2006. This is considered relevant in this updated study, as the wards on which the previous assessments were based (Ward 1 & Ward 2 according to pre-2004 demarcation) are no longer used as official demarcation zones. The use of suburban profiles also makes it possible to draw comparisons between different areas surrounding the development. The suburbs used in the CoCT Suburb Profiles have been based on clustered suburban outlines including various census suburbs. Those used in this assessment include:

- City of Cape Town as a whole, to provide a comparative base,
- Atlantis - including Atlantis Industria, as well as the suburbs of Avondale, Wesfleur, Protea Park, Beacon Hill, Robinvale, Saxonsea, Sherwood, Beaconhill and the Town Centre, and the nearby informal settlement of Witsand.
- Melkbosstrand, including the residential areas of Duynefontein and Van Riebeeckstrand.
- Atlantis non-urban, comprised of the rural area surrounding Atlantis to the north, south, east and west stretching South to include the Klein Zoute Rivier and Morning Star Agricultural Holdings, as well as the regions indicated as ‘Malmesbury non-urban’ and ‘Koeberg’ on the Census suburb map (see Appendix 1).

Figure 2 below provides an indication of suburban boundaries used in the Suburb Profiles.

Figure 2: Map of Cape Town Suburbs used in Suburb Profiles

Source:http://www.capetown.gov.za/censusinfo/Census2001-new/Suburbs/Suburb%20Map.htm

Where information for certain social indicators was not available in the Suburb Profiles, information for the former Ward 1 and Ward 2, as presented in the Afrosearch (2005) and MasterQ (2007) social assessments has been included again in this report.

Section 4 provides a summary of key policy directives and legislation at National, Provincial and Metropolitan level that provide the context in which proposed social impacts should be assessed.

Section 5 provides an overview of potential impacts on the social environment, looking at impacts of both the power station conversion and transmission power lines, for construction as well as operational phases. The nature and extent of impacts are discussed, noting significance and comparing different alternatives considered in this study for the two project components assessed.

Section 6 makes recommendations on impacts that should be investigated in further detail in the EIA phase, noting the proposed methodology whereby this will be done.

2.4. Assumptions

The findings of this report have been based on the assumptions that:

1. All relevant project information has been provided to the consultant. Information that is still outstanding will be made available for the detailed SIA to be undertaken during the EIA phase of the project.
2. The assessment is largely based on a review of previous OCGT assessments, and addressing of gaps identified in these assessments.
3. The Public Participation Process will be responsible for extensive stakeholder consultation, findings from which are to be included in the social assessment where relevant.

3. SOCIO-ECONOMIC PROFILE OF AFFECTED POPULATION

The study area is located within the Koeberg and Blaauwberg sub-councils of the City of Cape Town Metropolitan Municipality in the Western Cape Province. According to 2006 Municipal Demarcation, Atlantis falls between Ward 29 (northwest) and Ward 32 (southeast) of the Koeberg sub-council. The transmission power line will pass through Ward 23 of the Blaauwberg sub-council, through the Klein Zoute River Agricultural Holdings, past the residential areas of Melkbosstrand, Van Riebeeckstrand and Duynefontein. Suburb and sub-council/ ward maps are included in **Appendix 1**.

The population potentially affected by the development include:

- Residents of Atlantis, particularly the suburbs of Avondale, Wesfleur, Protea Park, Beacon Hill and Robinvale, and the nearby informal settlement of Witsand, situated in close proximity to the Industrial area (Conversion, Transmission Line).
- Residents of Melkbosstrand, Duynefontein and Van Riebeeckstrand (Conversion, Transmission Line)
- Users of land situated between Atlantis and the Omega substation site (transmission power line), including:
    - Brakkefontein Shooting Range
    - Apollo Bricks
    - Users of the Delta 200 Airstrip
    - Users of the Corobrick Four Wheel Drive Challenge site
    - Residents of Klein Zoute River Agricultural Holdings (Transmission Line).
    - Landowners of farms situated in the Malmesbury non-urban area immediately south of Atlantis Industrial Area.
- Residents of Morning Star Agricultural Holdings south of the Omega substation (transmission power line).

3.1. Historical background of Atlantis

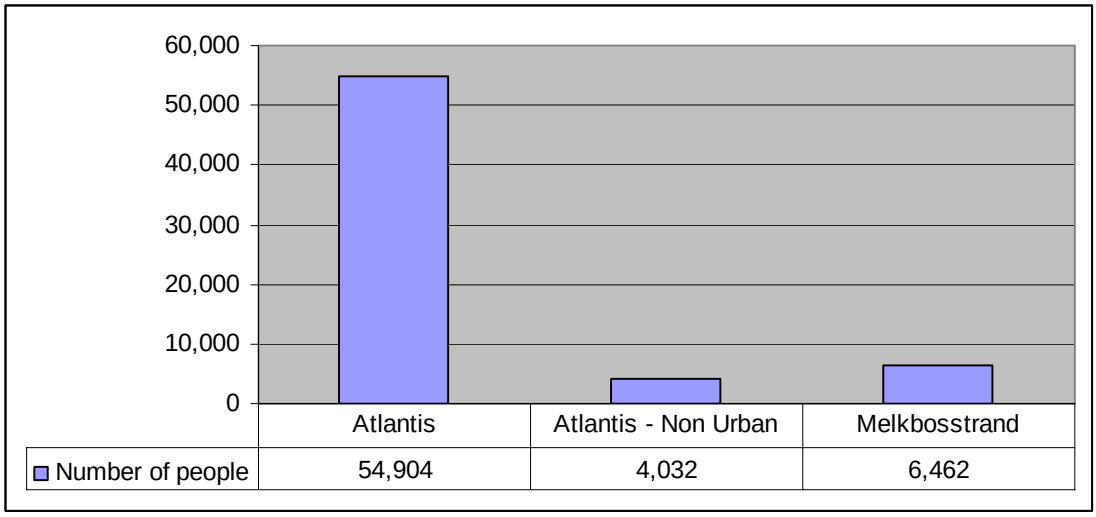
Atlantis was established in the early 1980s as part of the apartheid government's Industrial Decentralisation Policy of 1962, which was aimed at promoting industrial growth in less developed areas. To encourage occupation of the industrial area, the government introduced incentives such as subsidies and tax breaks. A period of economic growth followed, during which the population of Atlantis also increased. (Afrosearch 2005)

In the early 1990s however, the aforementioned subsidies were discontinued. As a result, many businesses in the area closed down or moved to more attractive locations closer to the Cape Town metropolitan area. The crumbling of the economic infrastructure of Atlantis led to large-scale job losses among its population. As a consequence of these events, the current social profile of Atlantis is characterised by widespread poverty and social problems (Afrosearch 2005).

3.2. Demographic Profile

The total population of the City of Cape Town was about 2.9 million people according to the 2001 Census. Within the study area, the Atlantis population comprised of just under 55 000 people, while the surrounding non-urban areas (Atlantis non-urban according to suburb profiles) housed just over 4 000 people, and just under 6 500 people resided in the Melkbosstrand area (see **Figure 3**). It is worth noting that more recent population estimates cited by the City of Cape Town estimate the total population of Atlantis at around 100 000 people (CoCT, 2007(2)).

Figure 3: Population distribution across the study area

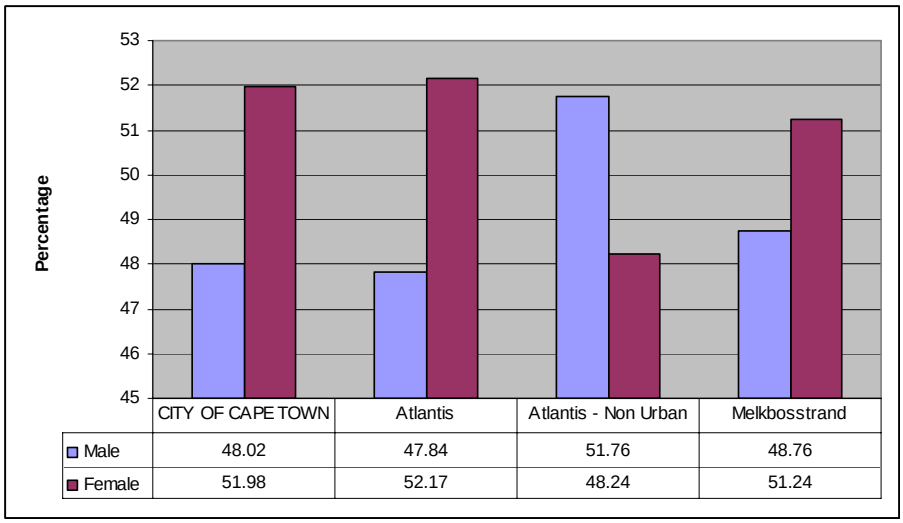


Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

3.2.1. Gender distribution

Figure 4 below shows gender distribution to have been reasonably equal across these areas, with slightly more females than males in all areas except Atlantis non-urban, where males predominate by a slight margin. This could indicate this area to have more male (possibly migrant) employees working on farms.

Figure 4: Gender Distribution

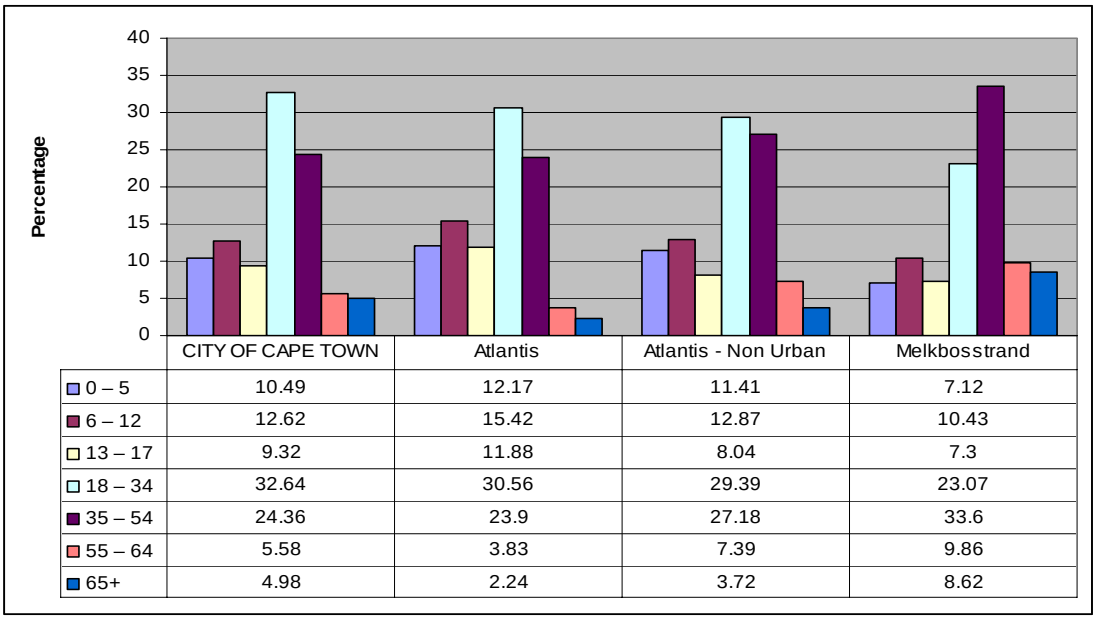


Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

3.2.1. Age distribution

The age distribution in Atlantis is slightly younger than the average for the City of Cape Town, with a larger percentage (just under 40%) aged under 17. The corresponding percentage in Melkbosstrand is significantly lower at only 24%, shown in **Figure 5**. By contrast the percentage of older people in the age categories above 35 is significantly higher in Melkbosstrand (~55%) than in the broader Cape Town (~35%) or Atlantis (28%) and surrounding non-urban areas (37%). Almost a third of the population in Atlantis are between the ages of 18 and 34, while a quarter are aged 35 to 54. These age groups may be considered as the potential labour force, together comprising about 55% of the Atlantis population, and 57% of Atlantis non-urban. The different age-profiles is relevant to consider when assessing potential types of social impacts on the respective populations of Atlantis, Melkbosstrand and surrounding areas.

Figure 5: Age Distribution



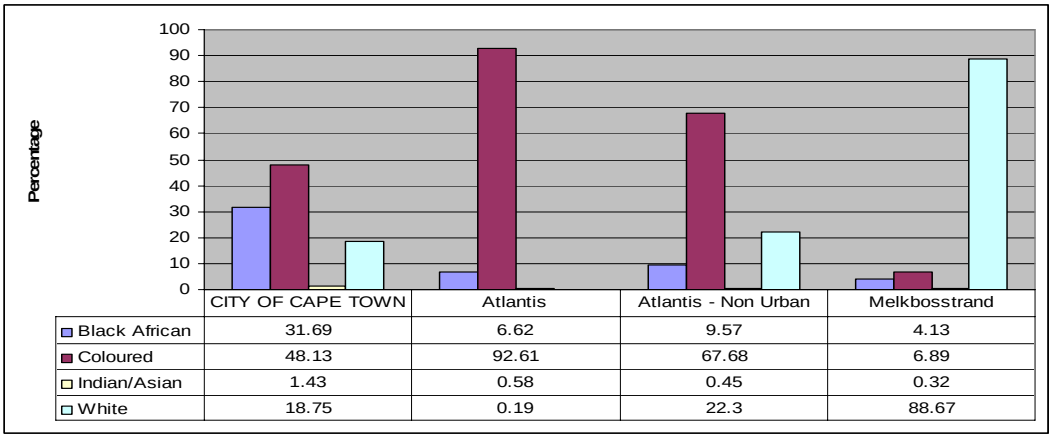
	CITY OF CAPE TOWN	Atlantis	Atlantis - Non Urban	Melkbosstrand
0 – 5	10.49	12.17	11.41	7.12
6 – 12	12.62	15.42	12.87	10.43
13 – 17	9.32	11.88	8.04	7.3
18 – 34	32.64	30.56	29.39	23.07
35 – 54	24.36	23.9	27.18	33.6
55 – 64	5.58	3.83	7.39	9.86
65+	4.98	2.24	3.72	8.62

Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

3.2.3. Population group

Figure 6 shows the Atlantis population to be predominantly Coloured (92.6%), with a small percentage (6.6%) Black African and less than one per cent respectively White and Indian. It is worth noting that population projections for the Western Cape show significantly larger growth amongst the Black African population than other groups (Romanovsky 2006). It can thus be expected that this group may have increased proportionately within Atlantis and surrounding areas. The population of Atlantis non-urban is also predominantly Coloured (68%) according to the 2001 census, with a significantly greater percentage of Whites (22%) and slightly more Black African (10%). By contrast Melkbosstrand is predominantly White (89%).

Figure 6: Population Group



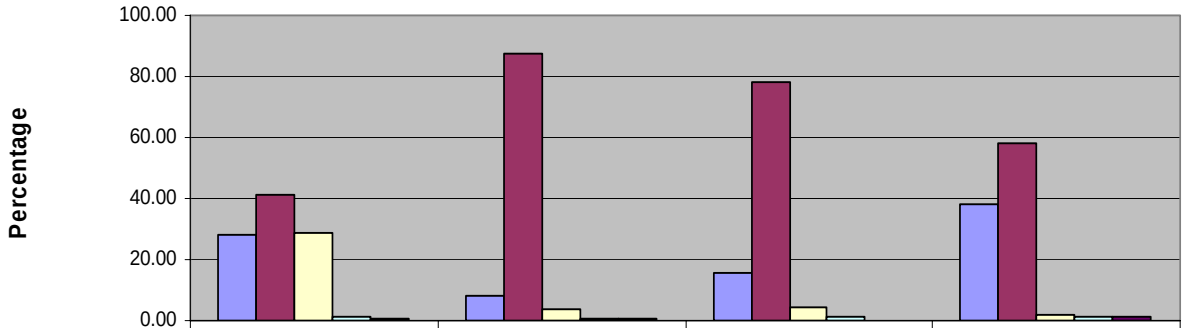
	CITY OF CAPE TOWN	Atlantis	Atlantis - Non Urban	Melkbosstrand
Black African	31.69	6.62	9.57	4.13
Coloured	48.13	92.61	67.68	6.89
Indian/Asian	1.43	0.58	0.45	0.32
White	18.75	0.19	22.3	88.67

Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

3.2.4. Language

Afrikaans is the most common language spoken in Atlantis (87%), Atlantis non-urban (78%) and to a somewhat lesser extent Melkbosstrand (58%). English is the first language of 38% of Melkbosstrand residents, 16% of those in Atlantis non-urban, and less than 10% of the Atlantis community. (See **Figure 7**Figure)

Figure 7: Language Distribution



	CITY OF CAPE TOWN	Atlantis	Atlantis - Non Urban	Melkbosstrand
English	27.95	8.2	15.55	37.96
Afrikaans	41.43	87.24	78.37	57.83
Xhosa	28.74	3.76	4.64	1.62
Other African	1.32	0.44	1.29	1.25
Other	0.56	0.36	0.15	1.35

Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

3.3. Education, Health and Social Services

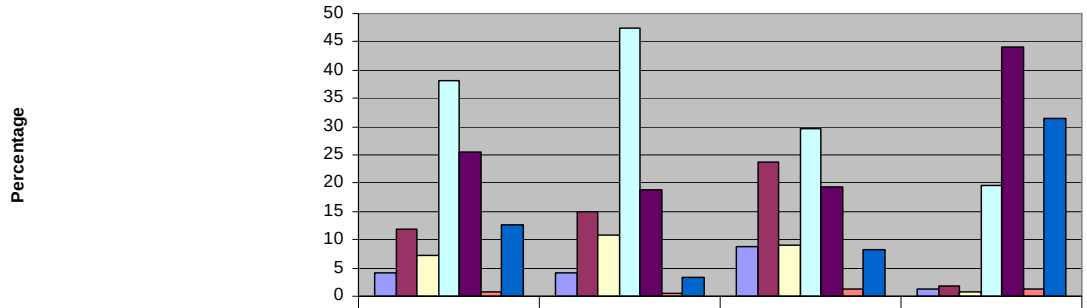
Education and health may be considered as key factors contributing to social well-being. These issues are discussed below, followed by a look at existing social services.

3.3.1. Educational Profile

Educational facilities in Atlantis include four high schools, 13 primary schools, three special schools catering for students with special needs, and two higher institutions, namely AETI and the West Coast College (Red Door Database, 2007).

Figure 8 shows that just over 20% of Atlantis residents aged over 20 had completed matric in 2001, and of these less than 4% had attained any further levels of education (the majority (3%) being a certificate or diploma with less than 0.5% citing any types of degrees). The percentage with 'no schooling' was slightly higher in Atlantis non-urban at 9%, compared to 4% in Atlantis (similar to that for Cape Town as a whole). By contrast Melkbosstrand had less than 2% with no education, over three quarters had completed matric, and just under a third had attained some level of tertiary education, about half of which certificates, with the other half being various levels of degrees.

Figure 8: Highest Level of Education attained by persons aged 20+



	CITY OF CAPE TOWN	Atlantis	Atlantis - Non Urban	Melkbosstrand
No schooling	4.21	4.05	8.84	1.29
Some Primary	11.8	15.07	23.61	1.86
Complete Primary	7.11	10.76	8.92	0.71
Some Secondary	38.06	47.45	29.7	19.47
Complete Secondary	25.43	18.8	19.31	44.12
Certificate with less than grade 12	0.81	0.48	1.28	1.22
Some/ complete Tertiary/ Certificates	12.59	3.4	8.31	31.33

Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

3.3.2. Health Profile

Health facilities in and around Atlantis include the Wesfleur Hospital, Wesfleur Medical Centre and Wesfleur Private Clinic, as well as Protea Park and Saxon Sea clinics, and the Mamre Clinic (Red Door Database, 2007).

Atlantis fell within the former Blaauwberg Health District, which was incorporated into the Northern Panorama Health District in 2003. Northern Panorama is the largest Health District in Cape Town, with a total population estimated at 530 153 for 2006, projected to increase to 647 832 by 2011 (Romanovsky, 2006.)

While the most common cause of death recorded in Blaauwberg district in 2002 (9.4% of deaths) as well as 2003 (8.7%) was Ischaemic heart disease, HIV/ AIDS had risen to the greatest killer by 2004 (7% of total deaths). TB accounted for a further 4.5% of deaths in 2004.

HIV Prevalence in the Blaauwberg District was estimated at 4.5% in 2003/4 according to an ANC HIV Prevalence Survey. This was significantly lower than elsewhere in Cape Town, with areas such as Gugulethu/ Nyanga and Khayelitsha having prevalence rates of 28.1% and 27.2% respectively, and Cape Town Central a rate of 11.1% (City of Cape Town, 2004).

Total TB incidence in the District stood at 513 people in 2002, with the total rate recorded for Cape Town was 7 366 infections. The TB cure rate for 2001 was 70%, and the success rate 75%, which is somewhat below the average rate for the broader Cape Town of 76% cure rate and 82% success rate (CoCT, 2004).

Focus Areas of the City of Cape Town's Environmental Health and Safety Department include the following: Air Quality Management; Sanitation and Housing; Planning and Building Development; Institutional Health & Safety;

Disease Control; Food Quality & Safety; Noise Management; Smoking in Public Places; Water Quality & Safety.

3.3.3. Social Services

There is a lack of suitable state welfare programmes to meet the specific needs of the area. A Multi-Purpose Community Centre that was erected in Atlantis, and that is capable of providing various social services, remains largely under-utilised. The rapidly growing incidence of HIV/AIDS infection is placing an increasing burden on existing health services, including hospital and medical facilities. (Afrosearch 2005)

The Red Door Database (2007) lists a total of 67 Community Based Organisations (CBOs) operating in Atlantis. Local Government Offices of the Blaauwberg District Council dealing with Social Services include a District Office situated in Atlantis Industria, and a Satellite Office in Sherwood.

The high levels of poverty and unemployment in the area have led to widespread frustration and hopelessness. These, in turn, have resulted in an increase in substance abuse (including alcoholism) and other social problems, such as high incidence of rape, murder and domestic violence, child abuse and prostitution. (Afrosearch 2005).

3.4. Employment and income

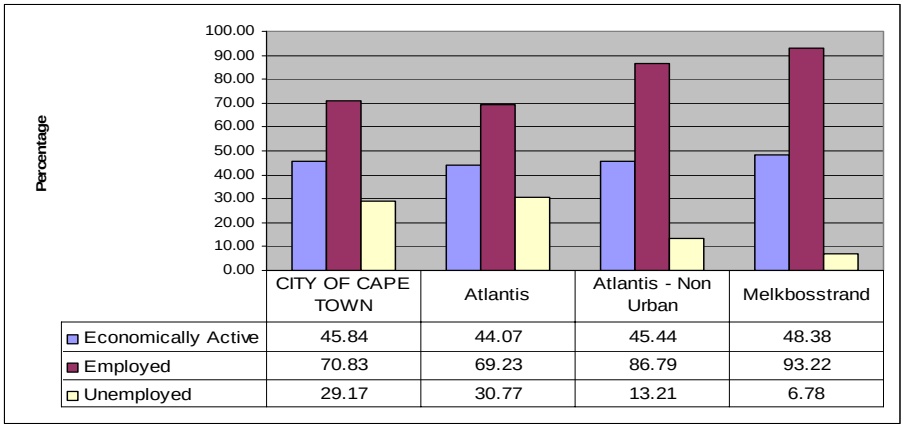
This section provides an overview of employment and income characteristics in the study area, looking at the size and structure of the labour force, as well as occupational status, sectors of employment and income levels.

3.4.1. Labour Force

The labour force, or economically active population[2] comprised of about 46% of City of Cape Town residents aged between 15 and 65 in 2001 (see **Figure 9**). Figures for the study area are similar, though slightly lower for Atlantis at 44%, and higher for Melkbosstrand (48%). Of those indicated as economically active, who can be considered the actual and potential labour force, 31% in Atlantis are unemployed, slightly higher than the average for the City of Cape Town as a whole. Corresponding percentages are much lower for Atlantis non-urban (13%), and Melkbosstrand (7%).

[2] A person of working age (15–65 years) who is available for work, and is either *employed* or *unemployed*.

Figure 9: Work Status - Economically Active population

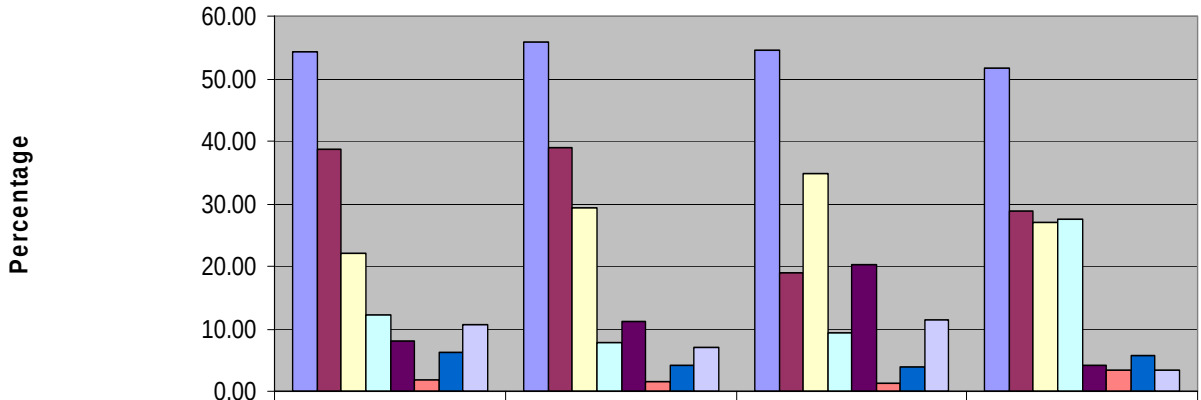


	CITY OF CAPE TOWN	Atlantis	Atlantis - Non Urban	Melkbosstrand
Economically Active	45.84	44.07	45.44	48.38
Employed	70.83	69.23	86.79	93.22
Unemployed	29.17	30.77	13.21	6.78

Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

Of those indicated as economically inactive, almost 40% in Atlantis were cited as scholars or students, reflecting the youthful population structure. The corresponding percentage for Melkbosstrand was about 10% lower. By contrast the percentage of pensioners in Melkbosstrand (27%) was about 20% higher than in Atlantis (7%). The most common reason for economic inactivity in Atlantis non-urban was cited as homemakers/ housewives (35%), followed by illness/ disability, cited by 20%, which is almost double than that for Atlantis (11%) and five times more than in Melkbosstrand (4%). The percentage who appear to have 'given up' looking for work, citing inactivity due to being unable to find work, was also higher in Atlantis non-urban at 12% compared to 7% in Atlantis and 3% in Melkbosstrand (see **Figure 10**).

Figure 10: Work Status - Economically Inactive



	CITY OF CAPE TOWN	Atlantis	Atlantis - Non Urban	Melkbosstrand
Economically Inactive	54.16	55.93	54.56	51.62
Scholar or student	38.59	39.03	18.94	28.86
Home-maker or housewife	22.19	29.44	34.92	26.99
Pensioner/ retired	12.3	7.75	9.31	27.45
Illness/ disability	7.99	11.17	20.21	4.21
Seasonal worker	1.86	1.62	1.27	3.41
Does not choose to work	6.36	4.07	3.81	5.68
Could not find work	10.71	6.92	11.53	3.41

Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

3.4.2. Occupational status

Of the economically active residents of Atlantis that are employed, approximately 12% commute to jobs outside Atlantis. Another 25% are employed by local industries, and 5% are employed by small- medium- and micro-enterprises (SMMEs). A significant number of jobs in Atlantis (2700) are held by outsiders who commute to the area. These jobs generally fall in the educational and other professional occupational categories (Afrosearch 2005).

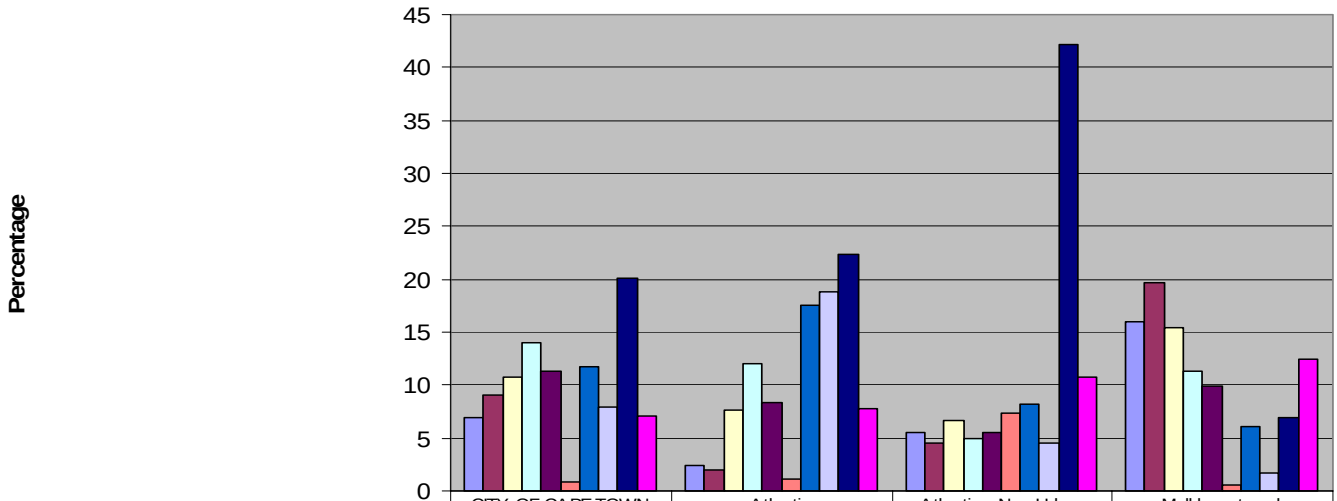
Over 40% of those employed in the Atlantis non-urban area in 2001 were engaged in elementary occupations[3] (presumably largely farm labour). By comparison only 22% of employed Atlantis residents were cited in such elementary occupations, although this was still the predominant occupation. Also common however were plant and machine operators and assemblers (19%) as well as craft and related trade workers[4] (18%), while 12% were cited as clerks (see **Figure 11**).

[3] Elementary occupations include: Street vendors and related workers; Shoe cleaning and other street services' elementary occupation; Domestic and related helpers and related workers; Garbage collectors and related labourers; Mining and construction labourers; Manufacturing labourers; Transport labourers and freight handlers (International Labour Organization (2003)

[4] Craft- and trade-related occupations include: Miners, shot-firers, stonecutters and carvers; Buiilding frame and related trades workers; Painters, building structure cleaners and related trade workers; Metal moulders, welders, sheet-metalworkers, structural-metal preparers and related trades workers;

The presence of these skills should be considered with regards to possible employment opportunities that the proposed development may offer.

Figure 11: Occupation of Labour Force



	CITY OF CAPE TOWN	Atlantis	Atlantis - Non Urban	Melkbosstrand
Legislators, senior officials and managers	6.93	2.42	5.47	15.96
Professionals	9.12	1.92	4.53	19.7
Technicians and associate professionals	10.72	7.71	6.6	15.41
Clerks	14	11.98	4.91	11.36
Service workers, shop and market sales workers	11.33	8.29	5.47	9.88
Skilled agricultural and fishery workers	0.88	1.2	7.42	0.51
Craft and related trades workers	11.81	17.6	8.18	6.07
Plant and machine operators and assemblers	7.98	18.77	4.53	1.75
Elementary occupations	20.14	22.37	42.14	6.9
Undetermined	7.1	7.72	10.75	12.49

Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

3.4.3. Sectors of employment

Manufacturing represents the largest source of employment in the area (37% in Ward 1 and 27% in Ward 2) (Afrosearch 2005). A total of 107 Manufacturers are listed in a database of Red Door, an organisation concerned with promoting Local Economic Development in the area.

The area experienced increases in employment in the construction, financial, real estate, business and wholesale sectors between 1996 and 2001 (Afrosearch 2005). The Red Door Database lists a total of 59 SMMEs concerned with construction and building activities. Other SMMEs listed include Automotives (4), Bed and Breakfasts (9), Manufacturing (6), Catering (5), Cleaning services (4),

---

Blacksmiths, toolmakers and related trades workers; Machinery mechanics and fitters; Electrical and electronic equipment mechanics and fitters; Precision workers in metal and related materials; Potters, glass-makers and related trades workers; Handicraft workers in wood, textile, leather and related materials; Printing and related trades workers; Food processing and related trades workers; Wood treaters, cabinet-makers and related trades workers; Textile, garment and related trades workers; Felt, leather and shoemaking trades workers. (International Labour Organization (2003)

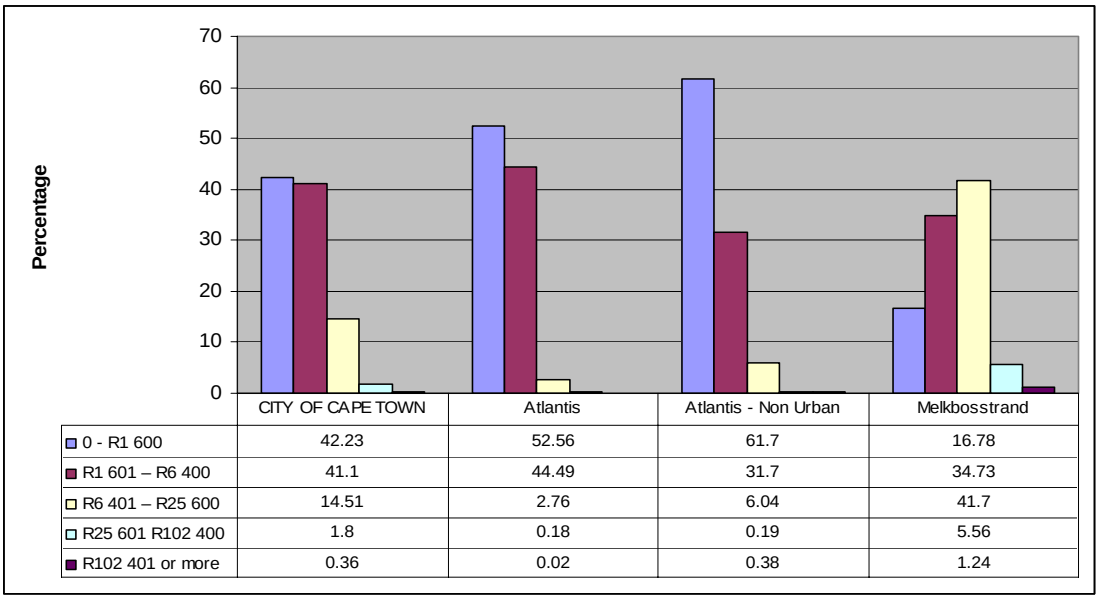
Engineering (8), Information Technologies (2) Labour Consultants (4), Maintenance (18), Retain Suppliers (5), Security Services (5), Services (19), and Transport (11). (Red Door Database, 2007)

Sectors which experienced the largest setback in terms of growth includes the mining industry (a decrease of 32%) and, to a much smaller extent electricity, gas and water services (a decrease of 10%) (Afrosearch 2005).

3.4.4. Income

Over half of those employed in Atlantis, and 62% in Atlantis non-urban earned less than R1 600 per month in 2001, with almost all the remainder (45% in Atlantis and 32% in Atlantis non-urban) earning between R1 600 and R6 400 per month. Income of Melkbosstrand residents was notably higher, with about half earning over R6 400 per month (see **Figure 12**).

Figure 12: Monthly income of earners

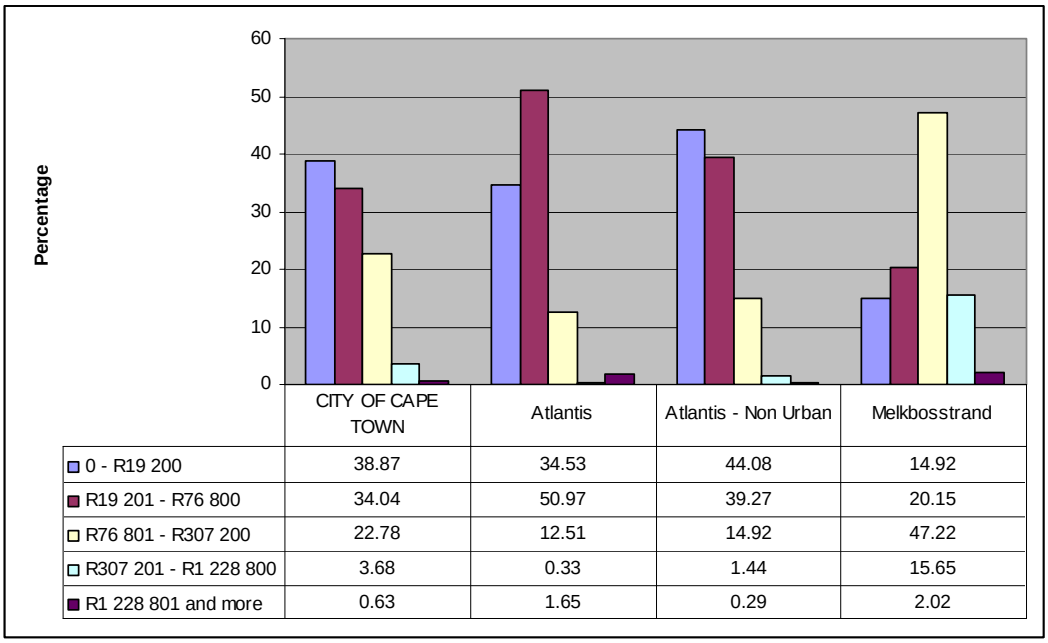


	CITY OF CAPE TOWN	Atlantis	Atlantis - Non Urban	Melkbosstrand
0 - R1 600	42.23	52.56	61.7	16.78
R1 601 – R6 400	41.1	44.49	31.7	34.73
R6 401 – R25 600	14.51	2.76	6.04	41.7
R25 601 R102 400	1.8	0.18	0.19	5.56
R102 401 or more	0.36	0.02	0.38	1.24

Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

Over a third of Atlantis households lived on less than R19 200 per annum in 2001, with a further 50% citing an annual household income of between R19 200 and R76 800. The corresponding percentage for the lowest income group in Atlantis non-urban was 10% higher, with 44% with an annual household income of less than R19 200, with a further 40% in the group between R19 200 and R76 800. By contrast Melkbosstrand only had 14% and 20% of households in these lower income brackets, with about 65% of households citing an income of greater than R76 800 per annum (see **Figure 13**).

Figure 13: Annual Household Income



	CITY OF CAPE TOWN	Atlantis	Atlantis - Non Urban	Melkbosstrand
0 - R19 200	38.87	34.53	44.08	14.92
R19 201 - R76 800	34.04	50.97	39.27	20.15
R76 801 - R307 200	22.78	12.51	14.92	47.22
R307 201 - R1 228 800	3.68	0.33	1.44	15.65
R1 228 801 and more	0.63	1.65	0.29	2.02

3.5. Housing and Services

Access to housing and basic infrastructure and services including energy, as well as water provision and sanitation may be considered as a general measure of well-being indicating households' level of living as well as potential vulnerability status. These are discussed below. Access to energy is particularly highlighted also at National level as this will be directly impacted by the proposed development.

3.5.1. Housing

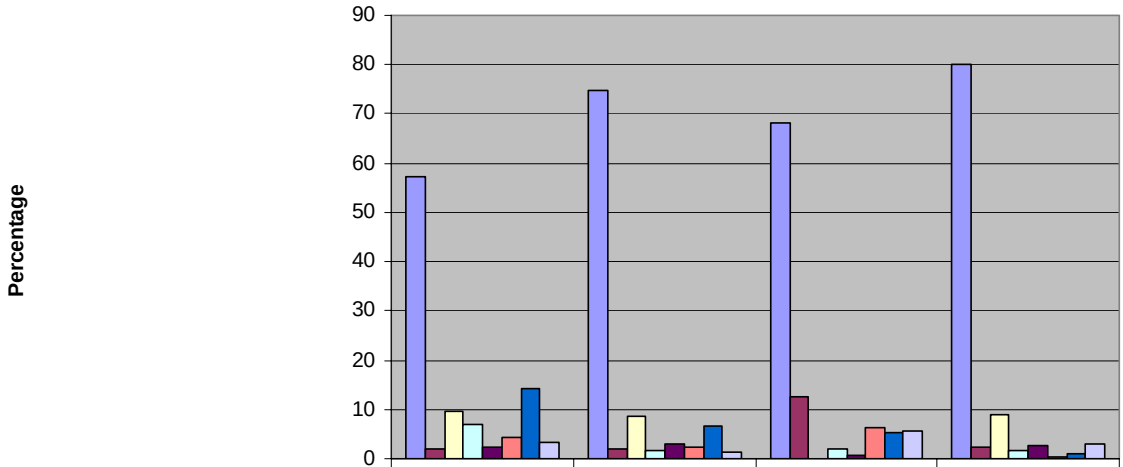
Atlantis has experienced land invasions and the growth of informal settlements, especially in the area that has become known as Witsand. These informal settlements are home to locals who have lost their homes as a result of rising unemployment, farm labourers who are no longer able to secure work and accommodation on the surrounding farms and smallholdings, and job seekers attracted to the area by the prospect of finding work (Afrosearch 2005).

Figure 14 shows that the percentage of households residing in a 'house or brick structure on a separate stand or yard' is higher across the study area than in the City of Cape Town as a whole, but most so in Melkbosstrand (80%), followed by Atlantis at 75%, and least in Atlantis non-urban (68%). Atlantis non-urban has the greatest percentage residing in traditional dwellings[5] (12%), while Atlantis and Melkbosstrand both have around 9% residing in flats. The percentage in informal dwellings is lower than that for the broader Cape Town (18%) in all parts

5 A dwelling made of clay, mud, reeds or other locally available materials. This is a general term which includes huts, rondavels, etc. Such dwellings can be found as single units or in clusters.

of the study area, but notably higher in Atlantis non urban (11% - mostly shacks in back yards) and Atlantis (9%- predominantly *NOT* in back yards, which would include residents of the Witsand settlement) than in Melkbosstrand (1%). The potential impact of the proposed development on informal settlements resulting from a population influx is discussed in Section 5.1.2.

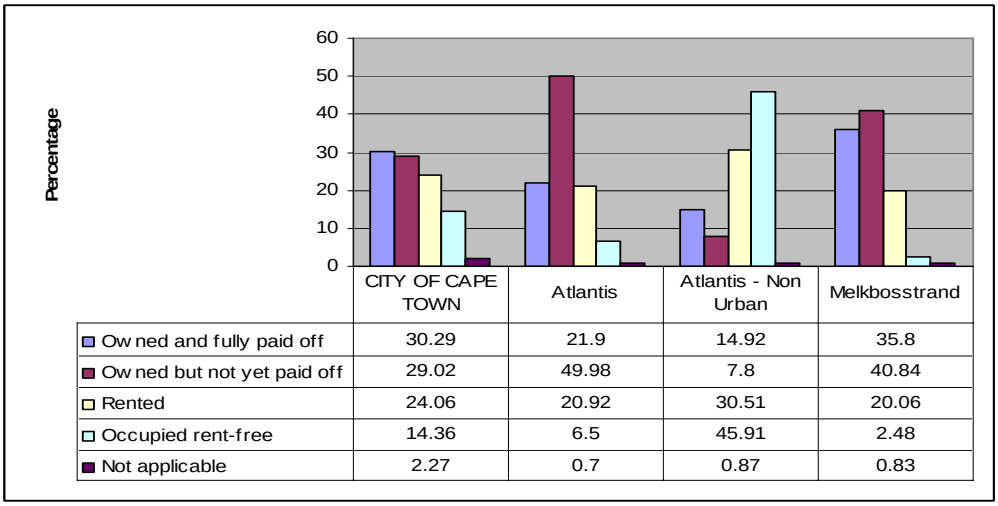
Figure 14: Dwelling Type



	CITY OF CAPE TOWN	Atlantis	Atlantis - Non Urban	Melkbosstrand
House or brick structure on a separate stand or yard	57.32	74.78	68.05	79.94
Traditional dwelling/hut/structure made of traditional materials	1.91	1.84	12.42	2.34
Flat in block of flats	9.7	8.57	0	8.86
Town/cluster/semi-detached house (simplex; duplex; triplex)	6.87	1.49	2.02	1.51
House/flat/room in back yard	2.48	2.84	0.58	2.75
Informal dwelling/shack in back yard	4.21	2.47	6.26	0.41
Informal dwelling/shack NOT in back yard	14.18	6.67	5.2	1.1
Other	3.33	1.33	5.49	3.03

While over 70% of Atlantis households live in dwellings which they own, only 22% have fully paid these off. Half of all household are living in houses they are paying off. This represents a significant expense in a community with low income levels as shown above. By comparison, 36% of Melkbosstrand households live in houses that are owned and fully paid, and a further 40% in houses they are paying off. In Atlantis non-urban the majority of households either reside rent-free (46%, possibly referring to farm labourers), or rented housing (31%). Housing ownership is relevant to consider when assessing potential impact on people's sense of and attachment to place and personal investment in the area (see **Figure 15**).

Figure 15: Dwelling Ownership



	CITY OF CAPE TOWN	Atlantis	Atlantis - Non Urban	Melkbosstrand
Owned and fully paid off	30.29	21.9	14.92	35.8
Owned but not yet paid off	29.02	49.98	7.8	40.84
Rented	24.06	20.92	30.51	20.06
Occupied rent-free	14.36	6.5	45.91	2.48
Not applicable	2.27	0.7	0.87	0.83

Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

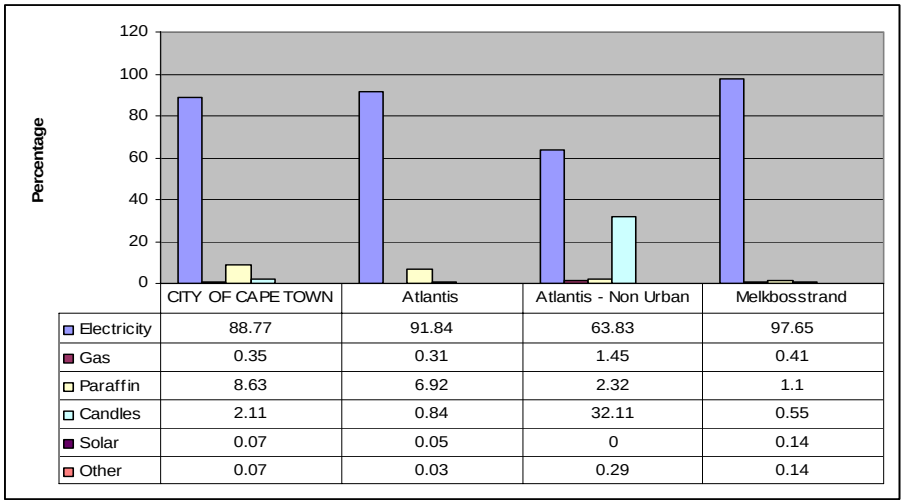
The City of Cape Town's Blaauwberg Sub-council has earmarked R1.9million for a Melkbos Housing Project, while the Koeberg sub-council has earmarked R3million for Phase 2 of the Witsand Housing Project and R2million for the Atlantis Housing Project respectively between 2007 and 2010. Section 3.7 provides more information on planned capital expenditure over this period.

3.5.2. Energy

According to the 2001 Census, 70% of South Africa's population used electricity as primary source of energy for lighting. The corresponding figure in the Western Cape was significantly higher at 88%, with that in the City of Cape Town being 89%. The current project is intended to provide additional capacity to the National grid, which will thus have a National impact affecting the South African population of close to 50 million people belonging to about 12 million households according to the 2001 Census. The impact of the proposed project on electricity provision is discussed in Section 5.2.1.

Within the study area electricity use for lighting is almost universal in Melkbosstrand (98% of households) and only slightly less common in Atlantis (92%) where paraffin is the other form most cited (7%). Atlantis non-urban noted this to be slightly less common at only 64% of households using electricity for lighting, with a 32% relying on candles, and smaller percentages on gas, paraffin and other sources of energy (see **Figure 16**).

Figure 16: Sources of Energy for lighting



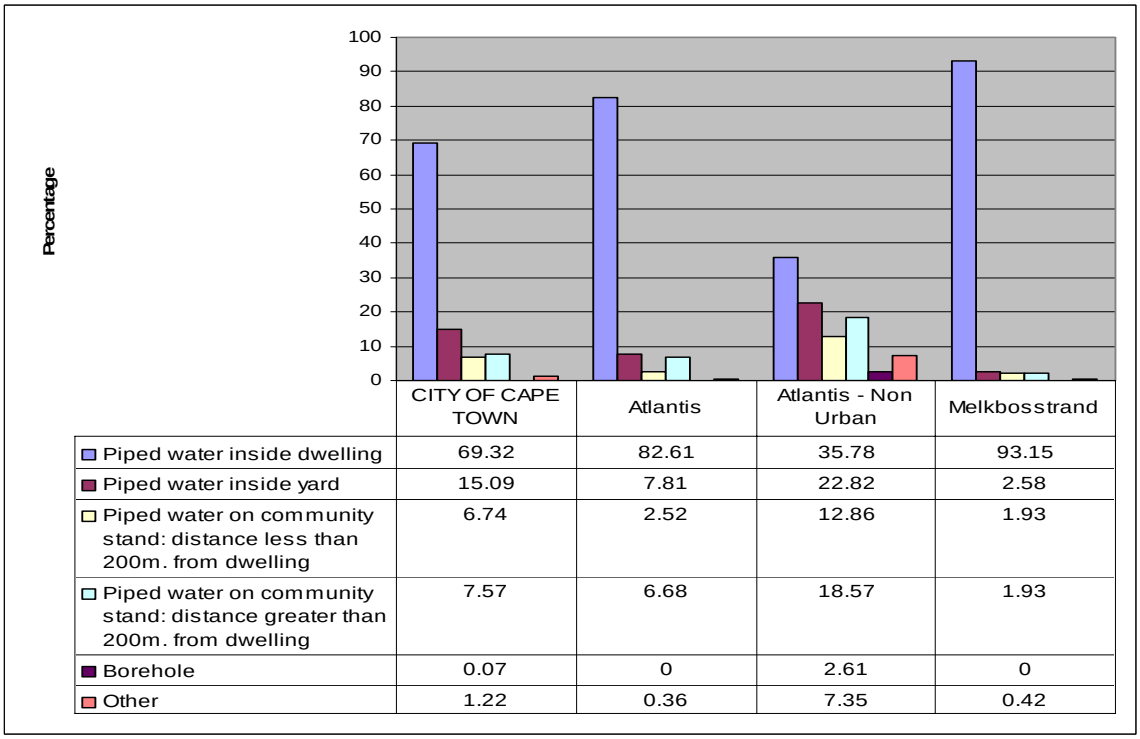
	CITY OF CAPE TOWN	Atlantis	Atlantis - Non Urban	Melkbosstrand
Electricity	88.77	91.84	63.83	97.65
Gas	0.35	0.31	1.45	0.41
Paraffin	8.63	6.92	2.32	1.1
Candles	2.11	0.84	32.11	0.55
Solar	0.07	0.05	0	0.14
Other	0.07	0.03	0.29	0.14

Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

3.5.3. Water

Atlantis receives the bulk of its water supply from the Atlantis aquifer. Access to piped water inside dwellings is higher in Atlantis (83%) and Melkbosstrand (93%) than in the broader Cape Town (69%). This percentage is significantly lower in Atlantis non-urban at only 36%, with 23% citing piped water in the yard, and over 30% piped water on a community stand, mostly over 200m from the dwelling (see **Figure 17**).

Figure 17: Access to Water



	CITY OF CAPE TOWN	Atlantis	Atlantis - Non Urban	Melkbosstrand
Piped water inside dwelling	69.32	82.61	35.78	93.15
Piped water inside yard	15.09	7.81	22.82	2.58
Piped water on community stand: distance less than 200m. from dwelling	6.74	2.52	12.86	1.93
Piped water on community stand: distance greater than 200m. from dwelling	7.57	6.68	18.57	1.93
Borehole	0.07	0	2.61	0
Other	1.22	0.36	7.35	0.42

Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

3.5.4. Sanitation

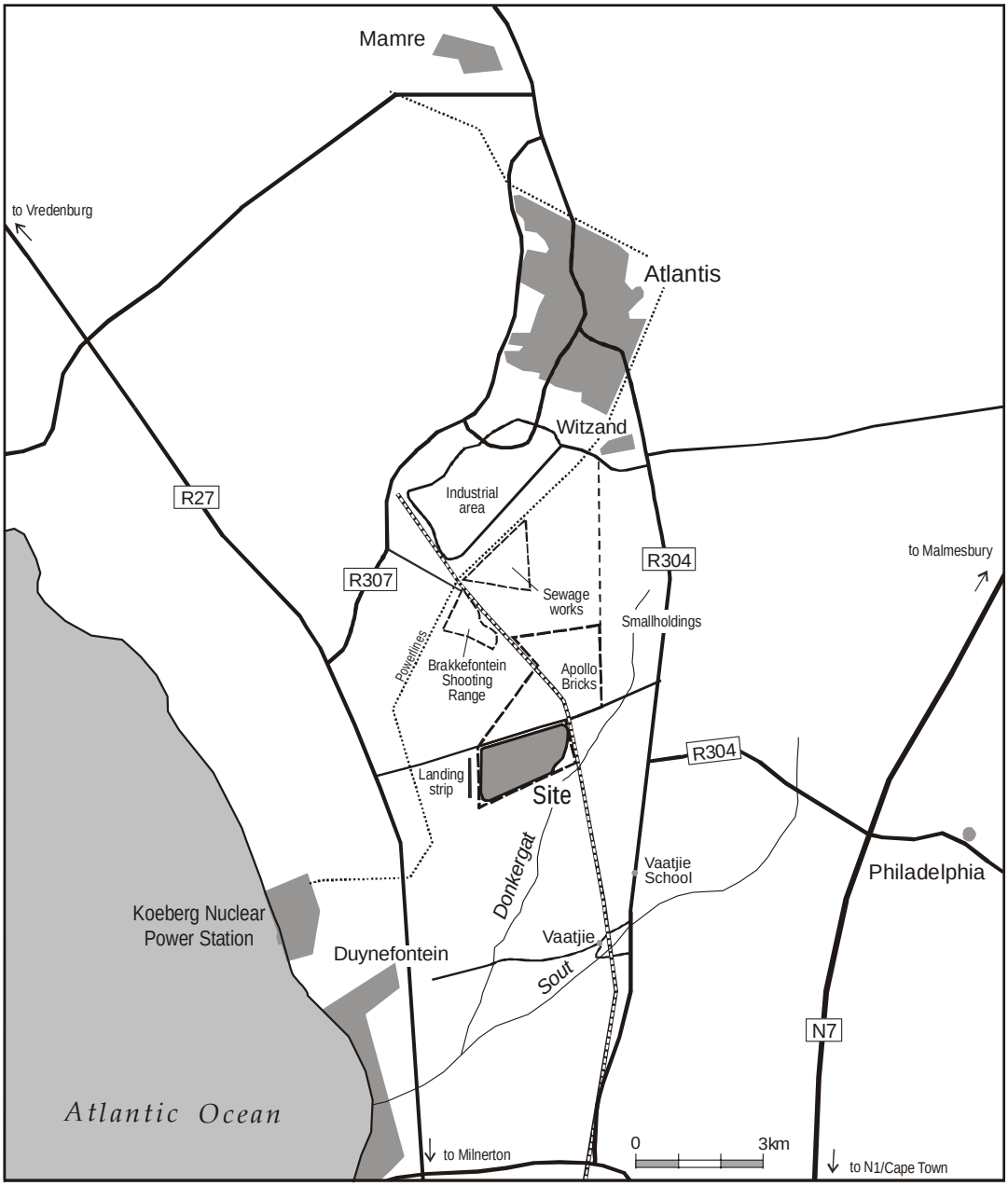
The comparatively lower levels of living prevalent in the Atlantis non-urban area is highlighted in terms of access to sanitation facilities, with only half of all households having access to flush toilets (including both sewerage and septic tanks), compared to over 90% in Atlantis and Melkbosstrand. About a fifth of Atlantis non-urban households have no sanitation facilities, while 17% rely on bucket latrines. The remainder use chemical toilets and pit latrines.

3.5.5. Refuse removal

While almost all households in Atlantis and Melkbosstrand had refuse removed by the local authority in 2001, this was true for less than a quarter of households in Atlantis non-urban, the majority (65%) of whom use their own refuse dumps. The potential impact of the proposed transmission line on a proposed municipal landfill site planned for the area needs to be considered in selecting a preferred corridor.

Figure 18 below shows the location of the proposed landfill site, situated immediately south of the Brakkefontein road, east of the Delta 200 Airstrip, and southwest of Apollo Bricks.

Figure 18: Proposed location of municipal landfill site



3.5.6. Transport

Travelling by foot is the dominant mode of transport to work or school in Wards 1 and 2, followed by minibus taxis. The use of buses is somewhat less frequent. Due to the absence of passenger train services in the area, very little use is made of this form of transport (Afrosearch, 2005).

3.6. City Development Index

The City Development Index (CDI) is an average of the following indices: infrastructure (water, sewerage, telephone and electricity) health (life expectancy, divided by infant mortality), education (adult literacy and gross

enrolment ratio) and income (mean household income). Overall, the City of Cape Town has a higher CDI of 0,88 compared to 0,81 for the rest of the Western Cape Province (see **Table 1** below). Cape Town out-performed the rest of the province in terms of infrastructure, income and waste disposal.

Atlantis rates slightly lower than the City average at 0.86, but still higher than the broader Western Cape Province. Its rating for health is however slightly lower than that for both City and Province. Melkbosstrand by contrast rates higher than the City of Cape Town at 0.92, scoring higher in all indices.

Table 1: City of Cape Town CDI (Selected suburbs - sorted by CDI), May 2005

Suburbs	Infrastructure	Waste	Health	Education	Income	CDI
Province	0.79	0.89	0.68	0.86	0.82	0.81
Cape Town	0.93	0.99	0.69	0.88	0.91	0.88
Atlantis	0.88	0.96	0.67	0.9	0.9	0.86
Melkbosstrand	0.96	0.97	0.71	0.94	1.01	0.92
Source: Measuring the State of development in the Western Cape –May 2005, cited in City of Cape Town Socio-economic Profile, 2006.						

3.7. Plans for economic development

Despite its current problems, Atlantis offers significant potential for economic development. Its assets include proximity to the West Coast Biosphere, the historical settlements of Mamre and Pella and the expanding high-income housing developments on the West Coast. Large areas of land are currently services for industrial investment, and are available at very low cost. Because of this development potential, the Cape Town Metropolitan Municipality IDP (2004) identified Atlantis as one of the focal areas for residential upgrading. This upgrading process will involve (Afrosearch 2005):

- Upgrade of tenure
- The creation of public spaces
- An *in-situ* upgrade integrated into housing strategy
- Safety and security interventions in hotspot areas
- Community participation and conflict resolution processes
- Clustered public investment and economic development initiatives, and
- A Public Works programme in partnership with Provincial Government.

The City of Cape Town recently put 24 City-owned properties to tender, 16 of which have been sold to private investors for the establishment of industrial plants and commercial activities. Other City initiatives include the development of urban agriculture, assistance with the Mamre land reform project, management of the business hives in Atlantis and Mamre, and funding of the small business support voucher programme which is accessible through the Atlantis Red Door offices. (CoCT 2007 (1))

Other key attractions in the area include the annual Atlantis Arts and Crafts festival and Camphill Village - a working community farm that produces herbs, vegetables, nursery plants and dairy products. (CoCT 2007 (1))

Plans are in place to develop the potential of the Witsand housing development area - which currently only has spaza shops - to attract retailers to the area. The City is sub-contracting local residents to help install street signs to guide tourists to craft centres and bed and breakfast establishments. (CoCT 2007 (1))

The City is in the process of developing an economic development action plan for the area. *"The plan will look at the cross spectrum and sequence of activities that need to be pursued by government, private sector and communities in order to address deficiencies within the economic system of the area and to generate options which when put together will be able to shape an integrated local action plan to re-establish local economic cycles within the area."* Mansoor Mohamed, the City's Executive Director: Economic, Social Development and Tourism, cited in CoCT 2007 (1).

Table 2 provides a summary of capital expenditure planned within the respective wards forming part of the study area between 2007 and 2010.

Table 2: Planned Capital Expenditure on projects in Project Area 2007 - 20010

Directorate	Department	Project Description	2007/2008	2008/2009	2009/2010	TOTAL
Blaauwberg Ward 23						
Transport, Roads & Stormwater	Roads and Stormwater	R27: Addtl lanes and intersection impr	R 0	R 5,000,000	R 0	R 5,000,000
Safety & Security	Emergency Services	Major Additions : Refurbishment	R 1,438,596	R 2,438,596	R 2,500,000	R 6,377,192
Safety & Security	Emergency Services	Upgrade Melkbosstrand Fire Station	R 438,596	R 4,017,544	R 0	R 4,456,140
Transport, Roads & Stormwater	Transport	Table View Taxi Rank (Bay Side)	R 1,000,000	R 0	R 0	R 1,000,000
Integrated Human Settlement Services	New Settlements	Melkbos Housing Project	R 1,900,000	R 0	R 0	R 1,900,000
Strategy & Planning	Environmental Resource Management	Blaauwberg Conservation Area	R 614,035	R 1,052,632	R 877,193	R 2,543,860
Utility Services	Water Services	Melkbos Wastewater Treatment Works	R 740,000	R 15,000,000	R 20,100,000	R 35,840,000
Ward Total :			**R 6,131,227**	**R 27,508,772**	**R 23,477,193**	**R 57,117,192**
Koeberg Ward 29						
Strategy & Planning	Environmental Resource Management	Mamre Heritage Resources	R 438,596	R 526,316	R 438,596	R 1,403,508
Utility Services	Electricity Services	Atlantis Neutral Earth Resistors	R 1,600,000	R 0	R 0	R 1,600,000
Strategy & Planning	City Spatial Development	Atlantis Uluntu Plaza	R 438,596	R 2,105,263	R 438,596	R 2,982,455
Community Development	Parks Inf Settlements	Prov Of Parks Atlantis	R 57,018	R 87,719	R 0	R 144,737
Community Development	Sport, Recreation & Amenities	Irrigation: General Upgrade	R 0	R 877,193	R 0	R 877,193
Community Development	Parks	Forest Park Dev Atlantis	R 0	R 0	R 57,200	R 57,200
Community Development	Parks	Playpark Dev - Heathfield Court Atlantis	R 0	R 0	R 100,000	R 100,000
Community Development	Parks	Focal Point: Atlantis - Irrigation	R 0	R 0	R 40,000	R 40,000
Ward Total			**R 2,534,210**	**R 3,596,491**	**R 1,074,392**	**R 7,205,093**
Koeberg Ward 32						
Integrated Human Settlement Services	New Settlements	Witsand Housing Project - Phase 2	R 3,000,000	R 10,000,000	R 15,400,000	R 28,400,000
Integrated Human Settlement Services	New Settlements	Atlantis Housing Project	R 2,000,000	R 3,000,000	R 0	R 5,000,000
Ward Total :			**R 5,000,000**	**R 13,000,000**	**R 15,400,000**	**R 33,400,000**
Source: City of Cape Town. 2007 (2). Service Delivery Budget Implementation Plan.						

3.8. Current land uses

Current land uses on the proposed development sites for the Ankerlig Conversion project as well as the proposed transmission line is discussed below:

3.8.1. Ankerlig Power Station Conversion

The Ankerlig Power Station site is situated in the Atlantis Industrial area, and is currently occupied by the OCGT power station which will be converted into a CCGT power station. The existing power station consists of 9 OCGT units (i.e. four existing OCGT units, plus an additional five OCGT units, currently under construction).

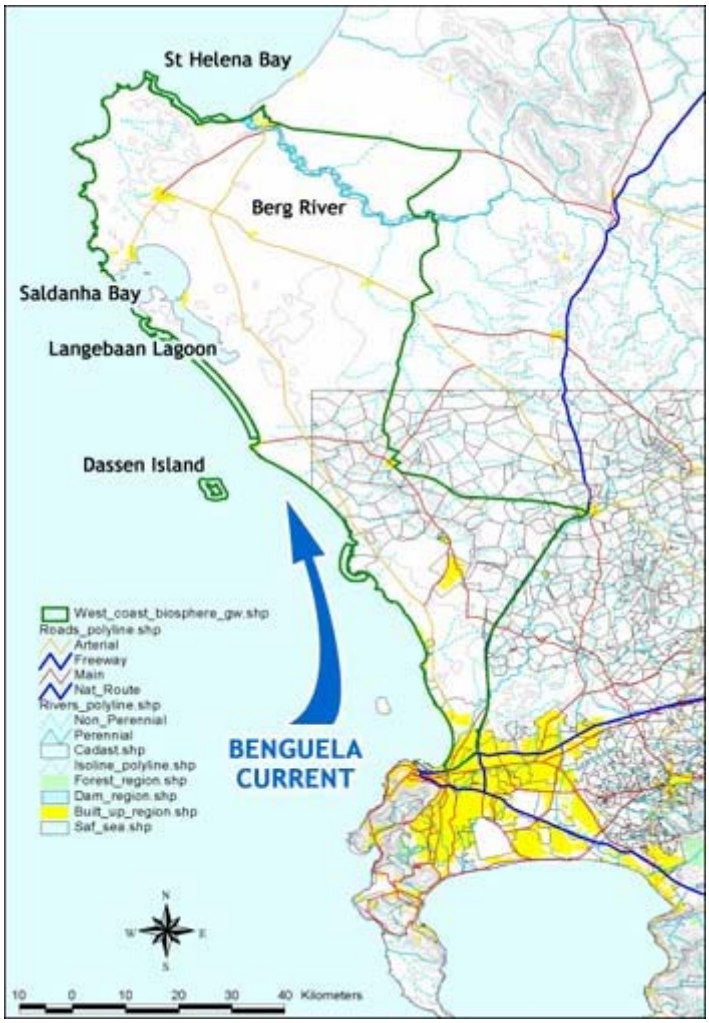
3.8.2. Transmission Power Line

The alternative alignments proposed for the transmission power line to the Omega substation are situated to the south of Atlantis, passing through the 'Atlantis non-urban' area as defined above. Current (and proposed) land-uses are described in Table 3 below:

Table 3: Current Land-uses along potential Transmission Line routes

Current Land-use	Project Alternatives:
Portions of Farms falling within the Malmesbury non-urban (classified as part of Atlantis non-urban for suburb population profiles) area between Atlantis and Klein Zoute River AH. - predominantly fallow land.	Transmission Line: Options A, B, C
Cape West Coast Biosphere Reserve (see **Figure 19** below.)	Transmission Line: Options A, B, C
Klein Zoute Rivier Agricultural Holdings	Transmission Line: Options A, B, C
Existing Transmission Line to Koeberg	Transmission Line: Option A
Brakkefontein Shooting Range	Transmission Line: Option B
Proposed Municipal Landfill Site	Transmission Line: Option B
Delta 200 Flying School	Transmission Line: Option B
Cement Factory: Apollo Bricks	Transmission Line: Option C
Municipal sewage works	Transmission Line: Option C
Railway line	Transmission Line: Option C
Corobrick Four Wheel Drive Challenge site Transmission Line: Option B	Transmission Line: Option C

Figure 19: Location of Cape West Coast Biosphere Reserve



Source: http://www.capebiosphere.co.za/Topography.60.0.html

4. POLICY DIRECTIVES

A number of national and local policy directives give guidelines regarding the assessment of a development of the nature proposed. This section provides a brief overview of national, provincial, district, and local directives to consider in assessing the impact of the proposed project on the prevailing social environment.

4.1. National Directives

National policy directives noted in this section are the country's macro-economic strategy plan of ASGI-SA, as well as a summary of relevant legislation that should be considered in project implementation to ensure the meeting of socio-economic objectives.

4.1.1. ASGI-SA

The Accelerated Shared Growth Initiative of South Africa (ASGI-SA) is the country's macro-economic response to high levels of poverty and unemployment through an emphasis on increased economic growth combined with social objectives. These objectives aim at ensuring that such growth is shared equitably amongst the population through targeted initiatives aimed to improve the environment and opportunities for more labour-absorbing economic activities. "*More broadly, we need to ensure that the fruits of growth are shared in such a way that poverty comes as close as possible to being eliminated, and that the severe inequalities that still plague our country are considerably reduced. Our vision of our development path is a vigorous and inclusive economy where production products and services are diverse, more value is added to our products and services, costs of production and distribution are reduced, labour is readily absorbed into sustainable employment, and new businesses are encouraged to proliferate and expand*."(Mlambo-Ngcuka 2006)[6]

Eskom's BEE Procurement Policy, ESKADAAT6, is included in **Appendix 2**, noting the company's commitment to ASGI-SA principles in terms of preferential employment.

4.1.2. Legislative requirements

Relevant legislation that should be taken into consideration in assessment of social impacts include:

- Broad Based Black Economic Empowerment Act (53 of 2003)
- Preferential Procurement Policy framework Act (5 of 2000)
- Construction Industry Development Board Act (38 of 2000)

[6] Media Briefing By Deputy President Phumzile Mlambo-Ngcuka 6 February 2006

- Promotion of Access to Information Act (2 of 2000)
- Labour Relations Act (66 of 1995)
- Basic Conditions of Employment Act (11 of 2002)
- Skills Development Act (97 of 1998)

4.2. Provincial Directives

Priority focus areas identified in the Western Cape Policy Framework, *iKapa elihlumayo,* can be summarised as follows:

- Building Human Capital with an emphasis on the youth
- Micro-Economic strategy (MES)
- Building Social Capital with an emphasis on the youth
- Strategic Infrastructure Investment
- A Spatial Development Framework (SDF)
- Co-ordination and Communication
- Improving Financial Governance
- Provincialisation of Municipal rendered services.

4.3. Metropolitan Directives

The City of Cape Town's seven Strategic Focus Areas as articulated in the 5-year plan for the City (CoCT 2007) can be summarised as follows:

- Shared economic growth and development
- Sustainable Urban Infrastructure and Services
- Public Transport Systems
- Integrated Human Settlements
- Safety and Security
- Health, Social and Human Capital Development
- Good Governance and Regulatory reform

5. IMPACT ASSESSMENT

This section will examine potential social impacts that may result from the proposed Ankerlig Power Station Conversion during both construction and operational phases, followed by a look at potential impacts related to the proposed transmission line, during construction and operation. **Table 4** provides a summary of potential social impacts, noting the project components that may result in these impacts, as well as phases at which impacts may be expected.

Table 4: Summary of Potential Social Impacts

Impact	Ankerlig Conversion		Transmission Line	
	Construction	Operation	Construction	Operation
Provision of electricity		X		X
Temporary Employment	X		X	
Ongoing Employment		X		
Social Investment	X	X	X	X
Conflict	X		X	
Population influx	X		X	
Increase in traffic	X	X	X	
Impacts on health & safety		X		X
Interest group activity	X	X		
Impact on current land-uses			X	X
Impact on sense of place		X	X	X

The impact listed above are discussed in more detail in the sections below, dealing with specific project components and phases at which impacts may be expected. Where potential impacts are similar for the different components and project phases, this is noted with cross-references to the relevant sections where these are first described to avoid unnecessary duplication. The section concludes with recommendations on preferred alternatives for the Ankerlig as well as transmission power line projects.

5.1. Potential social impacts associated with construction phase for the Ankerlig Power Station Conversion

The proposed conversion from the existing OCGT Plant to a CCGT plant will take place on the same site as the existing OCGT development, situated in the Atlantis Industrial area. Social impacts for the conversion can thus be expected to be similar to those that were identified for the initial OCGT Development, which was assessed in 2005 (environmental authorisation received December 2005), as well as the expansion of the OCGT plant, which was assessed at the beginning of 2007 (environmental authorisation received July 2007). For this reason the social assessments conducted by Afrosearch (2005) and MasterQ (2007) will be used as the basis of this and the following section dealing with the conversion process, looking at impacts expected for the construction and operational phases respectively.

Construction of the power station is expected to commence in early 2009, and last up to a maximum of approximately 32 months. The following sections describe the social impacts that are expected to arise during the construction phase. Issues relevant for the construction phase are as follows:

1. Creation of temporary employment opportunities;
2. Social investment;
3. Influx of job seekers and temporary workers;
4. Increase in traffic;
5. Visual and noise impacts.

5.1.1. Temporary local employment opportunities

Nature of Impact

Construction activities will create a number of temporary employment opportunities, resulting in a positive economic impact, albeit limited. In addition to creating job opportunities for construction workers, the project may also offer other sources of temporary employment. These include possible indirect employment creation in the informal sector, for instance catering for construction workers (Afrosearch, 2005).

It has been recommended in previous assessments that local labour be used as far as possible. The MasterQ (2007) assessment noted however that it seemed as if some community members were dissatisfied with the process followed to employ local labour through a third party labour broker during the initial OCGT construction process. It was recommended that the procurement process followed for the expansion will have to be closely monitored by Eskom to ensure that the process is transparent and equal opportunities are afforded. The issue of local employment was raised again during Focus Group Meetings that were attended as part of this assessment, particularly with the Atlantis Residents' Association (ARA). Concerns were raised regarding local employment created during the construction of the initial OCGT process, as well as the expansion, currently under construction. A member of ARA noted that the community had presented the then Project Manager with a list of concerns which had not yet been addressed. These related to:

1. Treatment of the community, particularly by labour brokers, whose presence is said to cause conflict between local workers and labour brought from outside the area.
2. No feedback was given to local workers who worked overtime.
3. It is thought that Eskom should provide training and capacity building opportunities to the local community and not rely only on outside expertise. This situation causes an economic justice concern for the local community.

4. Black Economic Empowerment is critical, as stipulated in the SA Constitution. It was noted that Eskom should procure services and source accommodation from the local community where possible.
5. Favouritism and preferential treatment of workers who are not local: Noted that workers from elsewhere were provided with accommodation as well as transport, while local labourers were responsible for their own transport.
6. Hire and Fire: Instantaneous decision-making that contradicts the Labour Relations Act.

These concerns will be considered in the detailed SIA to be undertaken in the EIA phase of the process.

Parties affected

- Successful job seekers
- Workers' households

Extent of Impact

Although it can be expected that employment will be sourced from outside areas, the impact measured emphasises creation of *local* labour, and is thus rated local in extent.

Significance of Impact

Low to medium. The magnitude of this impact will depend on the number of construction workers to be employed, either by Eskom itself or by contractors.

Although the impact on employment will be temporary, due to high levels of poverty and unemployment, any impact on job creation in the area will have some positive impact and thus be of some positive significance. This impact can be optimised by focusing on local employment creation where possible, and addressing current community concerns (see above). This will be discussed in more detail in the detailed SIA to be undertaken in the EIA phase of the process.

Comparison of Alternatives

Alternative	Impact
No go option	No impact on temporary employment and associated benefits
Conversion as proposed	Impact as described. Can be optimised through a focus on local labour. Current community concerns regarding employment issues should be considered.

5.1.2. Influx of job seekers and housing of temporary workers

Nature of Impact

As news regarding the proposed project spreads, expectations regarding possible employment opportunities may take root. Consequently, the area surrounding the site could experience an influx of job seekers. This can result in an increase in social problems such as alcohol abuse, and prostitution (Afrosearch 2005). The extent to which such an influx of job-seekers as well as temporary workers during the initial OCGT construction as well as expansion phases has impacted on the Atlantis community will be investigated in further detail during the detailed SIA to be undertaken in the EIA phase of the project.

If the area experiences an influx of job seekers, competition over scarce employment opportunities may give rise to conflict between local residents and newcomers. An influx of newcomers might also be accompanied by an increase in crime. Even if particular instances of crime are not as a result of the newcomers, they may still be attributed to them by local communities (Afrosearch 2005.)

If construction workers are not sourced locally, but are housed close to the site, this may also lead to conflict with locals (Afrosearch 2005). Conversely the presence of temporary workers could provide a small stimulus to the local economy if accommodation for such workers could be procured locally. During a Focus Group Meeting held with the Atlantis Residents' Association on 21 November 2007 concerns were raised about housing of temporary workers brought from other areas during the construction phases for the initial OCGT as well as the expansion currently underway. These will be discussed in more detail in the detailed SIA.

Parties affected

- Atlantis residents.
- Residents of Witsand informal settlement, which can be expected to grow with an influx of newcomers.

Extent of Impact

Local

Significance of Impact

Medium. Possible population influx that may be caused by additional developments at and around the OCGT site can be considered a *cumulative* impact related to general development in the area. The extent to which Eskom's operations will specifically add to this impact cannot easily be quantified, but measures can be put in place to minimise possible social disruption caused by such influx. These will be discussed in the detailed SIA to be undertaken in the EIA phase of the process.

Comparison of Alternatives

Alternative	Impact
No go option	No impact
Conversion as proposed	Impact as described

5.1.3. Increase in traffic

A separate transport study was conducted to assess the impact of construction activities on traffic as part of the EIA for the initial OCGT. Similar impacts are expected during construction as was previously the case.

Nature of Impact

Increase in traffic can result in the disruption of daily movement patterns. Depending on access routes that are used, construction vehicles could impact on safety and daily movement patterns of residents in surrounding communities. The magnitude of this impact will depend on current traffic volumes, traffic volumes that will be associated with construction activities, as well as construction schedules (Afrosearch 2005), but is expected to be similar to that experienced during the construction phases associated with the OCGT power station (initial 4 units) and the current expansion activities (additional 5 units).

During the public participation process and focus group meetings held as part of the assessment for the OCGT expansion, no mention was made of disruption of daily movement patterns because of construction activities of the first OCGT. It was also noted that as the site is removed from the community, trucks do not move through the communities. The presence of trucks on main roads would however impact on local traffic movement patterns (MasterQ 2007). The impact of fuel trucks to the site during the operational phase is discussed in Section 5.2.4.

Parties affected

- Residents of Melkbosstrand and Duynefontein
- Residents of Atlantis
- Road users

Extent of Impact

Regional - Because this impact may be felt along access routes between the supply point of the power station components (possibly Cape Town harbour) and the Ankerlig Power Station site, and not only within communities adjoining the site, the extent of the impact may be widespread rather than concentrated in the study area (Afrosearch 2005).

Significance of Impact

Low to Medium The significance of this impact will be assessed based on the Transport Study undertaken for the initial OCGT process, and additional specialist

inputs to be provided as part of the current process. Key findings of the Traffic Assessment will be noted in the detailed SIA to be undertaken in the EIA phase of the process.

Comparison of Alternatives

Alternative	Impact
No go option	No impact
Conversion as proposed	Impact as described

5.1.4. Impacts on Sense of Place

The term **sense of place** has been defined and utilised in different ways by different people. To some, it is a characteristic some geographic places have and some do not, while to others it is a feeling or perception held by people (not by the place itself). It is often used in relation to those characteristics that make a place special or unique, as well as to those that foster a sense of authentic human attachment and belonging.

As the proposed Ankerlig Power Station Conversion would take place in the Atlantis Industrial Area, on a site currently occupied by the Ankerlig Power Station, impact on sense-of place can be expected to be limited. It is however worth noting that the tallest of the new components (such as the smokestacks) will be 60 m tall whereas the existing tallest structures (exhaust stacks) are 30 m tall. Eskom are also planning additional fuel storage on the site. This may have an impact as a result of cumulative visual impacts, to be assessed as part of a separate specialist study. It is also important to note that the Atlantis community already perceives itself as vulnerable to a variety of developments which many feel are being 'dumped' on them. The impact on sense of place can thus be regarded as a cumulative psychological impact, whereby Atlantis residents increasingly feel victim to broader developments in which they have no say or control potentially impacting on them.

To the extent that such impacts may occur, their significance would relate largely to other impacts, notably visual and noise impacts, as well as impacts on air quality and traffic volumes, which need to be taken into consideration in assessing this impact. Potential visual and noise impacts that may be associated with the construction phase of the Conversion Project will be addressed in separate specialist assessments. As these issues relate closely to people's perceptions of the project, key findings of the Visual Assessment and Noise Assessment will be noted in the detailed SIA to be undertaken in the EIA phase of the process.

Parties affected

- Atlantis residents

Extent of impact

Local

Significance of Impact

Low to medium. The overall significance of this impact will be assessed based on findings from visual, noise, air quality and traffic assessments.

Comparison of Alternatives

Alternative	Impact
No go option	No (additional) impact
Conversion as proposed	Increased perception of Atlantis residents that the area is used as an industrial 'dump', which could lead to resentment and possibly result in interest group activity (see 0 below).

5.2. Potential social impacts associated with operation of Ankerlig CCGT station

Current indications are that the CCGT units of the power station will commence operation in early 2011. It will have a lifetime of up to 25 years with the option to extend, as is typical for gas turbines. The following sections describe the social impacts that are expected to arise during this operational phase:

1. Provision of electricity, impacting on local/regional/national linkages and macro-economy;
2. Ongoing employment opportunities for locals;
3. Social investment;
4. Increase in traffic;
5. Impacts on health and safety;
6. Impact on Sense of Place
7. Possible interest group activity.

5.2.1. Provision of electricity: Local/regional/national linkages and macro-economy

Nature of Impact

The purpose of the Ankerlig Conversion project is to improve Eskom's capacity to provide for its increasing demands for electricity in the medium-term (i.e. until 2014). The most significant and most far reaching social impact will hence be the provision of electricity for the South African population.

Electricity supply makes an important contribution towards economic growth, and hence to employment creation and poverty alleviation on a national level. If peak demand exceeds supply, the reliability and quality of electricity services will be negatively impacted (Afrosearch 2005).

Unreliable electricity supply is likely to have significant negative economic (and hence social) consequences, as has been evidenced particularly in the Western

Cape in 2006. These impacts derive from the fact that several economic sectors - manufacturing industries, in particular - are dependent on the electricity sector for their operation and survival. Electricity generation and provision therefore constitute an enabling industry without which few other industries would be able to flourish (Afrosearch 2005).

An economic analysis conducted by Global Insight (2005) for the first phase of the OCGT Development offers an estimate of the cost of un-served energy that would result if the OCGT power station at Atlantis were not constructed. If it is assumed that the power station will operate at a 5% load factor and that failure to construct the power station will result in an inability to meet peak electricity demand for 438 hours per year over a five-year period (until the first de-mothballed or new power stations become operational), the analysis indicates that the resultant cost of un-served energy will amount to a total of nearly R 2O billion (Afrosearch 2005).

It should be noted that this estimate is a conservative one, as it ignores the possibility of additional indirect economic cost effects associated with un-served energy. In the context of a global economy, for example, industries faced with a situation where they are unable to depend on a reliable and uninterrupted electricity supply may well decide to invest in other locations where this need is adequately satisfied. The cost incurred through such indirect impacts could be many times higher than the estimated provided above (Afrosearch 2005).

Parties affected

- South African population

Extent of Impact

National

Significance of Impact

Very High

Comparison of Alternatives

Alternative	Impact
No go option	South Africa will face increasingly severe energy shortages with increased likelihood of load shedding for extended periods.
Conversion as proposed	Improved capacity to produce electricity, minimising the risk of increased load shedding.

5.2.2. Ongoing Employment opportunities for locals

Nature of Impact

Given the technical nature of the operation, it is unlikely that employment opportunities will benefit members of local communities. However, local

communities might reap benefits from employment opportunities created by the need for support services such as the provision of stationary, cleaning services, gardening services, catering services, etc. It is Eskom's intention to contract such services out to the local community (Afrosearch 2005). It is unlikely that the operation of the CCGT power station units will employ more people than is currently the case at the existing power station. The extent to which local procurement has taken place to date will however be investigated as part of the detailed SIA to be undertaken in the EIA phase.

It was noted in the MasterQ assessment that for the operational staff component of less than 30, Eskom recruited people from the local community to be trained during the construction of the first OCGT. Some local people have also been trained as operators and maintainers, which also indicates areas of potential benefit.

Information Requirements for the detailed SIA phase:

- ***More current info on use of local labour, suppliers etc.***
- ***What happened to those who were trained?***

Parties affected

- Successful job seekers
- Workers' households

Extent of Impact

Local

Significance of Impact

Low.

Comparison of Alternatives

Alternative	Impact
No go option	No impact
Conversion as proposed	Limited opportunities for ongoing employment and business opportunities for locals. This impact can be optimised by targeting local employment and procurement of services as far as possible.

5.2.3. Social Investment

Nature of Impact

As the number of employment opportunities that will be created during the operational phase of the project will be limited, it will be necessary to augment the benefits for surrounding communities by implementing appropriate social

investment activities. The Afrosearch assessment (2005) recommended that Eskom undertake a community needs analysis and consult with local community leaders to identify the most appropriate social investment activities.

Social development initiatives that have since been implemented by Eskom as well as the contractors involved during construction of the OCGT station are discussed in the MasterQ assessment (2007). These include development assistance given to upgrade a Multi Purpose Community Centre (MPCC), as well as to various schools, the Wesfleur Hospital, and sporting facilities.

Information Requirements for the detailed SIA phase:

- ***More recent information on social development initiatives***
- ***Information from ESDEF or other similar sources***

Stakeholders consulted during Focus Group Meetings held in November 2007 raised queries concerning Eskom's Social Responsibility and plans for Social Investment in the area. It was pointed out in a meeting with the Melkbosstrand and Duynefontein Residents' Association that previous social developments near Koeberg (notably a housing development and sports complex) which were initiated by Eskom were subsequently neglected and passed on to commercial developers. The process whereby Eskom withdrew from the development has been questioned, noting the need for more transparent and consultative processes inclusive of local stakeholders.

Parties affected

- Atlantis community
- Beneficiaries of Social Investment initiatives.

Extent of Impact

Local

Significance of Impact

Low to High: The significance of this positive impact can be maximised through appropriate targeting of Social Investment. This will be discussed further in the detailed SIA to be undertaken in the EIA phase of the process.

Comparison of Alternatives

Alternative	Impact
No go option	Eskom's current involvement in the area would mean continued involvement in terms of Social Investment.
Conversion as proposed	Eskom could place special emphasis on Social Investment to show its commitment to the host community of Atlantis where it has been involved for a number of years already, and will be into the future. The additional development could motivate additional social investment spending, and an opportunity to more appropriately liaise with local community representative structures in determining social needs and priorities which may be addressed.

5.2.4. Increase in traffic

Nature of Impact

Concerns were raised during Focus Group Meetings held in November 2007 regarding the potential impact that road transport of fuels to the Ankerlig site will have on traffic.

The CCGT units would utilise the same amount of liquid fuel (i.e. diesel) as is currently the case for the OCGT units (i.e. approximately 40 tons of diesel/unit/hour) for the same operating regime. However, in order to meet the electricity supply demand in the medium-term, the plant will have to operate for more hours per day than was anticipated for the OCGT plant (i.e. higher than anticipated load factors). This higher load factor would require higher fuel consumption. The installation of a liquid fuel pipeline to the Ankerlig Power Station, as well as transport of fuel by rail is currently being investigated as part of a separate EIA application. Potential health and safety impacts associated with fuel transport as well as storage of fuel on site are discussed in Section 5.2.5 below.

Key findings of the Transport Study that was undertaken for the first OCGT project will be used to assess this impact as part of the detailed SIA to be undertaken in the EIA phase of the process.

Parties potentially affected

(To be confirmed in detailed SIA)

- Residents of Melkbosstrand and Duynefontein
- Residents of Atlantis
- Road users

Extent of Impact

Regional - Because this impact may be felt along access routes between the fuel supply point and the power station, and not only within communities adjoining

the site, its extent may be widespread rather than concentrated in the study area (Afrosearch 2005).

Significance of Impact

Low to High - The significance of this impact will be determined based on findings of the Transport Study that was conducted for the OCGT project.

Comparison of Alternatives

Alternative	Impact
No go option	No increased impact
Conversion as proposed	The significance of this impact will be determined based on findings of the Transport Study that was conducted for the OCGT project.

5.2.5. Impacts on Health and Safety

Nature of Impact

Concern has been expressed throughout previous Public Participation processes, and again reiterated during Focus Group Meetings attended as part of this assessment, regarding potential health and safety implications that may result from:

- Transportation of fuel
- Storage of fuel
- Impacts on air quality during operation
- Potential impacts on water availability and quality of water

During the public participation process forming part of the initial OCGT process, concerns were raised regarding the impact of **fuel transport** on the safety of local communities. It was noted that the R304, which would constitute the most likely access route for heavy vehicles, is already plagued by numerous accidents (Afrosearch 2005). Key findings of previous traffic and risk assessments undertaken that pertain to potential social impacts will be noted in the detailed SIA to be undertaken in the EIA phase of the process.

Another potential source of risk to surrounding communities relates to storage of fuel onsite. The initial OCGT station required ~5 million litres of fuel to be stored in an on-site fuel storage tank, while the expansion required an additional ~11 million litres. Additional **fuel storage** facilities will be required at the Ankerlig Power Station to cater for the increased fuel requirements associated with the higher load factor associated with the conversion process. An additional 43.2 million litres of fuel to be stored in 8 x 5400 cubic meter tanks will bring the total volume of fuel stored on site to 59.4 million litres. A risk assessment which is being conducted as part of the current EIA process will quantify the risk associated with the storage of fuel.

During the public participation process that took place as part of the initial OCGT Development in 2005, several stakeholders expressed the concern that the project would have a negative impact on health and well-being as it will be associated with deterioration in **air quality**. Concerns were raised about the possible effects of air pollution on asthmatic children and aged persons (Afrosearch 2005). Several stakeholders consulted during Focus Group Meetings held with local community representative groups in November 2007 noted "black plumes of smoke" emitted from the existing OCGT station, particularly during start-up. This causes general concern amongst Atlantis residents for potential health impacts that may be associated with the existing and potential future developments at Ankerlig. Potential impacts on Air Quality are addressed in a separate assessment, the key findings of which will be noted in the detailed SIA to be undertaken in the EIA phase of the process as these pertain to potential social impacts.

It was highlighted during focus group discussions that **impacts on groundwater** should be investigated. Both availability and quality of water were emphasised, noting Atlantis to rely entirely on the Atlantis Aquifer for its water supply. An extensive groundwater study was undertaken as part of the original study. This information will be used in this EIA process in order to highlight risks and potential impacts.

Parties affected

- Residents of Atlantis and surrounding areas
- Residents of Melkbosstrand and Duynefontein
- Road users

Extent of Impact

While impacts on safety and daily movement patterns as a result of fuel transport may be distributed along access routes, those associated with fuel storage and plant operation will be localised.

Significance of Impact

Low to Medium To be determined based on a review of relevant specialist studies undertaken as part of previous and current assessments:

- Risk assessment (previous and current assessments)
- Traffic assessment (previous (/*current?*) assessments)
- Air Quality Assessment (current assessment)
- Groundwater assessment (previous assessment).

Comparison of Alternatives

Alternative	Impact
No go option	No increased impact
Conversion as proposed	To be assessed based on findings from relevant specialist studies.

5.2.6. Possible interest group activity

Nature of Impact

The effects of exposure to risk (whether real or perceived) are among the most significant potential social impacts of the project. Apart from psychological effects such as increased stress and psychosomatic symptoms, it may lead to interest group activity and social mobilisation against the project. Some interest group activity was already evident at the time of the Afrosearch (2005) assessment undertaken for the initial OCGT development (i.e. initial 4 units).

The MasterQ (2007) Assessment undertaken for the expansion project (i.e. additional 5 units) noted that some interest group activity was still evident. Potential interest group activity is linked to potential health and safety impacts (see above). Objections by members of the Atlantis community against industrial developments in the area were made during public/focus group meetings: *"Atlantis has become a convenient dumping ground for these kinds of projects."* (MasterQ 2007)

Eskom attempted to establish a Community Monitoring Committee (CMC) to liaise between the project and the local community, but it was noted during Focus Group Meetings attended as part of this assessment that this committee is no longer functioning. Concerns were raised concerning the way the committee, which was not considered representative of the broader Atlantis community, was elected.

Parties affected

- Atlantis community
- Eskom and Project Staff

Extent of Impact

Local

Significance of Impact

Low to High: This can be considered a potential *indirect* impact as it relates to people's perceptions of other impacts (such as air quality and perceived exposure to risk.) It can also be considered a *cumulative* impact as people's perceptions are built on a combination of effects of various developments. During the November 2007 Focus Group Meetings, for example, questions often concerned Eskom's other nuclear (PBMR and Nuclear 1) developments, with which many associate the proposed conversion process. The potential for such interest group

activity can be minimised through effective and inclusive Public Participation and Community Liaison to disseminate project information, specifically addressing concerns regarding potential risks and seeking to build a shared vision with the local community. This will be discussed further in the detailed SIA to be undertaken in the EIA phase of the process.

Comparison of Alternatives

Alternative	Impact
No go option	No (additional) impact
Conversion as proposed	Increased perception of Atlantis residents that the area is used as an industrial 'dump', which could lead to resentment and possibly result in interest group activity. Concerns potential health and safety impacts as discussed above could also result in heightened sensitivity leading to possible interest group activity.

5.2.7. Impact on sense of place

Nature of impact

See Section 5.1.4 above.

As the proposed Ankerlig Conversion would take place in the Atlantis Industrial Area, on a site currently occupied by the Ankerlig OCGT power station, impact on sense-of place can be expected to be limited. It is however important to note that the community already perceives itself as vulnerable to a variety of developments which many feel are being 'dumped' on them. The impact on sense of place can thus be regarded as a *cumulative* impact, whereby Atlantis residents increasingly feel victim to broader developments in which they have no say or control potentially impacting on them.

To the extent that such impacts may occur, their significance would relate largely to other impacts, notably visual and noise impacts, as well as impacts on air quality and traffic volumes, which need to be taken into consideration in assessing this impact. These will be assessed based on a review of separate studies undertaken for this and previous processes.

Parties affected

- Atlantis residents

Extent of impact

Local

Significance of Impact

Low to medium. Will be assessed based on findings from visual, noise, air quality and (previous) traffic assessments.

Comparison of Alternatives

Alternative	Impact
No go option	No (additional) impact
Conversion as proposed	Increased perception of Atlantis residents that the area is used as an industrial 'dump', which could lead to resentment and possibly result in interest group activity (see above).

5.3. Potential social impacts associated with construction of transmission power line

Construction of the transmission line is expected to commence in early 2010, with a construction time frame of approximately 9 months, including tests. The following sections describe the social impacts that are expected to arise during the construction phase. Issues relevant for the construction phase are as follows:

- Creation of temporary employment opportunities;
- Influx of job seekers and temporary workers;
- Increase in traffic;
- Impact on current land-uses;
- Impact on sense of place.

5.3.1. Temporary local employment opportunities

Nature of Impact

Construction of the transmission power line will create a number of temporary employment opportunities in construction. Sourcing of construction workers from the local labour pool is likely to be limited to unskilled and semi-skilled workers due to the highly technical nature of the work to be undertaken. This could have some economic benefits for surrounding communities, although only of a temporary nature (Afrosearch 2005).

In addition to creating job opportunities for construction workers, the project may also offer indirect employment creation for entrepreneurs in the informal sector, for instance food stalls for the convenience of construction workers (Afrosearch 2005).

Parties affected

- Successful job-seekers and entrepreneurs
- Workers' families.

Extent of Impact

Local

Significance of Impact

Low to medium: The magnitude of this impact will depend on the number of construction workers to be employed, either by Eskom itself or by contractors.

Comparison of Alternatives

This impact can be expected of similar significance for all three alternatives under consideration.

Alternative	Impact
No go option	No impact
Proposed Option A (Red)	Impact as described.
Proposed Option B (Green)	Impact as described.
Proposed Option C (Blue)	Impact as described.

5.3.2. Influx of job seekers and temporary workers

Nature of Impact

The linear nature of the Transmission Power Line Development could create additional impacts of temporary construction workers felt by land users along the selected alignment. As the distance covered is short (20km) it can be expected that such impacts will be limited, and similar in nature and extent to what may be expected for the construction phase associated with the conversion process (See Section 5.1.2 above).

Parties affected

- Atlantis community
- Witsand informal settlement
- Kleig Zoute Rivier community
- Morning Star community
- Land users affected by the transmission power line.

Extent of Impact

Local

Significance of Impact

Medium. Possible population influx that may be caused by additional developments at and around the OCGT site can be considered a *cumulative* impact related to general development in the area. The extent to which Eskom's operations will specifically add to this impact cannot easily be quantified, but measures can be put in place to minimise possible social disruption caused by such influx. These will be discussed in the detailed SIA to be undertaken in the EIA phase of the process.

Comparison of Alternatives

This impact can be expected of similar significance for all three alternatives under consideration.

Alternative	Impact
No go option	No impact
Proposed Option A (Red)	Impact as described.
Proposed Option B (Green)	Impact as described.
Proposed Option C (Blue)	Impact as described.

5.3.3. Increase in traffic

Nature of Impact

See 5.1.3 above.

Parties potentially affected

(to be confirmed by traffic assessment)

- Residents of Melkbosstrand and Duynefontein
- Residents of Atlantis
- Road users

Extent of Impact

Regional - Because this impact may be felt along access routes between supply points of power line components and the construction site, and not only within communities adjoining the site, its extent may be widespread rather than concentrated in the study area. (Afrosearch 2005)

Significance of Impact

Low to Medium The significance of this impact will be determined based on a review of the transport study undertaken for the existing OCGT station.

Comparison of Alternatives

To be assessed based on previous Transport Study.

Alternative	Impact
No go option	No impact
Proposed Option A (Red)	Impact as described.
Proposed Option B (Green)	Impact as described.
Proposed Option C (Blue)	Impact as described.

5.3.4. Impact on current Land-uses

Nature of Impact

Existing land uses that may be impacted by construction (and subsequent operation of) the proposed transmission power line are summarised in **Table 5** below, noting which options would impact on respective land-uses:

Table 5: Current Land uses along proposed alternative alignments

Current Land-use	Project Alternatives:
Portions of Farms falling within the Malmesbury non-urban (classified as part of Atlantis non-urban for suburb population profiles) area between Atlantis and Klein Zoute River AH. - predominantly fallow land.	Transmission Line: Options A, B, C
Cape West Coast Biosphere Reserve (see Figure 19 in Section 3.8.2 above.)	Transmission Line: Options A, B, C
Klein Zoute Rivier Agricultural Holdings	Transmission Line: Options A, B, C
Existing Transmission Line to Koeberg	Transmission Line: Option A
Brakkefontein Shooting Range	Transmission Line: Option B
Proposed Municipal Landfill Site	Transmission Line: Option B
Delta 200 Flying School	Transmission Line: Option B
Cement Factory: Apollo Bricks	Transmission Line: Option C
Municipal sewage works	Transmission Line: Option C
Railway line	Transmission Line: Option C
Corobrick Four Wheel Drive Challenge site Transmission Line: Option B	Transmission Line: Option C

Parties affected

- Current land users (see above)

Extent of Impact

Local

Significance of Impact

Low to Medium - significance would depend on the alignment selected as different land uses would be impacted - see below:

Comparison of Alternatives

Alternative	Impact
No go option	No impact
Proposed Option A (Red)	Limited impact, as this alignment largely runs parallel to that of existing transmission power lines from the Ankerlig and Koeberg power stations. Potential cumulative impacts of more transmission power lines on Klein Zoute River AH would need to be investigated from an environmental health and safety perspective. Significance: **Low**
Proposed Option B (Green)	Potential impacts on: Brakkefontein Shooting Range; Delta 200 Airstrip; Klein Zoute River AH; Proposed municipal landfill site; Farms. These would require further investigation. Significance: **Medium**
Proposed Option C (Blue)	Potential impacts on: Railway line; Apollo Bricks; Portion of Klein Zoute River AH; Farms; Users of the Corobrick Four Wheel Drive Challenge site. These would require further investigation. Significance: **Medium**

5.3.5. Impact on sense of place

Nature of impact

The construction of the proposed transmission power line across rural countryside may be expected to have an impact on the currently rural character of the area, and thus potentially affect surrounding residents' 'sense of place'.

Impacts on sense of place relate to other impacts, notably visual and construction noise impacts, which need to be taken into consideration in assessing this impact. Construction noise impacts associated with the transmission line are expected to be of low significance and of short duration. Visual impacts will be assessed in a separate specialist study, key findings of which will be referred to in the detailed SIA undertaken during the EIA phase.

Parties affected

- Klein Zoute Rive residents
- Residents of Melkbosstrand, Duynefontein and Van Riebeeckstrand
- Land users along selected transmission power line route
- Visitors to Cape West Coast Biosphere Reserve (see Figure 19 in Section 3.8.2 above - potential visual impacts)
- Users of the Corobrick Four Wheel Drive Challenge site

Extent of impact

Local

Significance of Impact

Low to Medium - significance would depend on the alignment chosen as different land uses would be impacted - see below:

Comparison of Alternatives

Alternative	Impact
No go option	No impact
Proposed Option A (Red)	Limited impact, as this alignment largely runs parallel to that of existing transmission power lines from the Ankerlig and Koeberg power stations. Potential cumulative impacts of more transmission power lines on Klein Zoute River AH would need to be investigated from an environmental health and safety perspective. Significance: **Low**
Proposed Option B (Green)	Potential impacts on: Brakkefontein Shooting Range; Delta 200 Airstrip; Klein Zoute River AH; Proposed municipal landfill site; Farms. These would require further investigation. Significance: **Medium**
Proposed Option C (Blue)	Potential impacts on: Railway line; Apollo Bricks; Portion of Klein Zoute River AH; Farms; Users of the Corobrick Four Wheel Drive Challenge site. These would require further investigation. Significance: **Medium**

5.4. Potential social impacts associated with operation of transmission power line

The power line will need to be erected and commissioned at this time in order to allow the evacuation of the additional power to be generated at the power station. It is expected to be commissioned by the end of 2010 to early 2011. The power line will have an expected lifespan of between 35 and 40 years. The following sections describe the social impacts that are expected to arise during this operational phase:

- provision of electricity, impacting on local/regional/national linkages and macro-economy;
- social investment;
- impacts on health and safety
- impacts on current land uses
- impacts on sense-of-place.

5.4.1. Provision of electricity: Local / regional / national linkages and macro economy

Nature of Impact

See Section 5.2.1 above.

Parties affected

- South African population

Extent of Impact

National

Significance of Impact

Very High

Comparison of Alternatives

Alternative	Impact
No go option	South Africa will face increasingly severe energy shortages with increased likelihood of load shedding for extended periods.
Proposed Option A (Red)	Improved capacity to produce electricity, minimising the risk of increased load shedding.
Proposed Option B (Green)	Improved capacity to produce electricity, minimising the risk of increased load shedding.
Proposed Option C (Blue)	Improved capacity to produce electricity, minimising the risk of increased load shedding.

5.4.2. Social investment

Nature of Impact

See Section 5.2.3 above

Parties affected

- Atlantis community

Extent of Impact

Local

Significance of Impact

Low to High: The significance of this positive impact can be maximised through appropriate targeting of Social Investment. This will be discussed further in the detailed SIA to be undertaken in the EIA phase of the process.

Comparison of Alternatives

Alternative	Impact
No go option	Eskom's current involvement in the area would mean continued involvement in terms of Social Investment.
Proposed Option A (Red)	Eskom's additional involvement could promote increased Social Investment spending in the local community.
Proposed Option B (Green)	Eskom's additional involvement could promote increased Social Investment spending in the local community.
Proposed Option C (Blue)	Eskom's additional involvement could promote increased Social Investment spending in the local community.

5.4.3. Impact on Health and Safety

Nature of Impact

The potential impact of Electro-Magnetic Fields (EMFs) on the health and safety of those residing in proximity to the proposed transmission line should be considered.

Parties affected

Users of land within close proximity of the proposed transmission line, including:

- Residents of Klein Zoute Rivier Agricultural Holdings.
- Workers at the Apollo Brick factory
- Users of the Delta 200 Airstrip
- Users of the Brakkefontein Shooting range.
- Users of the Corobrick Four Wheel Drive Challenge Site.

Significance of Impact

The extent of this potential impact should be considered as part of a separate risk assessment.

Comparison of Alternatives

Alternative	Impact
No go option	No impact
Proposed Option A (Red)	Potential cumulative impact as the proposed alignment is next to existing transmission lines.
Proposed Option B (Green)	This impact would affect more land users than Option A, but its intensity and significance would need too be determined as part of a separate risk assessment.
Proposed Option C (Blue)	This impact would affect more land users than Option A, but its intensity and significance would need too be determined as part of a separate risk assessment.

5.4.4. Impact on current land-uses

Nature of Impact

See Section 5.3.4 above.

Parties affected

- Current land-users (see 5.3.4 above)

Significance of Impact

Low to Medium - significance would depend on the alignment selected as different land uses would be impacted - see below:

Comparison of Alternatives

Alternative	Impact
No go option	No impact
Proposed Option A (Red)	Limited impact, as this alignment largely runs parallel to that of existing transmission power lines from the Ankerlig and Koeberg power stations. Potential cumulative impacts of more transmission power lines on Klein Zoute River AH should be investigated from an environmental health and safety perspective. Significance: **Low**
Proposed Option B (Green)	Potential impacts on: Brakkefontein Shooting Range; Delta 200 Airstrip; Klein Zoute River AH; Proposed municipal landfill site; Farms. These would require further investigation. Significance: **Medium**
Proposed Option C (Blue)	Potential impacts on: Railway line; Apollo Bricks; Portion of Klein Zoute River AH; Farms; Users of the Corobrick Four Wheel Drive Challenge site. These would require further investigation. Significance: **Medium**

5.4.5. Impact on sense of place

Nature of impact

Also see 0. The proposed transmission power line across rural countryside may be expected to have an impact on the currently rural character of the area, and thus potentially affect surrounding residents' 'sense of place'.

Impacts on sense of place would relate primarily to visual impacts, which will be assessed in a separate study. Key findings of this study will be referred to in the detailed SIA to be undertaken in the EIA phase of the process.

Parties affected

- Klein Zoute Rivier residents
- Residents of Melkbosstrand, Duynefontein and Van Riebeeckstrand
- Land users along Transmission Line route
- Visitors to Cape West Coast Biosphere Reserve (visual impacts?)
- Users of the Corobrick Four Wheel Drive Challenge site.

Extent of impact

Local

Significance of Impact

Low to Medium - significance would depend on the alignment selected as different land uses would be impacted - see below:

Comparison of Alternatives

Alternative	Impact
No go option	No impact
Proposed Option A (Red)	Limited impact, as this alignment largely runs parallel to that of existing transmission power lines from the Ankerlig and Koeberg power stations. Potential cumulative impacts of more transmission power lines on Klein Zoute River AH should be investigated from an environmental health and safety perspective. Significance: **Low**
Proposed Option B (Green)	Potential impacts on: Brakkefontein Shooting Range; Delta 200 Airstrip; Klein Zoute River AH; Proposed municipal landfill site; Farms. These would require further investigation. Significance: **Medium**
Proposed Option C (Blue)	Potential impacts on: Railway line; Apollo Bricks; Portion of Klein Zoute River AH; Farms; Users of the Corobrick Four Wheel Drive Challenge site. These would require further investigation. Significance: **Medium**

5.5. Recommendations regarding preferred alternatives

The sections below provide recommendations on preferred alternatives for:

1. the proposed Ankerlig Conversion project
2. the proposed 400kV transmission power line from the Ankerlig Power Station to the Omega sub-station.

5.5.1. Ankerlig Conversion

The conversion process as proposed is considered the preferred alternative to the no-go alternative from a social perspective, as the positive impact of electricity provision outweighs potential negative impacts that may be associated with the development. Such negative impacts can be mitigated, while other potential positive impacts such as social investment and employment creation during construction can be optimised through appropriate management measures to be addressed in the detailed SIA to be undertaken during the EIA phase.

5.5.2. Transmission Power Line

Option A is considered the preferred alternative for the proposed Transmission Line from a social perspective, as impacts to current land-uses and sense of place will be minimal along this route. Options B and C may both be considered acceptable, but would require more detailed investigation to determine the significance of impacts on current land-uses and sense-of-place, which could require additional mitigation measures to be put in place.

6. IMPACTS TO ADDRESS IN THE SIA TO BE UNDERTAKEN WITH THE EIA PHASE

Table 6 below provides a summary of potential social impacts discussed in this document, noting the project component and phase for which impacts may be expected, significance of the impact, whether or not it will be assessed as part of the detailed Social Impact Assessment, and methods to be used for assessment of impacts. It is worth noting that for impacts which will not be assessed as part of the SIA, comments may still be included, based on key findings of other relevant specialist studies.

Table 6: Summary of Impacts to be addressed (TBA) in Social Impact Assessment (SIA)

Impact	Ankerlig Conversion		Transmission Line		Anticipated Significance	To Assess in SIA	Method(s) of Assessment
Phase:	**C**	**O**	**C**	**O**			
Provision of electricity		X		X	Very High	N	• Significance already noted and assessed in previous EIA processes undertaken (2005 and 2007)
Temporary Employment	X		X		Low to Medium	Y	• Obtain employment estimates from Eskom; • Propose mitigation to optimise impact.
Ongoing Employment		X			Low to Medium	Y	• Obtain employment estimates from Eskom; • Propose mitigation to optimise impact.
Social Investment	X	X	X	X	Low to High	Y	• Obtain information on current social investment in area; • Propose mitigation to optimise impact.
Population influx	X		X		Low to Medium	Y	• Consult with community representatives regarding experience in terms of impacts of influx and how to address; • Propose mitigation to minimise social disruption.
Increase in traffic	X	X	X		Low to High	Y	• To be assessed based on review of previous transport study.
Impacts on health & safety		X		X	Low to Medium	Y	• Note key findings of relevant specialist studies.
Interest group activity	X	X			Low to High	Y	• Consult with community representatives to determine current perceptions and concerns with project that may lead to interest group activity; • Propose mitigation to minimise potential for interest group activity.
Impact on current land-uses			X	X	Low to Medium	Y	• Impact of selected transmission power line alternative will be investigated based on specific land-uses to be impacted; • Get information on current land-users; • Propose mitigation to minimise potential impact on land-uses.
Impact on sense of place	X	X	X	X	Low to Medium	Y	• Impact of selected transmission power line alternative will be investigated based on specific land-uses to be impacted; • Note key findings of relevant specialist studies.

7. CONCLUSION

This report has provided an overview of the social environment in and around Atlantis in the City of Cape Town, where Eskom proposes to convert nine OCGT units at its Ankerlig Power Station to CCGT Units, and construct a transmission power line between the Ankerlig Power Station and the already approved Omega substation. This was followed by a brief look at the existing policy environment at National, Provincial and Municipal level, to serve as context for assessing potential social impacts identified. A scoping assessment of social impacts on the social fabric of surrounding communities looked at potential impacts of both the Conversion process and proposed transmission power line, for construction as well as operational phases.

The most significant positive social impact that may be associated with the proposed developments is provision of electricity, and its related linkages to the broader national economy. Other potential positive impacts include provision of temporary employment during construction and limited employment opportunities for locals during the operational phases for both the Ankerlig CCGT conversion and the proposed transmission power line. These impacts will be limited, but are worth considering in the context of high levels of poverty and unemployment characterising the social environment in and around Atlantis. Possible Social Investment from Eskom can be another potential positive impact with significance depending on the extent and appropriateness of such investment to address social needs.

Potential negative impacts that may result from the proposed development include an influx of jobseekers as well as temporary workers, particularly during the construction period. This can have a number of indirect social impacts including pressure on scarce resources, competition for employment, conflict between residents and newcomers, as well as an increase in crime and other social pathologies. Potential negative impacts relating to the social environment that will be assessed based on separate specialist studies conducted as part of this as well as previous assessments include impacts on health and safety, increase in traffic, impacts on air quality and groundwater, as well as visual and noise impacts. The possibility of interest group activity that may result from local perceptions of impacts on health and safety related to the Power Station is considered as a separate impact to be addressed in the SIA with recommendations on means to minimise its likelihood. Potential impacts on Sense of Place during construction and operation of the Power Plant will be limited as the site is already occupied by the existing OCGT plant, but is worth considering in the light of people's perceptions of their area being used as a 'dump' for developments.

The proposed transmission power line will have some impact on land-uses. Option A will have the least impact in this regard as it largely follows existing transmission power lines where land use has already been disturbed. Impacts on Sense of Place for the transmission power line will be least significant for Option A where additional transmission power lines will cause fewer disturbances than proposed 'new' alignments.

The conversion process as proposed is considered the preferred alternative to the no-go alternative from a social perspective, as the positive impact of electricity provision outweighs potential negative impacts that may be associated with the development. Option A is considered the preferred alternative for the proposed Transmission Line from a social perspective, as impacts to current land-uses and sense of place will be minimal along this route.

REFERENCES

Afrosearch, 2005. *Social Impact Assessment for the proposed Open Cycle Gas Turbine Power Plant at Atlantis.* Prepared for: Bohlweki Environmental

Barbour, T. 2007. *Guidelines for involving Social Specialists in an EIA*. Prepared for: Western Cape Department of Environmental Affairs and Development Planning

Cape Biosphere Website: *http://www.capebiosphere.co.za/Topography.60.0.html*. Accessed January 2007.

City of Cape Town Department of Health. 2004. *Blaauwberg District Health Statistics.* Retrieved from the World Wide Web: http://www.capetown.gov.za/clusters/health.asp?IDPathString=1123-1374-3254&clusid=245&catparent=3254#Blaauw2004 on 26 December 2007.

City of Cape Town, 2006. *Socio-economic profile: City of Cape Town*. Retrieved from the World Wide Web: http://www.capegateway.gov.za/Text/2007/1/city_of_cape_town_se_profile_optimised.pdf on 30 November 2007.

City of Cape Town, 2006. *Suburb Profiles* Retrieved from the World Wide Web: http://www.capetown.gov.za/ on 30 November 2007.

City of Cape Town Department of Health. 2007. *Environmental Helath.* Retrieved from the World Wide Web: http://www.capetown.gov.za/clusters/health.asp?IDPathString=1123-1373-1422&clusid=257&catparent=1422 on 26 December 2007.

City of Cape Town, 2007 (1) *Atlantis Poised for Economic Boom.* Published on http://www.capegateway.gov.za/eng/pubs/news/2007/dec/164138 29 December 2007

City of Cape Town, 2007 (2) *Service Delivery Budget Implementation Plan. 2007-2008.*

International Labour Organization. 2003. *International Standard Classification for Occupations (ISCO-88).* Cited in Afrosearch 2005.

MasterQ, 2007. *Social Impact Assessment* conducted for the *Proposed capacity expansion of the existing open cycle gas turbine (OCGT) plant and associated transmission lines and substation at Atlantis, Western Cape Province.* Prepared for: Bohlweki Environmental

Romanovsky, P. 2006. *Population Projection for Cape Town 2001 – 2021* Information and Knowledge Management Department. Strategic Information Branch Retrieved from the World Wide Web: http://web.capetown.gov.za/eDocuments/Population_Projection_for_Cape_Town_2001-2021_1992006151750_359.pdf on 30 November 2007.