

**PROPOSED ESTABLISHMENT OF THE ANDERSON
DINALEDI 400kV TRANSMISSION LINE BETWEEN THE
PROPOSED NEW ANDERSON SUBSTATION
(BROEDERSTROOM) AND THE DINALEDI SUBSTATION
(BRITS), NORTH WEST AND GAUTENG PROVINCES**

DRAFT SOCIO-ECONOMIC IMPACT ASSESSEMENT

September 2012



ENVIRONMENTAL, SOCIAL AND OHS CONSULTANTS

P.O. BOX 1673
SUNNINGHILL
2157

197 North Ridge Road
MORNINGSIDE
4001

Phone: (031) 208 7470
Fax: (031) 208 7471
Email: info@nemai.co.za

Copyright Nemai Consulting 2012

Executive Summary

Nemai Consulting was appointed by Eskom as the independent Environmental Assessment Practitioner (EAP) to undertake the Environmental Impact Assessment for the proposed establishment of the Anderson 400kv substation. A Socio-Economic Impact Assessment was carried out to determine the potential impacts of the proposed substation on the receiving environment.

The proposed Anderson substation is located in the Gauteng Province in the City of Tshwane Local Municipality. The site lies close to the border between Gauteng Province and the North West Province on Portions 82, 83 and 76 of Farms Schurveberg 488 JQ. This is a privately owned land that is used for residential purposes.

A status quo of the surrounding area of the site was conducted using data from Statistics South Africa Census 2001. It is the most comprehensive data set that is available as it divides statistics by geographical area and sub places. The following sub place was used to conduct the status quo:

Sub-Place	Local Municipal Area	Province	Powerline Route Traversing the Sub-Place
Pretoria NU	City of Tshwane Local Municipality	Gauteng	Eastern Route Alternative

It was found that the total population in the study area was 5 118 persons, of which there are slightly more males (51%) than females (49%). Education levels in the study area for persons over age 20 are provided. Majority of persons have some secondary schooling, completed standard 12, or have some primary. Majority of dwelling in the area are formal dwellings. The population in the study area are classified as low income earners, indicating vulnerability and poverty.

The socio-economic impacts that were discussed in this report include the following

- ❖ Economic Impacts;
- ❖ Visual and Tourism Impacts;
- ❖ Impacts on the social environment;
- ❖ Employment and skills transfer;
- ❖ Supply of Electricity; and
- ❖ Roads and Traffic.

The site location is owned by on landowner who is currently renting out the plot for residential purposes. On the site there are approximately six horses, a family who is renting

the plot and there workers. There will be no loss of income from any of the residents or workers who live in on the site location should they be relocated.

The proposed development will cause disruption during the construction phase, but as long as mitigation measures are carried out properly, these disruptions should have minimal lasting effect on the social and economic conditions of the proposed development.

Title and Approval Page

TITLE: Proposed Establishment of the Anderson Dinaledi 400kv Transmission Line between the Proposed New Anderson Substation (Broederstroom) and the Dinaledi Substation (Brits), North West and Gauteng Provinces

CLIENT: Eskom Holdings Limited
P.O. Box 1091
Johannesburg
2001
Telephone: (011) 800 2345

PREPARED BY: Nemaï Consulting C.C.
P.O. Box 1673
Sunninghill
2157
Telephone: (011) 781 1730
Facsimile: (011) 781 1731

AUTHOR:

Signature

Date

APPROVAL:

Signature

Date

DECLARATION OF INDEPENDENCE

The Independent Consultant

I, _____ declare that I –

- act as the Independent Consultant in this application for the proposed establishment of the Anderson Dinaledi 400kV transmission line between the proposed new Anderson (Broederstroom) and the Dinaledi Substation (Brits), North West and Gauteng Provinces
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2006;
- have and will not have any vested interest in the proposed activity proceeding;
- have no, and will not engage in, conflicting interests in the undertaking of the activity; and
- will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.

Signature of the Consultant

Nemai Consulting

Name of company

Date

Table of Contents

Executive Summary	2
Title and Approval Page.....	4
Introduction.....	9
Methodology.....	9
Assumption and limitations.....	12
Structure.....	13
Overview of the Operation	13
Location of Site.....	13
Description of the Social and Economic Environments.....	14
Regional and Local Context.....	15
Gauteng Province	15
Defining the study area.....	15
Livelihood Indicators.....	16
Population, Age and Gender.....	17
Education.....	17
Dwelling type	18
Electricity	19
Economy	20
Employment.....	20
Annual Household Income	21

Industry	22
Social and Economic Impacts and Mitigation	23
Economic Impacts	25
Visual Impact and tourism	26
Impacts on the social environment	28
Employment and skills transfer	30
Supply of Electricity	31
Roads and Traffic	32
Site 2	33
Conclusion	33

List of Figures

Figure 1 Locality of the study area	14
Figure 2: Locality Map.....	16
Figure 3: Number of individuals (age 20+) by highest education level reached	18
Figure 4: Number of households by Dwelling type (Statistics South Africa, 2001)	19
Figure 5 Number of individuals who are employed (age 15-65).....	21
Figure 6: Number of households by income bracket	22
Figure 7: Number of people employed per industry (age 15-65) (Statistics South Africa, 2001)	23

List of Tables

Table 1: Number of individuals by Age and Gender (Statistics South Africa, 2001).....	17
Table 2: Number of households by energy usage (Statistics South Africa, 2001).....	20
Table 3 Information on Site 2	33

Introduction

The Medupi integration identified the need for the new 2 x Spitskop-Dinaledi 400kV lines to transmit power further into the grid beyond Spitskop. The Dinaledi Main Transmission Substation (MTS) is the main node to link the Waterberg generation and the Mpumalanga pools. Dinaledi MTS is connected by 400kV lines to Bighorn (Rustenburg), Apollo (Pretoria) and will be connected by 2x400kV lines to Spitskop (Northam). This meshed network will be linked to the Central Grid through the establishment of a new 400kV line from Dinaledi MTS to a new substation called Anderson.

The proposed Anderson substation will be located in the Tshwane Metropolitan Municipality. The Dinaledi – Anderson 400kV line will transmit power from Dinaledi to the Central Grid and strengthen it. This will ensure that the transmission system north of Johannesburg, Brits and Rustenburg are heavily meshed thus improving the reliability of the Transmission system and sustain economic growth in the three areas.

This Socio-Economic Impact Assessment aims to identify the social and economic environment surrounding the project area and identify how this environment is to be impacted by the proposed project. This Socio-Economic Impact Assessment is a tool to be used in decision making processes by the relevant authorities which will decide whether the development will be socially, environmentally and economically sustainable

Methodology

The International Association for Impact Assessment (2003) states that Social Impact Assessment includes the processes of analysing, monitoring and managing the intended and unintended consequences of planned interventions (policies, programs, plans, projects) and any social change processes invoked by these interventions to create a more sustainable and equitable biophysical and human environment (Vanclay, 1999)

The analysis of impacts will be performed for two stages, the construction phase and operational phase. This will help to determine the loss/gain on welfare, as well as the extent of impact on the economy in the area.

SEIA is a methodology used to assess the social impacts and economic impacts of planned interventions or events, and to develop strategies for the ongoing monitoring and management of those impacts (International Association for Impact Assessment, 2003).

Social changes implemented through projects can multiply into more projects and change. These impacts and changes can either be positive or negative (Vanclay, 1999).

The methodology in this report was as follows:

1. Desktop analysis

Data collection by reviewing various relevant reports, including Integrated Development Plans, statistical data obtained from Statistics South Africa.

The Census 2001 data is the most comprehensive dataset available for the area, and despite it representing data that is eleven years old, it is currently the best data at hand. The analysis will be conducted using the Census 2001 sub place as the smallest geographic unit of measure. The sub places have been extracted using the project GIS, and the data for the affected sub places will be presented in the table and figures below.

Desktop analysis also involved looking at existing data and reports such as municipal Integrated Development Plans and other municipal reports.

2. Public Participation Process

The public participation process, undertaken by Nema Consulting further informed this study.

3. Site Visit

A site visit was conducted on the 4 September 2012 to determine the land use in the study area.

4. Telephonic conversation with the landowner

A telephonic conversation with the landowner of the project site took place on the 10 September 2012 to determine the land use of farm.

This Socio-Economic Impact Assessment will present the existing conditions in the project development area thus providing baseline data of the area. A matrix to determine the significance of each project will be used.

All major impacts are analysed in the section to follow with regard to their nature, extent, magnitude, duration, probability and significance. The following definitions apply:

Nature (Status)

The project impact on the environment can be either

- ❖ Positive (+);
- ❖ Negative (-); or
- ❖ Neutral (0)

Extent

- ❖ Local – extends to the site and its immediate surroundings.
- ❖ Regional – impact on the region but within the province.
- ❖ National – impact on an interprovincial scale.
- ❖ International – impact outside of South Africa.

Magnitude

Degree to which impact may cause irreplaceable loss of resources.

- ❖ Low – natural and social functions and processes are not affected or minimally affected.
- ❖ Medium – affected environment is notably altered; natural and social functions and processes continue albeit in a modified way.
- ❖ High – natural or social functions or processes could be substantially affected or altered to the extent that they could temporarily or permanently cease.

Duration

- ❖ Short term – 1-2 years. (ST)
- ❖ Medium term – 2-5 years. (LT)
- ❖ Long term – impact ceases after the operational life cycle of the activity either because of natural processes or by human intervention. (LT)
- ❖ Permanent – mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient. (P)

Probability

- ❖ Certain – the event is expected to occur in most circumstances.
- ❖ Likely – the event will probably occur in most circumstances.
- ❖ Moderate – the event should occur at some time.
- ❖ Unlikely – the event could occur at some time.
- ❖ Rare/Remote – the event may occur only in exceptional circumstances.

Significance

Provides an overall impression of an impact's importance. The range for significance ratings is as follows-

- ❖ 0 – Impact will not affect the environment.
- ❖ 1 – Low Impact.
- ❖ 2 – Medium Impact.
- ❖ 3 – High Impact.

Assumption and limitations

Undertaking a social impact assessment for a linear project such as the proposed 400kV Dinaledi – Anderson transmission power line is challenging due to the speculation effects of transmission power line on health, property and livelihood of local community. The data currently available from Statistics South Africa carries with it certain limitations that will be reflected in this study and in-depth site interviews with stakeholders. The sampling procedure used in this study is not representative, the respondents have been chosen by random; the concerns and issues raised in this report are not representative, but reflect trend perceptions of the affected community. However, it must also be noted that the results of this study cannot be generalised and applied to the entire population across the whole area and, as is in the nature of social research, is restricted to the specific study area. Attention is now turned towards providing a demographic description of the study area.

Below are the assumptions and limitations to the study:

- It is assumed that information related to the social environment obtained from the strategic documents of the affected areas such as North West Growth and Development Strategy (NWGDS) 2004/14; Gauteng Provincial Growth and Development Strategy (GPGDS) 2005; Growth and Development Strategy for the City of Tshwane Metropolitan (GDSCT) 2004/14; Madibeng Local Municipality Integrated Development Plan – Analysis, 2004 etc were accurate.
- Unless otherwise stated, the statistical data reflected in this report are from the 2001 Census data obtained from the Municipal Demarcation Board: www.demarcation.co.za and South Africa Community Survey 2007; bearing in mind that the social- demographic profiles may have changed in the recent number of years.

- The study has been limited to the discussions and interviews with the stakeholders such as landowners, residents and Ward Councilors. The additional information was collected using the data from the relevant specialist studies.
- This study has not explored in details the issues dealt with in other specialist reports including broader economic impacts associated with the project; potential impacts of the project on property, heritage study etc.

Structure

The structure of the report is as follows

Section 1: An introduction to the project and methodology is provided

Section 2: An overview of the project and project activities is detailed for understanding. The project location is identified.

Section 3: A status quo of the project area is outlined. The regional context followed by a demographic and economic analysis is provided. The level of services present in the area as well as major economic activities described.

Section 4: Social and Economic Impacts and Mitigation are outlined.

Overview of the Operation

The Dinaledi Substation is located on Portion 843 of the Farm Roodekopjes of Zwartkopjes 427 JQ, which is located approximately 8km North East of Brits. The Anderson Substation is located on Portions 82, 83 and 76 of Farms Schurveberg 488 JQ in the City of Tshwane Metropolitan Municipality.

Location of Site

The proposed Anderson substation will be on Portions 82, 83 and 76 of Farms Schurveberg 488 JQ.



Figure 1 Locality of the study area

The site location is owned by on landowner who is currently renting out the plot for residential purposes. On the site there are approximately six horses, a family who is renting the plot and there workers. There will be no loss of income from any of the residents or workers who live in on the site location should they be relocated.

Description of the Social and Economic Environments

This section seeks to contextualise the study by developing a socio-demographic profile that captures the relevant socio-economic characteristics of the areas directly affected by the proposed developments and surrounding. This information provides the reader in understanding of the possible social and economic impacts that may result from the proposed development on the social environment.

This section will be analysed on two levels: at a provincial and local level. The socio-demographic, cultural, institutional and economic aspects that can be affected by the proposed development will be described. The discussions are based mainly on data provided by Statistics South Africa in respect of the 2001 Census and Community Survey

2007 as well as the Gauteng and Development Strategies and City of Tshwane Metropolitan Municipality.

Regional and Local Context

Gauteng Province

The City of Tshwane, which is to house the new proposed Anderson Substation is found in Gauteng Province.

The Gauteng Province is bounded to the north by the Limpopo Province; to the south by the Vaal River, which separates it from the Free State Province; to the east by the Mpumalanga Province and to the west by the North West Province.

The Gauteng Province is the smallest province in South Africa, with only 1.4% of the land area. The Gauteng Province covers an area of 16 548 km². The province is highly urbanised containing the cities of Johannesburg and Pretoria. Although it is South Africa's smallest province, the Gauteng Province has the largest population. In 2007 the Gauteng Province had a population of nearly 10.5 million, thus making Gauteng the province with the highest population number.

The 2001 Census data indicates that the total population number of the Gauteng Province was estimated at 8.8 million people, almost 20% of the total South African population.

The Gauteng Province comprises of three metropolitan municipalities and three district municipalities which are further divided into nine local municipalities.

There are approximately 8.8 million people in the Gauteng Province which is the sixth most populated province in South Africa. The Gauteng Province is considered the fastest growing province, experiencing a population growth of over 20% between the 1996 and 2001 Censuses. The Gauteng Province is highly urbanised with 97% of its population living in urban centres.

Defining the study area

For a better understanding of the significance of the demographic issues, social and economic issues in the study area will be defined using Census 2012 sub places.

The proposed Anderson Substation lies in the Pretoria NU sub place which is a relatively large sub place as can be seen in the Figure below.

Sub-Place	Local Municipal Area	Province	Powerline Route Traversing the Sub-Place
Pretoria NU	City of Tshwane Local Municipality	Gauteng	Eastern Route Alternative

The Census 2001 data for the Pretoria NU sub place will be used to describe the social and economic conditions of the project area. The map below indicates the proposed study area.



Figure 2: Locality Map

Livelihood Indicators

These livelihood indicators help identify the socio-economic profile of the study area which may be affected by the proposed project.

Population, Age and Gender

The population in the study area totals 5 118. There is a slightly higher male population of 51 percent than female population which is 49 percent. This is the opposite of the national averages where the female population is slightly higher than this male population.

The largest population or 46 percent of the population is between the ages of 19 and 39. This age group is typically the most hard working and productive population. 28 percent of the population is between the ages of 0 and 19. Elderly people over the age of 65 only account for three percent of the total population in the study area.

Table 1: Number of individuals by Age and Gender (Statistics South Africa, 2001)

Age	Male	Female	Total
0-19	14%	14%	28%
19-39	24%	22%	46%
40-64	12%	11%	23%
65+	2%	1%	3%
Total	51%	49%	100%

Education

Research indicates that there are strong positive links to economic development and growth. These are related to productivity, higher income and even improvements in health. Thus insights into the education levels of the study area will provide information on the social and economic contributions.

There figure below shows the number of individuals (age 20+) by highest education level reached. There are 3 964 persons in Pretoria NU that have some secondary education while 1 265 persons between 15 and 65 have no education. 886 persons have received higher education.

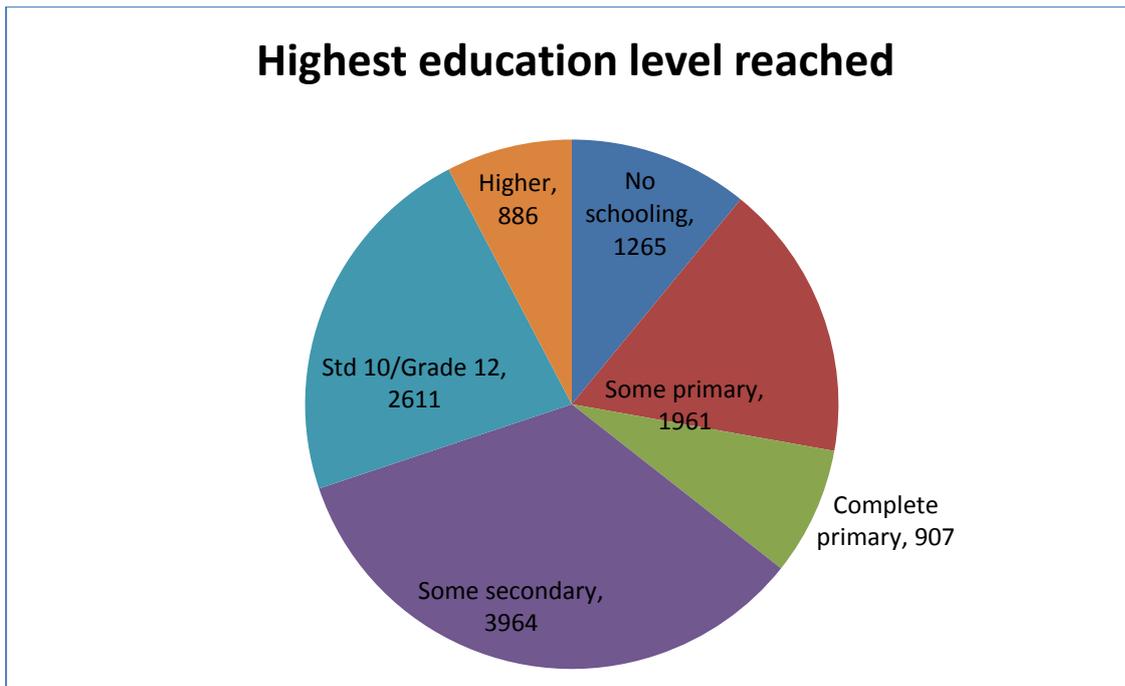


Figure 3: Number of individuals (age 20+) by highest education level reached

1 961 persons in the affected area have some primary school education. This educational level is likely to leave affected people functionally illiterate and unable to fully compete in the economy.

Thus, fully 28% of the population is either completely, or functionally, illiterate. This is a constraint to economic development since people in this group are likely to supply manual labour, and not to be able to participate fully in the increasingly knowledge driven economy.

Dwelling type

There are 2 369 households in the study area who live in informal households. This is reflected in the Census 2012 data for the study area. This is just less than the 2 748 formal households in the area.

Formal housing is classified as (Statistics South Africa, 2001):

- ❖ House or brick structure on a separate stand or yard
- ❖ Flat in block of flats
- ❖ Town/cluster/semi-detached house (simplex; duplex; triplex)
- ❖ House/flat/room in back yard
- ❖ Traditional dwelling/hut/structure made of traditional materials
- ❖ Room/flatlet not in back yard but on shared property

- ❖ Caravan or tent
- ❖ Private ship/boat

Informal Housing is classified as (Statistics South Africa, 2001):

- ❖ Informal dwelling/shack in back yard
- ❖ Informal dwelling/shack not in back yard

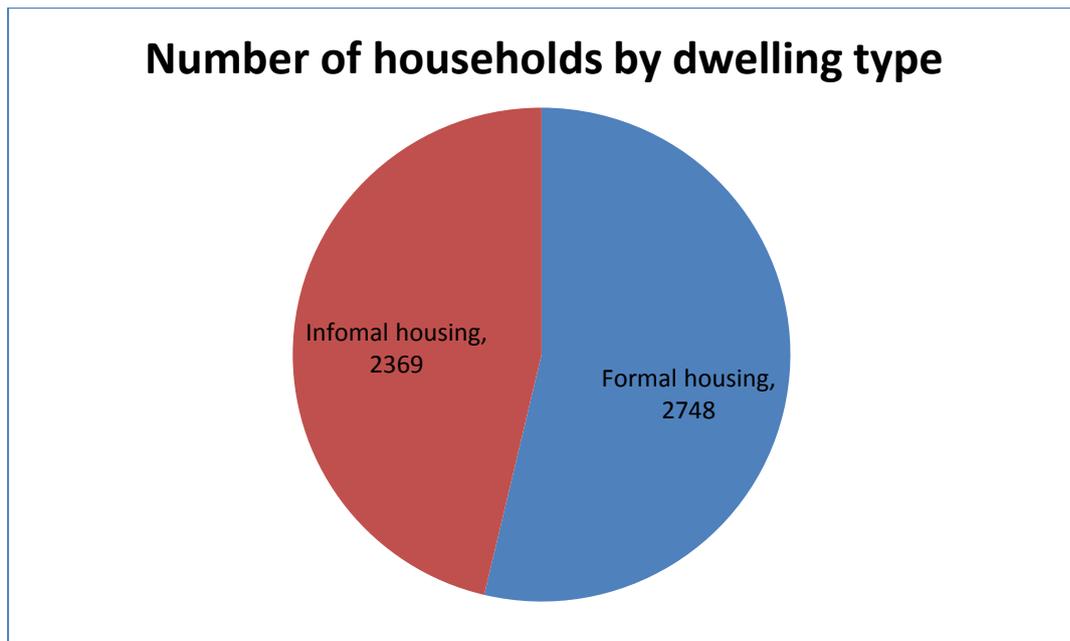


Figure 4: Number of households by Dwellign type (Statistics South Africa, 2001)

Electricity

Due to the nature of the project, electricity usage is determined in the study area using Census 2001 data. The data shows the household energy usage for lighting, heating and cooking.

The data shows that 2 262 households in the study area has electricity for lighting purposes while 2 581 households are using candles for lighting.

For heating, 1 835 of households have electricity for heating, while 1 696 households use paraffin and 684 households use wood for heating.

Paraffin is most widely used for cooking with 2 745 households make use of it. 1 976 households make use of electricity for cooking purposes.

Table 2: Number of households by energy usage (Statistics South Africa, 2001)

Electricity	Gas	Paraffin	Wood	Coal	Animal dung	Candles	Solar	Other
Lighting								
2262	20	221	0	0	0	2581	21	13
Heating								
1835	79	1696	684	472	30	0	7	314
Cooking								
1976	163	2745	179	20	22	0	7	7

Economy

The key economic activities of Gauteng Province are financial and business services, logistics and communications, and mining. Gauteng is the financial capital of Africa and is home to a high number of foreign and South African banks; stockbrokers and insurance corporations.

Employment

The figure below shows the indicative figures for employment in the study area for the age 15 - 65. Using Census 2001 data the diagram below shows that there are 654 persons who are employed while 117 persons are unemployed. In total there are 204 persons who are not economically active in the study area.

Number of individuals by employment (age 15-65)

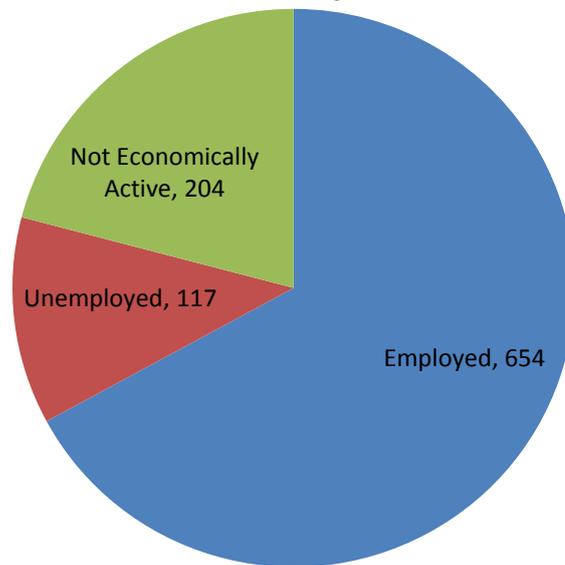


Figure 5 Number of individuals who are employed (age 15-65)

Annual Household Income

The table below describes the annual household income for the study area. Household income is grouped into the following brackets:

- ❖ No income R0
- ❖ Low Income R1 - R38 400
- ❖ Middle Income R38 401 - R 307 200
- ❖ High Income R307 201 +

Analysis of the study area reveals that the population is mostly low income earners as 3 142 households earn in the low income bracket. There are 1 073 households who earn no income and 827 households who call in the middle income bracket. Only 78 households are classified as high income households.

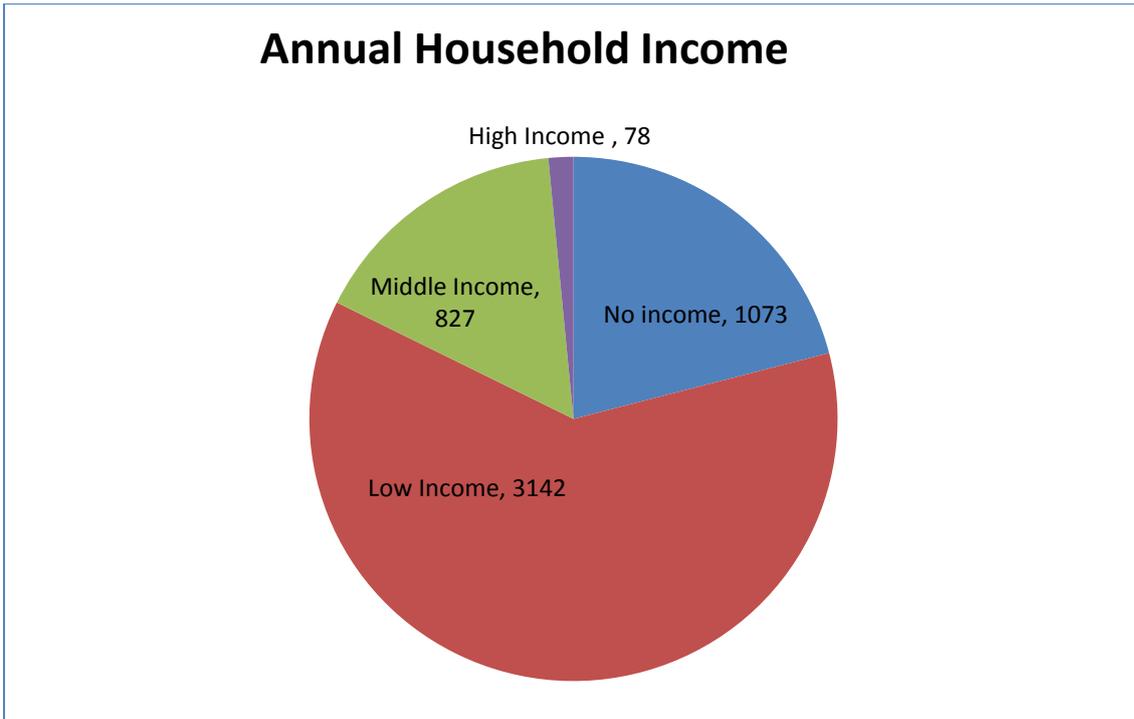


Figure 6: Number of households by income bracket

Industry

The economy of Gauteng Province is moving away from traditional heavy industry markets towards high value-added production with particular focus on information technology, telecoms and other high-tech industries.

The Gauteng Province has the best telecommunications and technology on the African continent including South Africa's five television stations. The province also incorporates the highest concentration of radio, internet and print media in Africa.

Manufacturing is an important economic activity within the Gauteng Province. It includes basic iron and steel, fabricated and metal products, food, machinery, electrical machinery, appliances, electrical supplies, vehicle parts and accessories and chemical products.

The Figure 7 below shows the number of people employed between the ages 15 and 65.

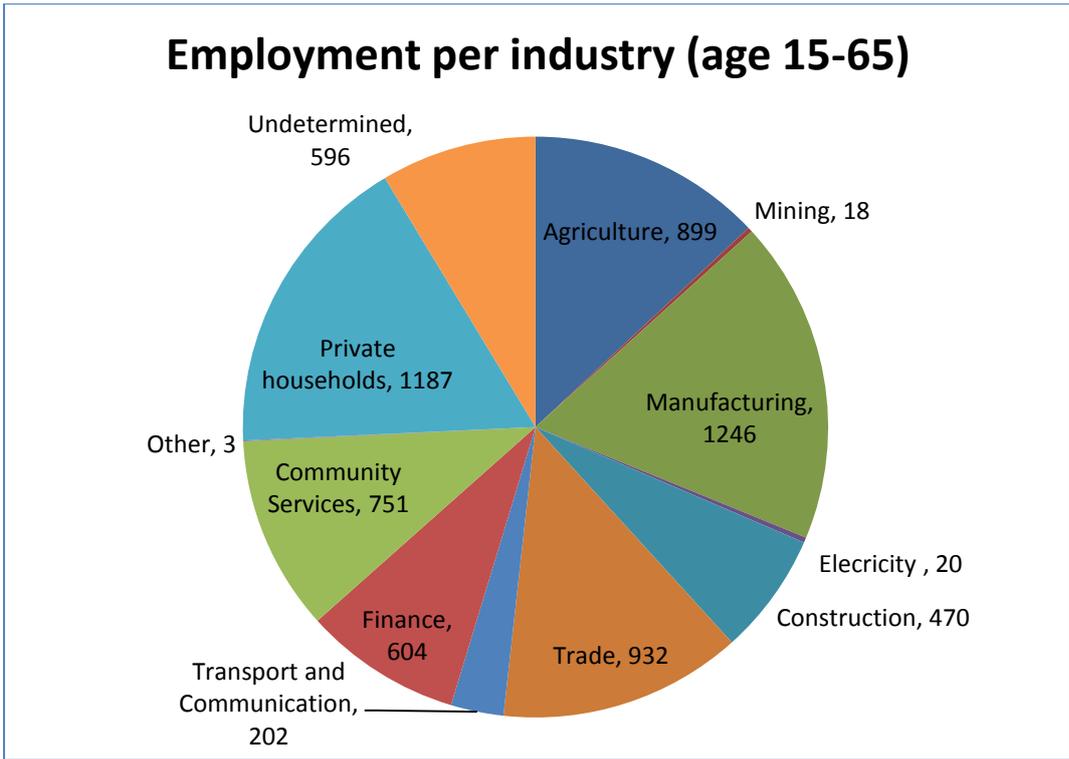


Figure 7: Number of people employed per industry (age 15-65) (Statistics South Africa, 2001)

The largest industry in terms of employment is manufacturing which employs 1 246 persons. Trade (retail and wholesale) employs 932 persons. The agricultural sector in Pretoria NU employs 899 persons. Together these three sectors account for 44 percent of total employment in the study area.

This is followed by 751 persons in community services. Community services are made up of government services which include nurses, teachers and policing. Employment in this sector is also an indicator of government dependency. The larger the employment in government services, the higher the dependency on government for job creation.

Social and Economic Impacts and Mitigation

This section will describe the socio-economic impacts of the proposed Anderson Substation as well as the associated mitigation measures.

All impacts are analysed in the section to follow with regard to their nature, extent, magnitude, duration, probability and significance. The following definitions apply:

<p><u>Nature (/Status)</u></p> <p>The project could have a positive, negative or neutral impact on the environment.</p>
--

Extent

Local – extend to the site and its immediate surroundings.

Regional – impact on the region but within the province.

National – impact on an interprovincial scale.

International – impact outside of South Africa.

Magnitude

Degree to which impact may cause irreplaceable loss of resources.

- ❖ Low – natural and social functions and processes are not affected or minimally affected.
- ❖ Medium – affected environment is notably altered; natural and social functions and processes continue albeit in a modified way.
- ❖ High – natural or social functions or processes could be substantially affected or altered to the extent that they could temporarily or permanently cease.

Duration

- ❖ Short term – 0-5 years.
- ❖ Medium term – 5-11 years.
- ❖ Long term – impact ceases after the operational life cycle of the activity either because of natural processes or by human intervention.
- ❖ Permanent – mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.

Probability

- ❖ Almost certain – the event is expected to occur in most circumstances.
- ❖ Likely – the event will probably occur in most circumstances.
- ❖ Moderate – the event should occur at some time.
- ❖ Unlikely – the event could occur at some time.
- ❖ Rare/Remote – the event may occur only in exceptional circumstances.

Significance

Provides an overall impression of an impact's importance, and the degree to which it can be mitigated. The range for significance ratings is as follows-

0 – Impact will not affect the environment. No mitigation necessary.

1 – No impact after mitigation.

2 – Residual impact after mitigation.

3 – Impact cannot be mitigated.

Economic Impacts

There is likely to be a short term increase in economic activity as a result of the substation. The construction labour force will not only be earning an income in the area, but consumption will take place this increase the commercial activity and the flow of money in the area.

This may result in short term indirect economic gains, which will be in the form of purchasing construction material and transport.

Through the employment of locals, skills and knowledge transfer is likely to take place which can increase the employability of these workers. Employment will also increase the income of households and capacity to be more productive.

Economic Feature		General Economy				
Relevant Alternatives & Activities		Substation				
Project life-cycle		Pre- Construction and Construction phase				
Potential Impact		Proposed Management Objectives / Mitigation Measures				
❖ Positive impact on the local economy.		❖ No mitigation required				
	+/- Impacts	Extent	Magnitude	Duration	Probability	Significance
Before Mitigation	+	Local	Low	Short	Likely	3
After Mitigation	+	Local	Low	Short	Likely	2

Economic Feature		General Economy				
Relevant Alternatives & Activities		Substation				
Project life-cycle		Operational Phase				
Potential Impact		Proposed Management Objectives / Mitigation Measures				
❖ Positive impact of stable electricity supply		❖ No mitigation required				
	+/- Impacts	Extent	Magnitude	Duration	Probability	Significance
Before Mitigation	+	Local	Low	Long	Likely	3
After Mitigation	+	Local	Low	Long	Likely	3

Visual Impact and tourism

Impact

The attraction to the Hartebeespoort area is that the area is scenic. The mountains and open land provides opportunity for tourism. A large proportion of the study area is used for conservation, nature reserves, and accommodation and tourism facilities. Thus there is a visual appeal to the land which has been used to generate income.

The impact of having a substation in such an environment could result in loss of income as the visual appeal of the land is reduced. Specifically in the study area there are many accommodation and leisure activities which are designed to enjoy the natural unspoilt state of the land. A substation is likely to disrupt the sense of place as the visual appeal of the land is affected.

The construction phase can impact negatively on economy activity through a loss of income or reputation as the natural environment is disturbed. Impacts associated with construction crew actions, resulting in the loss of stock or equipment should also be considered.

Economic Feature		Visual , Tourism And Leisure Impacts				
Relevant Alternatives & Activities		Substation				
Project life-cycle		Pre- Construction and Construction phase				
Potential Impact		Proposed Management Objectives / Mitigation Measures				
❖ Route selection that disrupts the visual appearance of tourism and leisure facilities can have a negative impact and result in loss of income.		❖ The use of visually appealing pylons to reduce the impact on tourism and natural activity.				
❖ Disruption of tourism and leisure facilities due to construction activities which could later the nature of tourism activity. ❖ Poor housekeeping by construction staff. ❖ Stock losses due to poor construction housekeeping.		❖ Agreement should be reached with each landowner on the construction programme and impacts on the property during construction. Where necessary construction could be scheduled during low tourist season on affected farms. Agreements made prior to construction with respect to property access, the duration of construction and the impacts on the land should be adhered to by both the landowner and the utility. ❖ All local mitigation measures agreed to for each operation should be adhered to by Eskom site staff. ❖ Eskom compensates affected landowners at a market-related rate for stock and equipment losses which are directly attributable to construction activities.				
	+/- Impacts	Extent	Magnitude	Duration	Probability	Significance
Before Mitigation	-	Local	Medium	Medium	Likely	2
After Mitigation	-	Local	Low	Medium	Moderate	1

Economic Feature		Visual , Tourism And Leisure Impacts				
Relevant Alternatives & Activities		Substation				
Project life-cycle		Operational Phase				
Potential Impact		Proposed Management Objectives / Mitigation Measures				
❖ Visual appearance of tourism and leisure facilities can have a negative impact and result in loss of income.		❖				
	+/- Impacts	Extent	Magnitude	Duration	Probability	Significance
Before Mitigation	-	Local	Low	Short	Moderate	1

After Mitigation	-	Local	Low	Short	Moderate	0
-------------------------	---	-------	-----	-------	----------	---

Impacts on the social environment

The study area has a high population growth rate and is developing rapidly. With the proposed project which is likely to attract workers, this population growth rate may increase and cause further strain on development needs.

When workers come into an area, there is a need to supply municipal services to these workers. The municipality may or may not have the capacity to support a larger number of people. Thus causing strain on social services.

As is common with migrant workers in an area, there may be some social disruption. The relations between locals and new job seekers may not be smooth and lead to conflict in the community.

Workers entering the area will also be competing with locals for employment which may cause tension in the community. Locals and new job seekers will be competing for the same jobs. Thus it is important to deter job seekers and stress on local employment.

Relations between migrant workers and locals can potential cause health problems by rising HIV and AIDS or other sexually transmitted diseases. This is a typically the case when a large number of males enter into an area. Hostel like structures will need to be prevented and awareness campaigns should be conducted.

During construction, the safety and security of labourers around may be at risk when working. Thus effective mitigation measures will need to be in place to avoid loss of life or injury. There safety of farming livestock will also need to be ensured

Economic Feature	Impacts on the social environment
Relevant Alternatives & Activities	Substation
Project life-cycle	Pre-Construction and Construction phase
Potential Impact	Proposed Management Objectives / Mitigation Measures

<ul style="list-style-type: none"> ❖ Social conflict can be disrupted as a result of the potential job seekers entering the area. ❖ The spread of disease due to hostel like living and relations between locals and job seekers take place. HIV/AIDS and other STDs may spread as a result. 	<ul style="list-style-type: none"> ❖ Any mitigation to avoid new job seekers from entering the area should be avoided. These can be done through the encouragement of local labour and importing of only necessary skilled labour ❖ Education campaigns on and awareness to on sexually transmitted diseases should take place to avoid health related issues. ❖ Should there be significant imported labour, care should be taken to integrated workers into the local community to avoid any conflict and disturbance to the social structure of the surrounding communities.
--	--

	+/- Impacts	Extent	Magnitude	Duration	Probability	Significance
Before Mitigation	-	Local	Medium	Medium	Likely	3
After Mitigation	-	Local	Low	Medium	Moderate	2

Economic Feature	Impacts on the social environment
Relevant Alternatives & Activities	Substation
Project life-cycle	Operational Phase
Potential Impact	Proposed Management Objectives / Mitigation Measures
<ul style="list-style-type: none"> ❖ Social conflict can be disrupted as a result of the potential job seekers entering the area. ❖ The spread of disease due to hostel like living and relations between locals and job seekers take place. HIV/AIDS and other STDs may spread as a result. 	<ul style="list-style-type: none"> ❖ Any mitigation to avoid new job seekers from entering the area should be avoided. These can be done through the encouragement of local labour and importing of only necessary skilled labour ❖ Education campaigns on and awareness to on sexually transmitted diseases should take place to avoid health related issues. ❖ Should there be significant imported labour, care should be taken to integrated workers into the local community to avoid any conflict and disturbance to the social structure of the surrounding communities.
<ul style="list-style-type: none"> ❖ Safety and security of the workers and the community may be at risk during the construction phase 	<ul style="list-style-type: none"> ❖ In order to mitigate against theft on farmland during construction, there should be effective consultation and fencing where possible to ensure controlled access to farming land to prevent theft and opportunistic behaviour.

	+/- Impacts	Extent	Magnitude	Duration	Probability	Significance
Before Mitigation	-	Local	Medium	Long	Likely	2
After Mitigation	-	Local	Low	Long	Moderate	1

Employment and skills transfer

There is likely to be a positive impact on employment especially during the construction phase. While both the construction and operational phase require labour, construction of the substation will require more labour than the operation.

Employment can become a sensitive issue, particularly the concern over local labour. There may conflict is migrant workers are given preference to employment opportunities. However the nature of transmission lines requires skilled labour.

Potential secondary employment impacts can result as small business employs more persons to sell goods to labourers.

The project has the potential to positively impact upon household incomes during the construction phase. In the study area, most people are low income earners thus employment of locals will create a positive impact on local communities who can derive some economic benefit from the project.

At least, the contractor should be barred from bringing unskilled labour in from areas outside the immediate area of construction. The contractor should also be encouraged to employ a proportion of their semi-skilled labour requirements from the ranks of the local communities. In addition, the contractor could be obliged to employ labourers on short term contracts of three months, similar to the government sanctioned Expanded Public Works Programme contracts. This would ensure that the project components create as many work opportunities in the affected areas as possible.

The project also has the potential to positively impact upon the skills levels in local communities during the construction phase. Only 19 percent of persons over the age of 20 matriculated. Thus the skill level of the community is not very high. Any local training and skills transfer that results from the project will create a positive impact.

Economic Feature	Employment and Skills Transfer
Relevant Alternatives & Activities	Substation
Project life-cycle	Pre-Construction and Construction phase
Potential Impact	Proposed Management Objectives / Mitigation Measures

❖ Opportunities for the use of local labour during construction.	❖ Compelling the contractor to use 100% local labour in the unskilled category of employment. ❖ Compelling the contractor to use as much as possible local labour in the semi-skilled category of employment. ❖ The use of three month long employment contracts to ensure that the maximum numbers of work opportunities are created in the area.
❖ Opportunities for a formal skills training programme to be implemented for the local labour force.	❖ Benefit areas with a higher education deficit ❖ Compelling the contractor to implement a skills training programme for the local labour force.

	+/- Impacts	Extent	Magnitude	Duration	Probability	Significance
Before Mitigation	+	Local	Low	Short	Unlikely	0
After Mitigation	+	Local	Low	Short	Likely	1

Economic Feature	Employment and Skills Transfer					
Relevant Alternatives & Activities	Substation					
Project life-cycle	Operational Phase					
Potential Impact	Proposed Management Objectives / Mitigation Measures					
❖ No operational phase impacts are foreseen	❖					
	+/- Impacts	Extent	Magnitude	Duration	Probability	Significance
Before Mitigation	+	Local	Low	Short	Unlikely	0
After Mitigation	+	Local	Low	Short	Unlikely	0

Supply of Electricity

Given that Pretoria is expecting to double its electricity demand in the next 20 – 30 years, the project is will secure stable supply of electricity too this region.

There is unlikely that the proposed project will increase electricity supply in the study area or the local community. This is a negative impact as the property values in the study area will fall as a result of the project so will income generation, particularly in the tourism and agriculture sector.

Economic Feature	Supply of Electricity
-------------------------	------------------------------

Relevant Alternatives & Activities		Substation				
Project life-cycle		Pre-Construction and Construction phase				
Potential Impact		Proposed Management Objectives / Mitigation Measures				
❖ The existing supply of electricity will not be able to meet future electricity demands.		❖ No mitigation				
	+/- Impacts	Extent	Magnitude	Duration	Probability	Significance
Before Mitigation	+	Local	Low	Short	Unlikely	0
After Mitigation	+	Local	Low	Short	Likely	0

Economic Feature		Supply of Electricity				
Relevant Alternatives & Activities		Substation				
Project life-cycle		Operational Phase				
Potential Impact		Proposed Management Objectives / Mitigation Measures				
❖ The existing supply of electricity will not be able to meet future electricity demands.		❖				
	+/- Impacts	Extent	Magnitude	Duration	Probability	Significance
Before Mitigation	+	Local	Low	Short	Unlikely	0
After Mitigation	+	Local	Low	Short	Unlikely	0

Roads and Traffic

Impact

During the construction phase there may be traffic disruptions in the area. Heavy construction vehicles may cause damage to the roads. Currently there is a road on the N4 national route that provides access to the farm. Thus there is potential for the N4 to be disrupted during construction.

Traffic will be temporary and mitigation can be done well in advance by awareness of the project. .

Economic Feature	Roads and Traffic					
Relevant Alternatives & Activities	Substation					
Project life-cycle	Pre-Construction and Construction phase					
Potential Impact	Proposed Management Objectives / Mitigation Measures					
❖ Temporary disruptions to traffic during the construction phase may occur.	❖ Access to the roads should be limited to Eskom for safety purposes. ❖ Any anticipated traffic disruptions should be forewarned through notices and sign boards.					
	+/- Impacts	Extent	Magnitude	Duration	Probability	Significance
Before Mitigation	-	Local	Low	Short	Likely	2
After Mitigation	-	Local	Low	Short	Likely	1

Economic Feature	Roads and Traffic					
Relevant Alternatives & Activities	Substation					
Project life-cycle	Operational Phase					
Potential Impact	Proposed Management Objectives / Mitigation Measures					
❖ Temporary disruptions to traffic during the construction phase may occur.	❖ Access to the roads should be limited to Eskom for safety purposes. ❖ Any anticipated traffic disruptions should be forewarned through notices and sign boards.					
	+/- Impacts	Extent	Magnitude	Duration	Probability	Significance
Before Mitigation	+	Local	Low	Short	Likely	0
After Mitigation	+	Local	Low	Short	Likely	0

Site 1 and 2

There are two alternative sites for the proposed Anderson Substation, alternative Site 1 and Site 2. The table below highlights the information of Site 1 and Site 2. Only one property is affected by Site 1 while there are three properties be affected by this Site 2:

Table 3 Information on Site 2

Site	Affected Properties	Size
Site 1	Portion 82 of the Farm Weldaba 567 JQ	Total Portion = 2737ha

Site 2	Portion 82 of the Farm Weldaba 567 JQ	Size of Portion location north of the R104 which is earmarked for possible substation construction = 200ha
	Portion 65 of the Farm Welgedund 491 JQ	42.82ha
	Portion 25 of the Farm Welgedund 491 JQ	168.3ha

Site 1 and Site 2 were not included in the analysis of this report the preferred site is Site 3. From an economic and social point of view these two sites are more costly.

Site 1 and Site 2 are situated on a road reserve. The impacts of using a road reserve in an area that is developing rapidly and where there are plans to increase tourism and the flow of people into the area is to be considered with caution. Development in the area may require the widening of roads as traffic increases.

The social impact of building along a road reserve would result in major disruption of traffic flow. Using Site 1 or Site 2 can have significant long term effects if not properly mitigated for. Mitigation would be costly in this case.

Site 1 and Site 2 are not recommended for the Anderson Substation.

Conclusion

The location of the proposed Anderson Substation is on a farm that is being used for no economic activity or that will result in major economic loss. The social context of the farm will not be disrupted as the land owners are aware of the project and the implications.