

*Social Impact Study for a Gas-fired  
Independent Power Plant to Support  
Saldanha Steel and Other Industries  
in Saldanha Bay*

Draft Report

ArcelorMittal

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# Socio-economic Study for a Gas-fired Independent Power Plant to Support Saldanha Steel and Other Industries in Saldanha Bay

Environmental Resources  
Management

## Draft Report

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1	Draft Socio-economic Study	
<p>This report has been prepared for ArcelorMittal in accordance with the terms and conditions of ERM's contract with ArcelorMittal for submission to commenting authorities and the Competent Authority in support of ArcelorMittal's application for an Environmental Authorization and for disclosure through the prescribed review process.</p> <p>Any other use, distribution or publication of this report is prohibited without the prior written approval of ERM and ArcelorMittal</p>		<p><b>Distribution:</b> For inclusion in the EIA for the Gas-fired Independent Power Plant to Support Saldanha Steel and Other Industries in Saldanha Bay</p>

## CONTENTS

1	INTRODUCTION	3
1.1	PROJECT BACKGROUND	3
1.2	TERMS OF REFERENCE	3
1.3	CONTENTS OF THE SPECIALIST REPORT CHECKLIST	4
1.4	STUDY APPROACH AND METHODOLOGY	4
	<i>Phase 1: Desktop Study</i>	5
	<i>Phase 2: Fieldwork and Primary Data Collection</i>	5
	<i>Phase 3: Update Socio-economic Baseline and undertake Impact Assessment</i>	6
1.5	IMPACT ASSESSMENT METHODOLOGY	6
1.5.1	<i>Impact Prediction</i>	7
1.5.2	<i>Impact Evaluation</i>	7
1.6	ASSUMPTIONS AND LIMITATIONS	14
1.7	SPECIALIST DETAILS	14
1.7.1	<i>Declaration of Independence</i>	16
2	PROJECT DESCRIPTION	18
2.1	PROJECT BACKGROUND	18
2.1.1	<i>Project Location</i>	18
2.1.2	<i>Land Ownership and Acquisition</i>	21
2.2	PROJECT COMPONENTS	21
2.2.1	<i>Power Plant</i>	22
2.2.2	<i>Pipeline</i>	25
2.2.3	<i>Power Evacuation and Connection to the Grid</i>	26
2.3	PROJECT PHASING AND SCHEDULE	27
2.3.1	<i>Construction Phase</i>	27
2.3.2	<i>Operation Phase</i>	31
3	POLICY AND PLANNING FRAMEWORK	35
3.1	INTRODUCTION	35
3.1.1	<i>The National Development Plan 2030</i>	35
3.1.2	<i>The National Energy Act (Act No 34 of 2008)</i>	35
3.1.3	<i>White Paper on the Energy Policy</i>	35
3.1.4	<i>WCDM Spatial Development Framework</i>	35
3.1.5	<i>West Coast District Municipality Integrated Development Plan 2012 – 2016</i>	36
3.1.6	<i>SBLM Integrated Development Plan 2012 -2017</i>	36
3.1.7	<i>Summary</i>	36
3.2	PROJECT MOTIVATION	37
3.2.1	<i>Need and Desirability</i>	37
4	SOCIO-ECONOMIC BASELINE	40
4.1	AREA OF INFLUENCE (AOI)	40
4.1.1	<i>Area of Direct Influence</i>	40
4.1.2	<i>Indirect Area of Influence</i>	40
4.2	ADMINISTRATIVE STRUCTURE	4-42

4.3	SITE SETTING AND LANDUSE	44
4.3.1	<i>Land-use of the Project Site</i>	44
4.3.2	<i>Surrounding Land-use</i>	45
4.3.3	<i>The Port of Saldanha</i>	46
4.4	DEMOGRAPHIC PROFILE	47
4.5	MIGRATION	49
4.6	LIVELIHOODS AND ECONOMY	50
4.6.1	<i>Manufacturing and Processing</i>	50
4.6.2	<i>Wholesale and Retail Trade, Catering and Accommodation</i>	51
4.6.3	<i>Transport and Communication</i>	52
4.6.4	<i>Agriculture, Forestry and Fishing</i>	52
4.7	EDUCATION	54
4.8	EMPLOYMENT AND SKILLS	55
4.8.1	<i>Skills Levels</i>	56
4.8.2	<i>Income Levels and Poverty</i>	57
4.9	HEALTH	57
4.10	SOCIAL INFRASTRUCTURE AND SERVICES	59
4.10.1	<i>Water</i>	59
4.10.2	<i>Sanitation</i>	60
4.10.3	<i>Waste</i>	60
4.10.4	<i>Housing</i>	60
4.10.5	<i>Energy</i>	61
4.10.6	<i>Roads</i>	61
4.10.7	<i>Policing and Crime</i>	61
5	IMPACT ASSESSMENT	63
5.1	EMPLOYMENT CREATION, SKILLS ENHANCEMENT AND LOCAL BUSINESS OPPORTUNITIES	63
5.1.1	<i>Construction and Decommissioning: Employment, Skills Enhancement and Local Business Opportunities</i>	64
5.1.2	<i>Operation: Employment, Skills Enhancement and Local Business Opportunities</i>	67
5.2	IMPACTS ON COMMUNITY HEALTH AND SAFETY	69
5.2.1	<i>Construction, Operation and Decommissioning: Impacts Associated with the Presence of the Workforce and Jobseekers</i>	70
5.2.2	<i>Construction, Operation and Decommissioning: Pressure on Social Infrastructure and Services</i>	73
5.2.3	<i>Construction and Decommissioning Phase: Impact on Human Health due to Air Emissions and Dust Generation</i>	76
5.2.4	<i>Operations Phase: Impact on Human Health due to Air Emissions</i>	77
5.3	INCREASED NUISANCE FACTORS AND CHANGE IN SENSE OF PLACE	79
5.3.1	<i>Construction, and Decommissioning Phase: Increased Nuisance Factors and Change in Sense of Place</i>	80
5.3.2	<i>Operation Phase: Increased Nuisance Factors and Change in Sense of Place</i>	82
5.4	WORKER HEALTH AND SAFETY AND RIGHTS	86
5.4.1	<i>Construction and Decommissioning Phase: Risk to Workers' H&amp;S due to Hazardous Construction Activities</i>	87
5.4.2	<i>Operation Phase: Risk to Workers' H&amp;S due to Hazardous Operation Activities</i>	89
5.5	CUMULATIVE IMPACTS	91

5.5.1	<i>Method</i>	91
5.5.2	<i>Cumulative Impacts of the Socioeconomic Environment</i>	92
5.6	<i>UNPLANNED EVENTS</i>	98
6	<i>KEY FINDINGS AND RECOMMENDATIONS</i>	99
7	<i>IMPACT STATEMENT</i>	101
8	<i>REFERENCES</i>	102
	<i>PRIMARY DATA SOURCES</i>	103
	<i>COMMENTS FROM THE SCOPING PHASE</i>	103
9	<i>CV</i>	105
10	<i>PEER REVIEW</i>	106
11	<i>RESPONSES TO PEER REVIEW</i>	107

#### ***LIST OF FIGURES***

Figure 1.1	Environmental Impact Assessment Process	7
Figure 2.1	Project location and key components*	2-20
Figure 2.2	Power plant functional layout.	2-24
Figure 2.3	132kV feeder transmission line from the power plant to ArcelorMittal Steel Works	27
Figure 2.4	Employment requirements during the construction phase	29
Figure 2.5	Predicted traffic loads during the construction phase	30
Figure 2.6	Example of a marker indicating pipeline below ground	31
Figure 3.1	Saldanha Bay Municipality Conceptual Industrial Corridor	3-39
Figure 4.1	Project Area of Influence	41
Figure 4.2	West Coast District Municipality Boundaries	4-43
Figure 4.3	Administrative Structure	44
Figure 4.4	View of the Site	45
Figure 4.5	Planned Land Use within Saldanha Bay Area	46
Figure 4.6	Ariel View of the Port of Saldanha	47
Figure 4.7	Ethnic Composition in the WCDM and the SBDM	48
Figure 4.8	Language Spoken in the SBLM	49
Figure 4.9	Mussels seed themselves onto ropes suspended beneath rafts	53
Figure 4.10	Fishing Boats Docked in the Port of Saldanha	54
Figure 4.11	Levels of Education in the Local Municipality	55
Figure 4.12	Employment Status within the ADI	56
Figure 4.13	Saldanha Health Clinic	59
Figure 5.1	View Shed for the Saldanha Steel Gas-fired Power Plant, not taking into Account Vanishing Threshold	84

## *LIST OF TABLES*

Table 1.1	Specialist Report Checklist	4
Table 1.2	Determining Extent	8
Table 1.3	Determining Duration	9
Table 1.4	Determining Scale	9
Table 1.5	Describing Magnitude	10
Table 1.6	Describing Vulnerability	11
Table 1.7	Overall Significance Criteria for Environmental Impacts in the ESIA	12
Table 2.1	Properties which are intersected by the power plant footprint	21
Table 2.2	Properties which are intersected by the pipeline corridor	21
Table 2.3	Project components general surface areas and lengths	21
Table 2.4	Power Plant components and their respective footprint areas / lengths	22
Table 2.5	Estimated Employment Positions Available During Construction	28
Table 2.6	Estimated Employment Positions Available During Operation	32
Table 4.1	Population with the ADI	48
Table 4.2	Contribution to the SBLM Economic Output 2014	50
Table 4.3	Formal Employment by Sector in the SBLM 2014	56
Table 4.4	Comparison of Skills Levels between District and Local Municipality in 2012	57
Table 4.5	Percentage of population per Average Household Income Bracket in 2011	57
Table 4.6	Wastewater Treatment Plants in the Saldanha Bay Municipality	60
Table 4.7	Crime in the SBLM between 2009 and 2014	62
Table 5.1	Pre- and Post- Mitigation Significance for Employment Creation, Skills Enhancement and Local Business Opportunities	66
Table 5.2	Pre- and Post- Mitigation Significance for Employment Creation, Skills Enhancement and Local Business Opportunities during Construction	67
Table 5.3	Estimated Employment Positions Available During Operation	67
Table 5.4	Pre- and Post- Mitigation Significance for Employment Creation, Skills Enhancement and Local Business Opportunities	69
Table 5.5	Pre- and Post- Mitigation Significance for Employment Creation, Skills Enhancement and Local Business Opportunities during Operation	69
Table 5.6	Pre- and Post- Mitigation Significance for Impacts Associated with the Presence of the Workforce and Jobseekers	72
Table 5.7	Pre- and Post- Mitigation Significance for Impacts Associated with the Presence of a Workforce and Jobseekers	73
Table 5.8	Pre- and Post- Mitigation Significance for Impacts Associated with Pressure on Social Infrastructure and Services	75
Table 5.9	Pre- and Post- Mitigation Significance for Impacts Associated Pressure on Social Infrastructure and Services	75
Table 5.10	Pre- and Post- Mitigation Significance for Impact on Human Health due to Air Emissions and Dust Generation	77
Table 5.11	Pre- and Post- Mitigation Significance for Impact on Human Health due to Air Emissions and Dust Generation	77
Table 5.12	Pre- and Post- Mitigation Significance for Impact on Human Health due to Air Emissions and Dust Generation	78
Table 5.13	Pre- and Post- Mitigation Significance for Impact on Human Health due to Air Emissions and Dust Generation	79

Table 5.14	Pre- and Post- Mitigation Significance for Increased Nuisance Factors and Change in Sense of Place	81
Table 5.15	Pre- and Post- Mitigation Significance for Increased Nuisance Factors and Change in Sense of Place during Construction and Decommissioning	82
Table 5.16	Pre- and Post- Mitigation Significance for Increased Nuisance Factors and Change in Sense of Place During Operation	86
Table 5.17	Pre- and Post- Mitigation Significance for Increased Nuisance Factors and Change in Sense of Place Operation	86
Table 5.18	Pre- and Post- Mitigation Significance for Risk to Workers' H&S due to Hazardous Construction Activities	89
Table 5.19	Pre- and Post- Mitigation Significance for Risk to Workers' H&S due to Hazardous Construction and Decommissioning Activities	89
Table 5.20	Pre- and Post- Mitigation Significance for Risk to Workers' H&S due to Hazardous Operation Activities	91
Table 5.21	Pre- and Post- Mitigation Significance for Risk to Workers' H&S due to Hazardous Operation Activities	91

## List of Abbreviations and Terms

<b>BAR</b>	Basic Assessment Report
<b>BFS</b>	Bankable Feasibility Study
<b>CBA</b>	Critical Biodiversity Area
<b>CCGT</b>	Combined Cycle Gas Turbine
<b>CFR</b>	Cape Floristic Region
<b>CNG</b>	Compressed Natural Gas
<b>CWDM</b>	Cape Winelands District Municipality
<b>DBSA</b>	Development Bank of Southern Africa
<b>DEA</b>	Department of Environmental Affairs
<b>DEA&amp;DP</b>	Department of Environmental Affairs and Development Planning
<b>DOE</b>	Department of Energy
<b>EIA</b>	Environmental Impact Assessment
<b>EIR</b>	Environmental Impact Report
<b>EPC</b>	Engineering Procurement Construction
<b>ERA</b>	Electricity Regulations Act
<b>ERM</b>	Environmental Resources Management
<b>GDPR</b>	Regional Gross Development Product
<b>GJ</b>	Giga Joules
<b>GNR</b>	Government Notice Regulation
<b>GUMP</b>	Gas Utilisation Master Plan
<b>HP</b>	High Pressure
<b>HFO</b>	Heavy Fuel Oil
<b>HRSG</b>	Heat Recovery Steam Generator
<b>HV</b>	High Voltage
<b>IDZ</b>	Industrial Development Zone
<b>HWC</b>	Heritage Western Cape
<b>IPCSA</b>	International Power Consortium South Africa
<b>IPPPP</b>	Independent Power Producers Procurement Programme
<b>IRP</b>	Integrated Regional Plan
<b>LNG</b>	Liquefied Natural Gas
<b>LP</b>	Low Pressure
<b>NCDM</b>	Northern Cape District Municipality
<b>NDP</b>	National Development Plan
<b>MW</b>	Mega Watt
<b>NEMA</b>	National Environmental Management Act
<b>NEMBA</b>	National Environmental Management: Biodiversity Act
<b>NEMWA</b>	National Environmental Management: Waste Act
<b>NEMAQA</b>	National Environmental Management: Air Quality Act
<b>NEMICMA</b>	National Environmental Management: Integrated Coastal Management Act
<b>NERSA</b>	National Energy Regulator of South Africa
<b>NID</b>	Notice of Intent to Develop
<b>OCGT</b>	Open Cycle Gas Turbine
<b>PCS Africa</b>	Power & Combustion Services Africa
<b>SAHRA</b>	South African Heritage Resources Agency
<b>SDFP</b>	Spatial Development Framework Plan
<b>S&amp;EIR</b>	Scoping and Environmental Impact Report



<b>TNPA</b>	Transnet National Ports Authority
<b>WCDM</b>	West Coast District Municipality
<b>WML</b>	Waste Management Licence

**1.1 PROJECT BACKGROUND**

The International Power Consortium South Africa (IPCSA), have developed a solution to Saldanha Steel's requirement for stable, economical electricity over the long term. This solution consists of a 1507 MW Combined Cycle Gas Turbine (CCGT) power plant to be erected adjacent to the ArcelorMittal's Saldanha Steel site.

ArcelorMittal and IPCSA have signed a Power Generation and Natural Gas Project Development and Pre-Off Take Agreement that binds both parties to certain deliverables in developing the project up to the completion of the Bankable Feasibility Study (BFS).

The project will support both Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG) as its main fuel supply and will consume about -76 million Giga Joules (GJ) of natural gas per year. CNG and LNG could be supplied by ship to the Port of Saldanha, where it will be offloaded via a submersible pipeline either from a mooring area located off shore or a berthing location in the Port in Saldanha. Initial discussions have been held with Transnet National Ports Authority (TNPA) in Saldanha in this regard.

The project will supply the power needs of ArcelorMittal Saldanha Steel (+/- 160 MW of base load energy, peaking up to 250 MW) and excess electricity will be made available to industries within the Saldanha Industrial Development Zone (IDZ) and/or Municipalities within the Western Cape Province.

**1.2 TERMS OF REFERENCE**

The approach to this Socio-economic Study has been guided by the Western Cape Department of Environmental Affairs and Development Planning Guidelines for Social Impact Assessment (February 2007). The terms of reference for the Socio-economic Study are:

- Undertake site visit to confirm the Area of Influence, extent of engagement around baseline data gathering.
- Legal review, including local regulatory requirements, IFC Performance Standards and other relevant local and international regulations, including permit requirements.
- Attend key stakeholder meetings to understand key social and health issues/ concerns.
- Compile a scoping socio-economic and health baseline, based on secondary data, gathered from publically available sources.

- Gather relevant primary socio-economic data through key informant interviews, focus groups discussions and stakeholder engagement.
- Update socio-economic and health baseline with primary data gathered from primary data gathering.
- Identify and assess potential social and health impacts using the ERM Standard.
- Assess cumulative impact of development with current and planned developments in the area.
- Draft mitigation measures will be drafted and incorporated into the Environmental and Social Management Plan.

### 1.3 CONTENTS OF THE SPECIALIST REPORT CHECKLIST

The contents of this report has been prepared in terms of Regulation GNR 982 of 2014, Appendix 6, as shown in *Table 1.1*.

**Table 1.1** *Specialist Report Checklist*

Contents of this report in terms of Regulation GNR 982 of 2014, Appendix 6	Cross-reference in this report
(a) details of – the specialist who prepared the report; and the expertise of that specialist to compile a specialist report including a curriculum vitae;	Section 1.7 and Annex A
(b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	Section 1.7
(c) an indication of the scope of, and the purpose for which, the report was prepared;	Section 1.2
(d) the date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Not applicable
(e) a description of the methodology adopted in preparing the report or carrying out the specialised process;	Section 1.4
(f) the specific identified sensitivity of the site related to the activity and its associated structures and infrastructure;	Section 5
(g) an identification of any areas to be avoided, including buffers;	None
(h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Not Applicable
(i) a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 1.6
(j) a description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives on the environment;	Section 6
(o) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Section 9
(p) any other information requested by the competent authority.	Not Applicable

### 1.4 STUDY APPROACH AND METHODOLOGY

The Socio-economic Impact Assessment (SIA) will serve to investigate, evaluate and understand the potential socio-economic impacts associated with the proposed Project. The SIA was undertaken in accordance with the requirements of the National Environmental Management Act and

associated guidelines, as well as the Western Cape Department of Environmental Affairs and Development Planning Guidelines for Social Impact Assessment (February 2007).

The Social Study was divided into the following three Phases:

- Phase 1: Desktop Study;
- Phase 2: Fieldwork; and
- Phase 3: Update Socio-economic Baseline and Impact Assessment.

#### *Phase 1: Desktop Study*

The desktop component of the study has drawn on the use of secondary data sourced from previous project reports, as well as other Internet-based sources including:

- District and Local Municipality Integrated Development Plans;
- District and Local Municipality Spatial Development Frameworks;
- Statistics South Africa 2010 Census;
- Other similar EIAs undertaken in the Saldanha Bay Area; and
- Other EIAs undertaken for gas-fired power plants in South Africa.

The information collected through desktop research included: demographic (including human settlements on affected properties), economic, health and education information as well as the availability of physical infrastructure and services. The purpose of collecting this information was to provide a basis upon which the impact assessment can be conducted, and to enable the measurement and monitoring of the impacts.

Through a review of the existing documentation, gaps in information were identified to be addressed through primary data collection, as outlined in Phase 2 and via drawing on any additional sources of secondary data that were identified during the course of the study.

#### *Phase 2: Fieldwork and Primary Data Collection*

In order to gather clear and current information for the baseline and impact assessment, a field visit was undertaken. The field visit was undertaken at the same time as the first public meeting (February 2016). This afforded the social consultants the opportunity to engage with the relevant community members and authorities, as well as get a general sense of the stakeholder issues.

Where the relevant stakeholders were not available at the time of the site visit, telephonic interviews were conducted.

### ***Phase 3: Update Socio-economic Baseline and undertake Impact Assessment***

The socio-economic baseline from the Scoping Report was updated using the secondary and primary data collected in Phase 2. The findings of the public consultation process were also incorporated into the baseline in order to ensure that it accurately describes the current situation and needs of the local communities.

Additional specialist studies used to inform this SIA include:

- Air Quality Study uMoya - NILU Consulting (Pty) Ltd, 2016.
- Noise Impact Assessment - Enviro Acoustic Research cc, 2016.
- Traffic Impact Assessment – Kantey and Templer, 2016.
- Cultural and Heritage Report - ACO and Associates, 2016.

The Social Specialist has identified potential positive and negative – direct, indirect, induced and cumulative – impacts associated with the Project. The identification of impacts was informed by the baseline study and the public consultation process. The findings of other specialist impact assessment studies have been reviewed and used to inform the impact assessment component of the SIA where appropriate.

Feedback from stakeholders, primarily received during the Scoping Phase was used to inform the impact assessment.

The identified impacts will be assessed using the methodology provided by ERM, as outlined in *Section 1.5*, below

## **1.5 IMPACT ASSESSMENT METHODOLOGY**

This *Section* provides an overview of the assessment methodology used to assess the environmental and social impacts associated with the construction, operation and decommissioning phases of the Project.

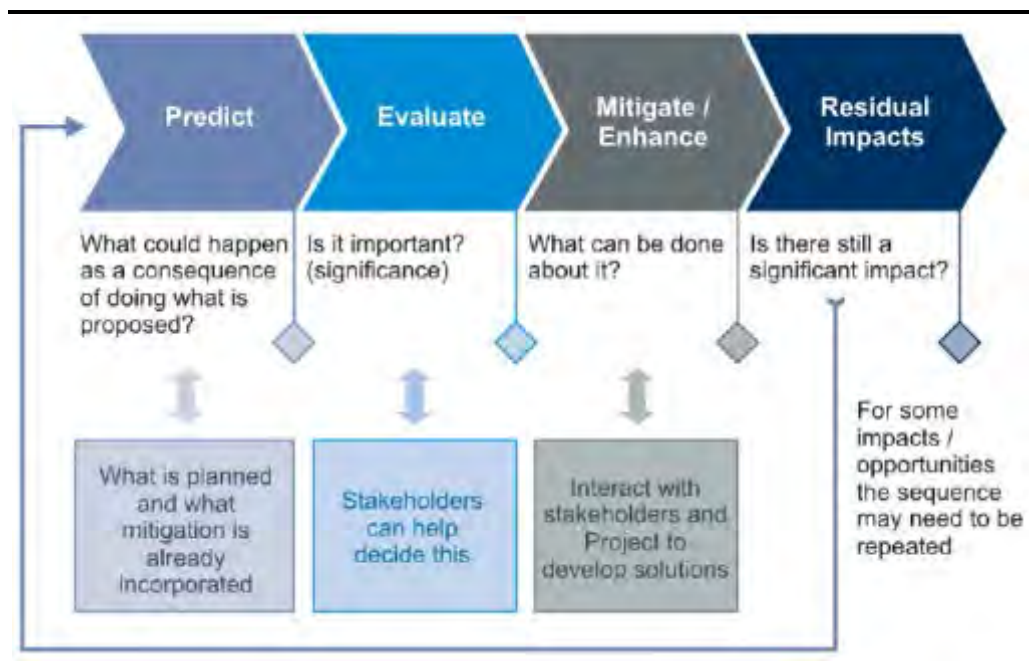
The identified impacts presented within this *section* have been assessed according to this methodology which includes a description of the impact, subsequent assessment, mitigation measures and finally the residual impact after the application of these mitigation measures.

Impact identification and assessment starts with scoping. Interactions with the potential for significant effects were subjected to a detailed impact assessment. The principal ESIA steps are summarised in *Figure 1.1* and comprise the following.

- **Impact prediction:** to determine what could potentially happen to resources or receptors as a consequence of the Project and its associated activities.

- **Impact evaluation:** to evaluate the significance of the predicted impacts by considering the magnitude and likelihood of occurrence, and the sensitivity, value and/or importance of the affected resource or receptor.
- **Mitigation and enhancement:** to identify appropriate and justified measures to mitigate negative impacts and enhance positive impacts.
- **Residual impact evaluation:** to evaluate the significance of impacts assuming effective implementation of mitigation and enhancement measures.

**Figure 1.1** *Environmental Impact Assessment Process*



### 1.5.1 *Impact Prediction*

Prediction of impacts is an objective process to determine what is likely to happen to the environment as a consequence of the Project and associated activities. From the potentially significant interactions identified in scoping, the impacts to the various resources/receptors are elaborated and evaluated. The diverse range of potential impacts considered in the IA process typically results in a wide range of prediction methods being used, including quantitative, semi-quantitative and qualitative techniques.

### 1.5.2 *Impact Evaluation*

Environmental impacts arise as a result of Project activities either interacting with environmental receptors directly or causing changes to the existing environment such that an indirect effect occurs. Impacts may be described and quantified in a number of ways.

### *Nature of Impact*

The nature of an impact is defined as the type of change from baseline conditions or the introduction of a new desirable or undesirable factor. The nature of an impact is described as being either **positive** or **negative**.

### *Type of Impact*

Impact type indicates the relationship of the impact to the Project activity in terms of cause and effect, as either:

- **Direct impact** resulting from the direct interaction between a project activity and the receiving environment.
- **Indirect impact** between the proposed activity and the environment as a result of subsequent interactions within the environment.
- **Induced impact** resulting from other non-project activities that happen as a consequence of the Project activities.
- **Cumulative impacts** that act together with other impacts (including those from concurrent or planned future third party activities) to affect the same resources and/or receptors as the Project.

### *Extent of Impact*

Impact extent relates to the geographic reach of the impact and is described in *Table 1.2*

**Table 1.2**      ***Determining Extent***

Designation	Description
Local	Impact would affect local resources or receptors and would be restricted to a single community (ie impacts in the footprint of project activities and the immediate adjacent area).
Regional	Impact would affect regional resources or receptors and would be experienced at a regional scale for example at a Provincial level.
National	Impact would affect resources or receptors throughout the country.
International	International impact would affect internationally important resources or receptors outside of the country.
Trans-boundary	Impact would be those that are experienced in one country as a result of activities in another country.

### *Duration of Impact*

Impact duration refers to the time period over which a resource or receptor will be affected described in *Table 1.3*.

**Table 1.3**      *Determining Duration*

Designation	Description
Temporary	Impacts would last for a short duration, are reversible and intermittent or occasional in nature. The resource or receptor would return to the previous state when the effect ceases or after a short period of recovery, typically less than one year.
Short-term	Impacts would last for the life of the proposed short term activity activities and a limited short period thereafter, typically one to four years. The impact would cease when the effect ceases following a short period of recovery.
Long-term	Impacts would continue for an extended period of time after the Project activity, for example between five and 15 years.
Permanent	Impacts would occur during the development of the Project and cause a permanent change in the affected receptor or resource that endures substantially beyond the Project lifetime.

#### *Scale of Impact*

Impact scale relates to the size of the impact, in a social context it typically relates to the degree of change experienced by receptors, either at an individual or household level.

**Table 1.4**      *Determining Scale*

Designation	Description
Small	Impact would result in a subtle change in baseline conditions.
Medium	Impact would result in some change to baseline conditions within a community, but would not dominate over baseline conditions.
Large	Impact would result in a fundamental change in the way of life of receptors, or to the nature of relationships within a community, or to the livelihood patterns within a community.

#### *Frequency of Impact*

Impact frequency relates to the constancy or periodicity of the impact. This could be a once off occurrence or continuous. The designations used in the this Impact Assessment are as follows:

- **Constant** a permanent occurrence
- **Often** occurs at least once a month
- **Occasional** occurs at least once every six months
- **Rare** occurs about once a year
- **One-off** could occur, but reasonably expected to occur only once.



## Magnitude of Impact

Once an impact's characteristics are defined, the next step in the impact assessment phase is to assign each impact a 'magnitude'. Magnitude is typically a function of some combination (depending on the resource/receptor in question) of the following impact characteristics:

- Extent;
- Duration;
- Scale; and
- Frequency.

Additionally, for unplanned events only, magnitude incorporates the *likelihood* factor. An unplanned event is defined as 'a reasonably foreseeable event that is not planned to occur as part of the Project, but which may conceivably occur as a result of Project activities (eg accidents), even with a low probability'. These differ from planned events which are activities which are expected to occur as part of the normal Project development and operation. The *likelihood* of an unplanned event occurring is designated using a qualitative scale:

- **Unlikely** events are unlikely but may occur at some time during normal operating conditions.
- **Likely** events are likely to occur at some time during normal operating conditions.
- **Definite** events will occur during normal operating conditions (ie, it is essentially inevitable).

Magnitude essentially describes the intensity of the change that is predicted to occur in the resource/receptor as a result of the impact. Magnitude designations themselves are universally consistent, but the descriptions for these designations vary on a resource/receptor-by-resource/receptor basis. The magnitude designations are described in *Table 1.5*.

**Table 1.5** Describing Magnitude

Designation	Description
<b>Positive</b>	In the case of positive impacts, no intensity is assigned unless there is ample data to support a more robust characterisation. It is sufficient to indicate that the Project will result in a positive impact, without characterising the exact degree of positive change likely to occur.
<b>Negligible</b>	A difference from baseline conditions is marginally perceptible.
<b>Small</b>	Perceptible difference from baseline conditions. Tendency is that impact is local, rare and affects a small proportion of households and is of a short duration.
<b>Medium</b>	Clearly evident difference from baseline conditions. Tendency is that impact affects a substantial area or number of people and/or is of medium duration. Frequency may be occasional and impact may be regional in scale.

Designation	Description
<b>Large</b>	Change dominates over baseline conditions. Affects the majority of the area or population in the area of influence and/or persists over many years. The impact may be experienced over a regional or national area.

### *Vulnerability*

The vulnerability of receptors is underpinned by a low existing level of livelihoods assets (such as health or education) or inadequate access to structures and processes to protect or improve livelihoods. It is important to understand the vulnerability context as it will affect the ability of social receptors to adapt to socio-economic/cultural or bio-physical changes. A higher level of vulnerability can result in increased susceptibility to negative impacts or a limited ability to take advantage of positive impacts. A project may also exacerbate existing vulnerabilities if the status of individuals and communities and their coping mechanisms are not adequately understood or considered. The vulnerability designations are described in *Table 1.6*.

**Table 1.6** *Describing Vulnerability*

Receptor Vulnerability	Description
<b>Low</b>	Minimal vulnerability; consequently with a high ability to adapt to changes brought by the Project and opportunities associated with it.
<b>Medium</b>	Some, but few areas of vulnerability; still retaining an ability to at least in part adapt to change brought by the Project and opportunities associated with it.
<b>High</b>	Profound or multiple levels of vulnerability that undermine the ability to adapt to changes brought by the Project and opportunities associated with it.

### *Evaluation of Significance*

Once magnitude of impact and sensitivity/vulnerability/importance of resource/receptor have been characterised, the significance can be assigned for each impact.

For the purposes of this ESIA, the following definition of significance has been adopted:

*An impact is significant if, in isolation or in combination with other impacts, it should, in the judgement of the EIA team, be taken into account in the decision-making process, including the identification of mitigation measures and consenting conditions.*

In assessing whether an impact is significant, reference has been made, where appropriate, to criteria on which the evaluation is based. These may include legal standards, policy guidance or accepted practice and past experience.

The significance of impacts is then devised from a combination of the vulnerability of the receptor and the magnitude of impact. A convenient way of representing the overall significance is through a matrix of magnitude versus sensitivity or vulnerability/value as shown in *Table 1.7*.

**Table 1.7** *Overall Significance Criteria for Environmental Impacts in the ESIA*

Evaluation of Significance		Sensitivity/Vulnerability/Importance of Resource/Receptor		
		Low	Medium	High
Magnitude of Impact	Small	Negligible	Minor	Moderate
	Medium	Minor	Moderate	Major
	Large	Moderate	Major	Major
	Positive Impacts			
	Positive	Minor	Moderate	Major

For this assessment, five impact significance categories have been applied:

- Positive impact;
- *Negligible* impact;
- *Minor* significance;
- *Moderate* significance; and
- *Major* significance.

These general definitions of Categories of Impact Significance have been applied to the assessment of social and environmental impacts for the Project as shown in *Box 1.1*

<b>Positive</b>
Positive impacts provide resources or receptors, most often people, with positive benefits. It is noted that concepts of equity need to be considered in assessing the overall positive nature of some impacts such as economic benefits, or opportunities for employment.
<b>Negligible</b>
Negligible impacts are where a resource or receptor (including people) will not be affected in any way by a particular activity or the predicted effect is deemed to be 'negligible' or 'imperceptible' or is indistinguishable from natural background variations.
<b>Minor</b>
An impact of minor significance ('Minor impact') is one where an effect will be experienced, but the impact magnitude is sufficiently small (with or without mitigation) and well within accepted standards, and/or the receptor is of low sensitivity/value.
<b>Moderate</b>
An impact of moderate significance ('Moderate impact') is one within accepted limits and standards. Moderate impacts may cover a broad range, from a threshold below which the impact is minor, up to a level that might be just short of breaching a legal limit. Clearly to design an activity so that its effects only just avoid breaking a law and/or cause a major impact is not best practice. The emphasis for moderate impacts is therefore on demonstrating that the impact has been reduced to a level that is ALARP. This does not necessarily mean that 'Moderate' impacts have to be reduced to 'Minor' impacts, but that moderate impacts are being managed effectively and efficiently.
<b>Major</b>
An impact of major significance ('Major impact') is one where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued/sensitive resource/receptors. An aim of EIA is to get to a position where the Project does not have any major residual impacts, certainly not ones that would endure into the long-term or extend over a large area. However, for some aspects there may be major residual impacts after all practicable mitigation options have been exhausted (ie ALARP has been applied). It is then the function of regulators and stakeholders to weigh such negative factors against the positive ones such as employment, in coming to a decision on the Project.

*Mitigation and Enhancement*

Mitigation and/or enhancement measures are identified for significant impacts identified during the impact evaluation stage. These measures represent a feature, procedure or other action that the Project commits to implement to avoid or reduce the magnitude of an adverse impact, or to enhance the magnitude of a positive impact. As such, these should avoid unnecessary damage to the environment; safeguard valued or finite resources, natural areas, habitats and ecosystems; and protect humans and their associated social environments.

*Residual Impact Evaluation*

The residual impacts are described in terms of their significance and the nature of the impact is qualified, where appropriate, on the basis of the descriptors, within each of the impact assessment sections presented within this *Chapter*. The criteria take into account the degree to which impacts can be quantified and compared with accepted limits and standards or a combination

of the magnitude of change caused by the Project in combination with the value/sensitivity of the receptor/resource that is impacted.

#### *Dealing with Uncertainty in the Assessment of Impacts*

The impact assessment process deals with the future and there is inevitably uncertainty that arises between the predictions made and what will actually happen during the course of the Project. However, the sources of impacts for LCO and gas fired power plants are well-understood and the areas of interaction with the receiving environment have been well-characterised by past projects.

Impact predictions have, wherever practicable, been made using available data, but where significant uncertainty remains, this is outlined in the text. Where the vulnerability of a resource and impact magnitude is not supported by quantitative data, this is reported accordingly and qualitative information, professional experience and a conservative approach is used instead to judge whether a significant impact is likely to occur or not.

### **1.6 ASSUMPTIONS AND LIMITATIONS**

Demographic data has been primarily gathered from official sources such as the South African Census 2011 and Provincial Reports. It must be noted that the Census was conducted six years ago, and at the time this report was draft, the 2016 Community Survey results were not available. Where possible, therefore, secondary data has been verified with primary data.

It is assumed the Project information provided is accurate and design is compliant with building regulations.

It is assumed that the feasibility of the Project has been assessed by the proponent.

It is assumed all stipulated mitigation measures will be implemented to avoid and reduce the respective negative impacts and enhance positive impacts.

### **1.7 SPECIALIST DETAILS**

Lindsey Bungartz is a Senior Consultant within ERM's Impact Assessment and Planning Team based in South Africa's Cape Town office. Lindsey has nine years of experience in the Environmental Consulting field, five of which have been focused on Social Impact Assessment where she has been responsible for primary and secondary information gathering, baseline compilation, impact identification/ assessment, and formulation of mitigation and management measures. Lindsey has extensive experience in the power sector (renewable energy, hydropower, transmission), and has experience in the mining, oil and gas sectors. Through her experience in the power

sector, Lindsey has developed a deep understanding of the impacts (both adverse and beneficial) energy projects can have on surrounding communities. She is familiar with the requirements and implementation of both the IFC Performance Standards and the Equator Principles (including IFC PS 2012). Lindsey has worked on project with complex social impacts, with highly sensitive affected communities.

She has worked on projects which have required multiple stakeholder (including multiple localities and individuals) engagement and collection of primary data, where she has been instrumental in designing and implementing socio-economic primary data collection tools including household surveys, focus group discussion and one-to-one interview questionnaires. She has worked extensively in South Africa and in various African including Malawi, Ghana, Zambia and Zimbabwe. In addition, Lindsey has undertaken several Environmental Impact Assessments (EIAs) at existing facilities and green field sites in South Africa. Her responsibilities included project management, integration of specialist studies and public participation activities.



## environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA


### DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	12/12/20/ or 12/9/11/L
NEAS Reference Number:	DEA/EIA
Date Received:	

Application for environmental authorisation National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014

### PROJECT TITLE

Environmental Impact Assessment for a Gas-fired Independent Power Plant to Support Saldanha Steel and Other Industries in Saldanha Bay

Specialist:	Lindsey Bungartz		
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Contact person:	Stephan van den Berg		
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Postal code:	7800	Cell:	
Telephone:	021 681 5400	Fax:	
E-mail:	stephan.vandenberg@erm.com		

4.2 The specialist appointed in terms of the Regulations

I \_\_\_\_\_ Lindsey Bungartz, declare that -

- General declaration:

I act as the independent specialist in this application;  
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;  
I declare that there are no circumstances that may compromise my objectivity in performing such work;  
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;  
I will comply with the Act, Regulations and all other applicable legislation;  
I have no, and will not engage in, conflicting interests in the undertaking of the activity;  
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;  
all the particulars furnished by me in this form are true and correct; and  
I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



\_\_\_\_\_  
Signature of the specialist:

ERM

\_\_\_\_\_  
Name of company (if applicable):

13 July 2016

\_\_\_\_\_  
Date:



The description of the Project that follows is focus on aspects of the project description relevant to the assessment of socio-economic impacts. A detailed project description can be found in Chapter 3 of the EIR.

## **2.1 PROJECT BACKGROUND**

The IPCSA, have developed a solution to Saldanha Steel's requirement for stable, economical electricity over the long term. This solution consists of a 1507 MW (net capacity) Combined Cycle Gas Turbine (CCGT) power plant to be erected adjacent to the ArcelorMittal's Saldanha Steel site.

ArcelorMittal and IPCSA have signed a Power Generation and Natural Gas Project Development and Pre-Off Take Agreement that binds both parties to certain deliverables in developing the project up to the Bankable Feasibility Study (BFS) completion.

The project is primarily a power supply project to the Saldanha Steel Plant. Additionally, the proposed power plant will tie into the Department of Energy's (DoE) Gas to Power (G2P) programme <sup>(1)</sup>. The project will support Liquefied Natural Gas (LNG) as its main fuel. LNG will be supplied by ship to the Port of Saldanha, where it will be regasified and then offloaded via a submersible pipeline either from a mooring area located off shore or a berthing location in the Port in Saldanha. Initial discussions have been held with Transnet National Ports Authority (TNPA) in Saldanha in this regard.

The project will supply the power needs of ArcelorMittal Saldanha Steel (+/- 160 MW of base load energy, peaking up to 250 MW) and excess electricity will be made available to industries within the Saldanha Industrial Development Zone (IDZ) and/or Municipalities within the Western Cape Province.

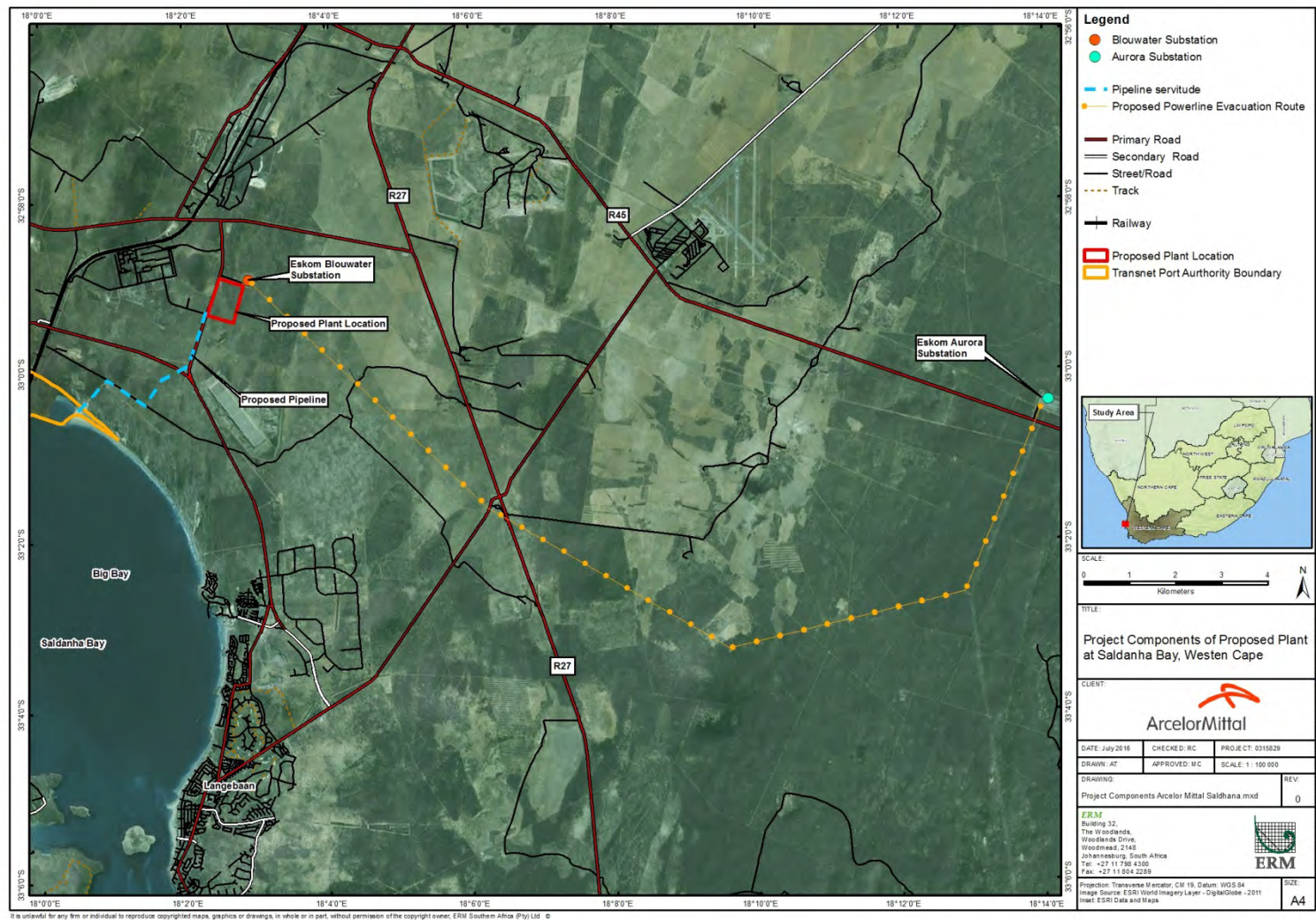
### **2.1.1 Project Location**

The Project is to be developed on a green field site owned by ArcelorMittal, approximately 5 km northeast of the Port of Saldanha (*Figure 2.1*). The site is located less than 1 km to the east of the existing ArcelorMittal Steelworks, immediately adjacent to the Blouwater substation. The site is located within an

(1) In 2012, the Minister directed in her Determinations that new generation capacity should be procured from hydro, coal and gas sources to support the South Africa's base load energy mix and generation from gas and cogeneration as part of the medium-term risk mitigation project programme. The Determinations require that 3126MW of baseload and/or mid-merit energy generation capacity is needed from gas-fired power generation to contribute towards energy security. The gas required for such power generation will be from both imported and domestic gas resources. (<https://www.ipp-gas.co.za/>)

area identified for industrial development according the Saldanha Bay Municipal Spatial Development Framework (2011).

Figure 2.1 Project location and key components\*



\*Note: 400kV transmission line is shown only for illustration purposes and is not included in the scope of this EIA.

## 2.1.2 Land Ownership and Acquisition

The two properties on which the proposed power plant site is located are detailed in *Table 2.1*.

**Table 2.1** *Properties which are intersected by the power plant footprint*

Farm Name	Portion Number	Parcel Number	SG Code
Yzervarkensrug	129	Remaining Extent	W014C04600000000012900000
Jackels kloof	195	2	W014C04600000000019500002

The proposed pipeline corridor intersects with the properties as listed in *Table 2.2*.

**Table 2.2** *Properties which are intersected by the pipeline corridor*

Farm Name	Portion Number	Parcel Number	SG Code
None	0	1185	W014C0460000000001185000000
STATE LAND 196	0	196	W014C046000000000196000000
HOPEFIELD 195	195	0	W014C046000000000195000001
HOPEFIELD 195	7	195	W014C046000000000195000070
HOPEFIELD 195	1	195	W014C046000000000195000010
HOPEFIELD 195	2	195	W014C046000000000195000020
None	0	1132	W014C0460000000001132000000
YZERVARKENSRUG 129	0	129	W014C046000000000129000001

## 2.2 PROJECT COMPONENTS

The key project components considered in this EIA are as follows:

- Pipeline;
- Power plant; and
- Power evacuation and connection to the grid <sup>(1)</sup>.

These are discussed in detail in the sections below. The general surface areas for the project components are listed in *Table 2.3* below.

**Table 2.3** *Project components general surface areas and lengths*

Project Component	Area / Length
Power Plant total surface area	45.83 ha
Length of pipeline	4.6km
Pipeline construction (temporary) RoW (36m width)	30.49 ha
Pipeline permanent easement (6m width)	2.76 ha
132kV feeder transmission line to ArcelorMittal length	2.4km

(1) Note: The transmission connection for Phase 1, i.e. the 132 kV connection to Saldanha Steel, is included in this EIA. The transmission connection for Phase 2, i.e. the 400 KV connection to Eskom's Aurora substation, will be considered in a separate EIA application. See Section 3.4 for details about the phases referred to here.

Project Component	Area / Length
132kV feeder transmission line to ArcelorMittal RoW (30m width)	7.22 ha
Proximity to grid connection	150m

It is envisaged that LNG will be supplied by ship to the Port of Saldanha where it will likely be offloaded to a Floating Storage Regasification Unit (FSRU). The FSRU will regasify the LNG and pump it via a pipeline to the power plant. The supply of fuel and import facilities have not been considered in this EIA. The Department of Energy initiated a project in 2015 to permit the construction of an LNG import terminal at the Port of Saldanha, it was understood that individual developers were not required to undertake the EIA for this component. Should this information change, a separate EIA for the import of gas will be undertaken.

### 2.2.1 *Power Plant*

Figure 2.2 shows the proposed plant layout. Current plans include

- six Trent 60 DLE (low NOx) 50 MW turbines in open cycle; and
- three identical but independent 435 MW SCC5 4000F single shaft generating trains in combined cycle.

Other infrastructure on site is reflect in *Table 2.4*.

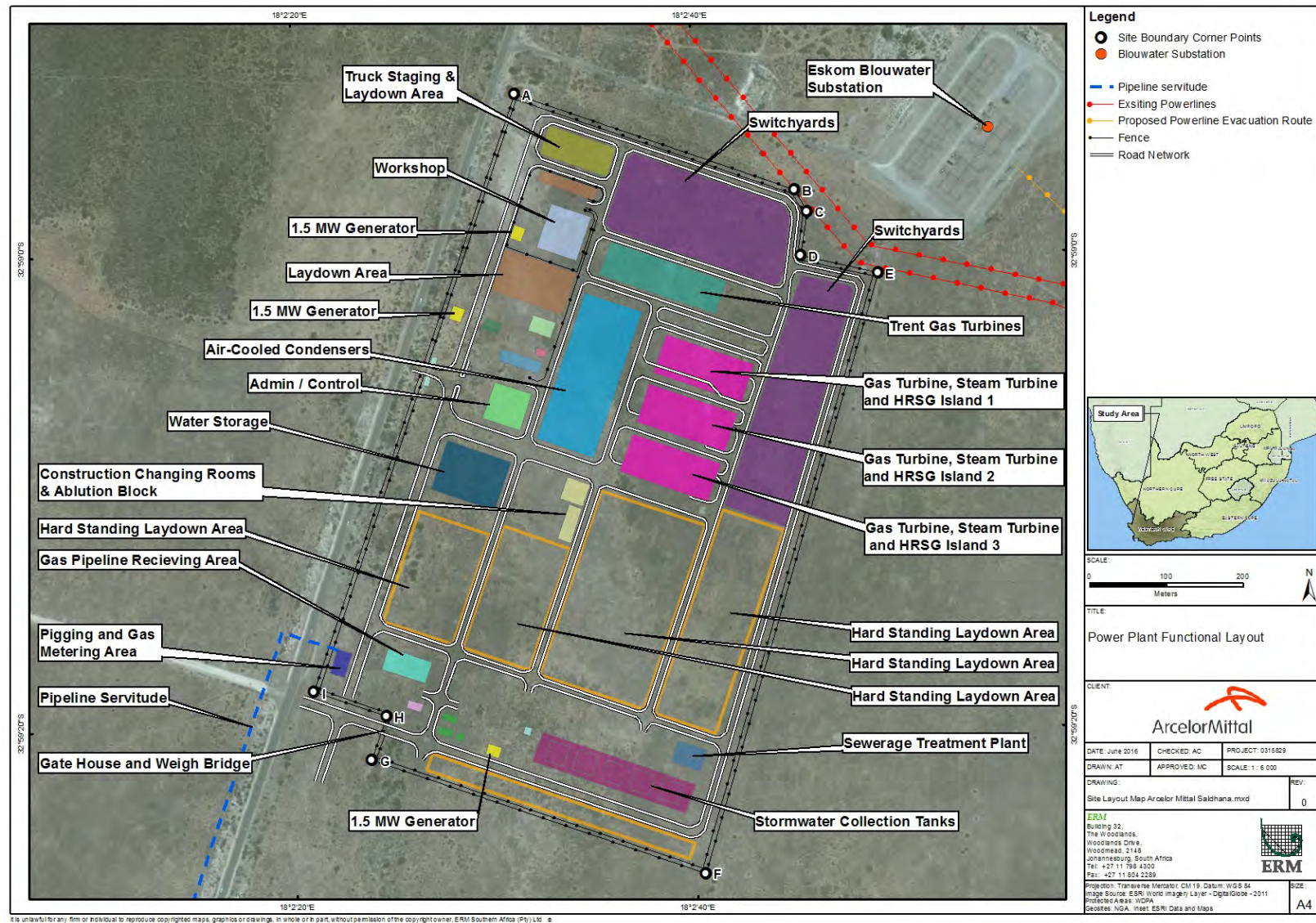
**Table 2.4** *Power Plant components and their respective footprint areas / lengths*

Project Component	Area
1.5 MW Generator	0.09 ha
132KV Switchyard	2.4 ha
440KV Switchyard	2.48 ha
Admin, Control, Laboratory	0.25 ha
Air-Cooled Condensers	1.56 ha
Canteen, Changing Rooms, Ablutions	0.09 ha
Clinic	0.01 ha
Construction Changing Rooms & Ablution Block	0.18 ha
Emergency Assembly Point	0.04 ha
Gas Pipeline Receiving Area	0.18 ha
Gas Turbine, Steam Turbine and HRSG Island 1	1.89 ha
Hard Standing Laydown Area	9.64 ha

<b>Project Component</b>	<b>Area</b>
Laydown Area	0.69 ha
Other miscellaneous infrastructure	0.03 ha
Pigging and Gas Metering Area	0.07 ha
Reverse Osmosis, MSFD, Salt Residue	0.05 ha
Sewerage Treatment Plant	0.12 ha
Stormwater Collection Tanks	1.2 ha
Trent Gas Turbines	0.73 ha
Truck Staging & Laydown Area	0.36 ha
Visitors and Training Centre	0.07 ha
Water Filtration	0.02 ha
Water Treatment, Raw Water Storage, Fire Fighting Water	0.59 ha
Workshop Warehouse and Spares	0.33 ha
Road surface area (total)	6.9ha
Propane storage vessels	3
Propane storage volume on site (total)	30 m <sup>3</sup>
Height of stacks	60m (max)
Capacity of on-site substation	132 KV substation for phase 1 400 KV substation for Phase 2
Type of perimeter fencing	ClearVu Reinforced
Perimeter fence length	2.8km
Perimeter fence height	3 m



Figure 2.2 Power plant functional layout.



### *Access routes and roads*

The Project has accounted for certain road works, described below, deemed necessary for safety and compliance with regional legislative requirements. Permissions have not yet been sought for the proposed road works, the costs of which will be borne by the project and executed according to local Council and/or Department of Roads and Traffic and/or Committee of Transport Officials (COTO) regulations, requirements and guidelines; in particular Road Infrastructure Strategic Framework for South Africa (RISFSA) of the South African Department of Transport (DOT, 2006)

All of the approximately 6,900 m of road access on the 45.83 ha site will be concrete- paved. The total area of roads is 5.59 ha which represents approximately 12.4 percent of the fenced-in site area. Most roads are 8m width and others 12m. The 12m concrete-paved roads will be constructed early after commencement of construction works and will serve to carry heavy load traffic (mobile cranes, multi axle heavy equipment trailers, cement delivery trucks, etc.) during the early stages of construction.

All concreted roads will play an important role for rainwater harvesting, in addition to the concreted lay-down areas. The site's natural slope is towards the south where the raw water storage tanks will be situated. The east-west thoroughfares ('streets') will channel rainwater into the rain-water drains of the north-south thoroughfares ('avenues'). Rainwater will run southwards to the bulk water storage tanks.

### *Approach to the Power Plant*

For road safety considerations and in light of the increased traffic (particularly during construction phase) the provincial road leading past the two power plant entrances will be widened from 11 m to a 20 m wide over-taking 4- lane section.

For the office and administration gate a wide entrance (12 m) and a 12 m radius bend into the power plant site and offices from the access road to the gate house is planned.

## **2.2.2**

### ***Pipeline***

#### *General*

The pipeline transport system from the point of arrival on-shore to the power plant site will consist of the following:

- A gas and sea-water forwarding station at the start of the land-based pipeline system;
- A dual, parallel gas pipeline for security of gas supply;
- A sea water pipeline to provide the power plant with sea water for desalination;



- A power cable to provide motive power for a projected air compressor and actuated isolation valves and instrumentation along the pipeline route; and
- A gas and sea-water receiving station at the power plant.

The LNG pipeline (regasified gas) and sea-water supply servitude will run from the pipeline entry point connecting to the power plant boundary. The gas pipeline will be buried to a depth of 3 to 4 m, cover a servitude width of approximately 15 – 20 m and be approximately 4600 m in length.

The gas and sea-water supply pipelines commence from the routing point #1, where the regasified LNG arrives on shore and enters the land-based servitude section of the supply line to the 1507 MW power plant.

The pipeline will run along the indicated servitude approximately 4600 m to the gas receiving station within the power plant boundary. Over the 4600 m the pipeline will not intersect with any water courses.

The proposed pipeline system will be buried underground with the pipeline servitude extending 6m on either side of the pipeline trench.

Where the pipeline passes through sensitive areas the temporary RoW will be kept to between 20-25m in order to minimise impacts.

The pipeline arrangement will consist of the following elements:

- Two steel gas pipelines with a clearance of 0.3m (as per EN 1594:2000);
- One steel water pipeline; and
- One electrical conduit (plastic compound).

### 2.2.3

#### *Power Evacuation and Connection to the Grid*

##### *132 kV Feeder line to ArcelorMittal Steel Works*

The feeder power line for the initial 160 MW base load (peaking to 250 MW) from the power plant to the ArcelorMittal Steel Works will be the first priority. This 132 kV feeder line will be sized for a capacity of 400 MW. The proposed routing of the transmission line is illustrated in *Figure 2.3*.

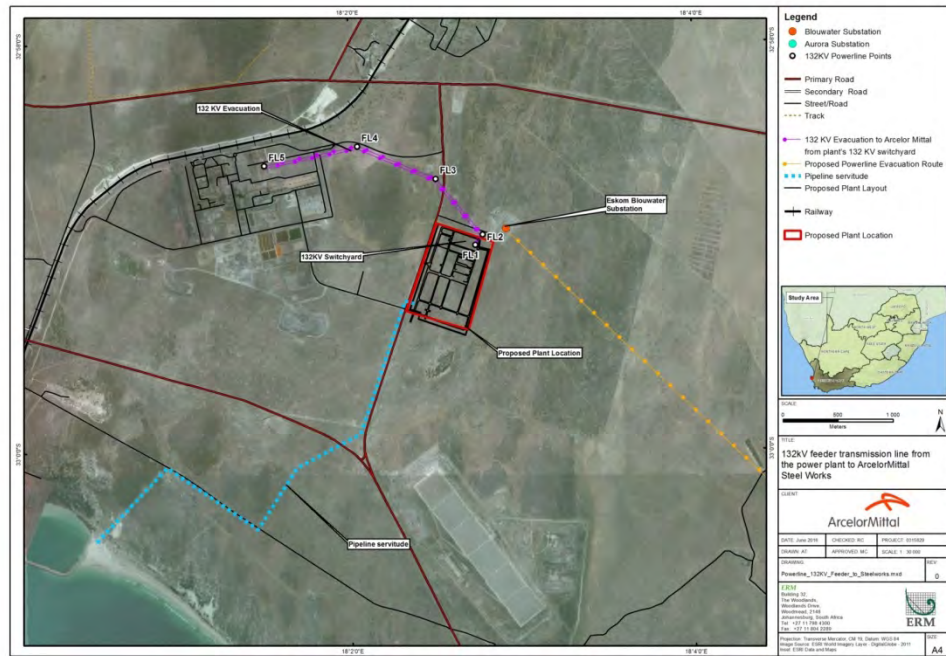
The Project plans on utilising the existing 132 KV lines; towers and conductors. The 132 KV plant substation would join directly on to these existing lines. It is noted that there are currently no observed bird deterrent measures on the existing lines. This may need to be introduced, however this would need to be determined between IPCSA and Eskom.

##### *400 kV Transmission line to Aurora Substation*

The additional 1103 MW (1400 MVA) of power generated at the plant will be evacuated through the construction of a new 22 km High Voltage (HV) 400 kilo Volt (kV) line from the power plants own switch yard to the existing

Aurora 400 kV substation, following the existing Aurora to Blouwater 132 kV feeder servitude. This transmission line is not considered as part of this EIA process and will be considered in a separate EIA process in coordination with Eskom.

**Figure 2.3** 132kV feeder transmission line from the power plant to ArcelorMittal Steel Works



## 2.3 PROJECT PHASING AND SCHEDULE

### 2.3.1 Construction Phase

The proposed project will be implemented in two phases. Phase 1 and 2 combined will produce approximately 1500 MW net out-put.

Phase 1 and 2 will consist of six Siemens Trent60 50 MW nominal (Installed Gross capacity) gas turbines in open cycle (labelled T1 through to T6) and three Siemens SCC5-4000F 435 MW (Installed Gross capacity) nominal combined cycle plants, labelled UNIT 1, UNIT 2 and UNIT 3 respectively and will be erected on three self-contained power 'islands' each approximately 150 m long x 60m wide.

Phase 1 of the project will constitute the following components:

- Site entrance with truck staging areas, hard standing areas;
- Offices and control room;
- Warehouse areas and workshops;
- Installation of six open cycle Siemens Industrial Trent 60 gas turbines (T1, T2, T3, T4, T5 and T6), one of which will be a redundant unit to ensure uninterrupted supply;

- Associated step-up transformers for every generating unit;
- 132KV and 400 kV switchyard;
- Site drainage;
- Gas receiving, conditioning and forwarding;
- Waste-Water treatment and water reclamation plant; and
- Storm water collection reservoir (25,000 m<sup>3</sup>) and water treatment plant.

Construction period: 15 -18 months

Completion Phase 1: September 2019 commercial operation

Construction of Phase 2 of the project will include the following components:

- Installation of complete UNIT 1, UNIT 2 and UNIT 3 open cycle Siemens SCC5-4000F gas turbine (total approx. 1305 MW nominal (Installed Gross capacity) combined cycle plants);
- Associated step-up transformers, and station switchyard.

Construction period: 18 - 20 months

Completion Phase 2: Mid- 2020 - Early 2021

#### *Employment during the Construction Phase*

During peak construction activity, it is expected that up to approximately 450 workers will be directly employed (*Figure 2.4*). Most of this workforce will be employed by the engineering, procurement and construction (EPC) contractor and will consist in semi-skilled to skilled workforce. The breakdown of skills required during the construction phase will be as follows:

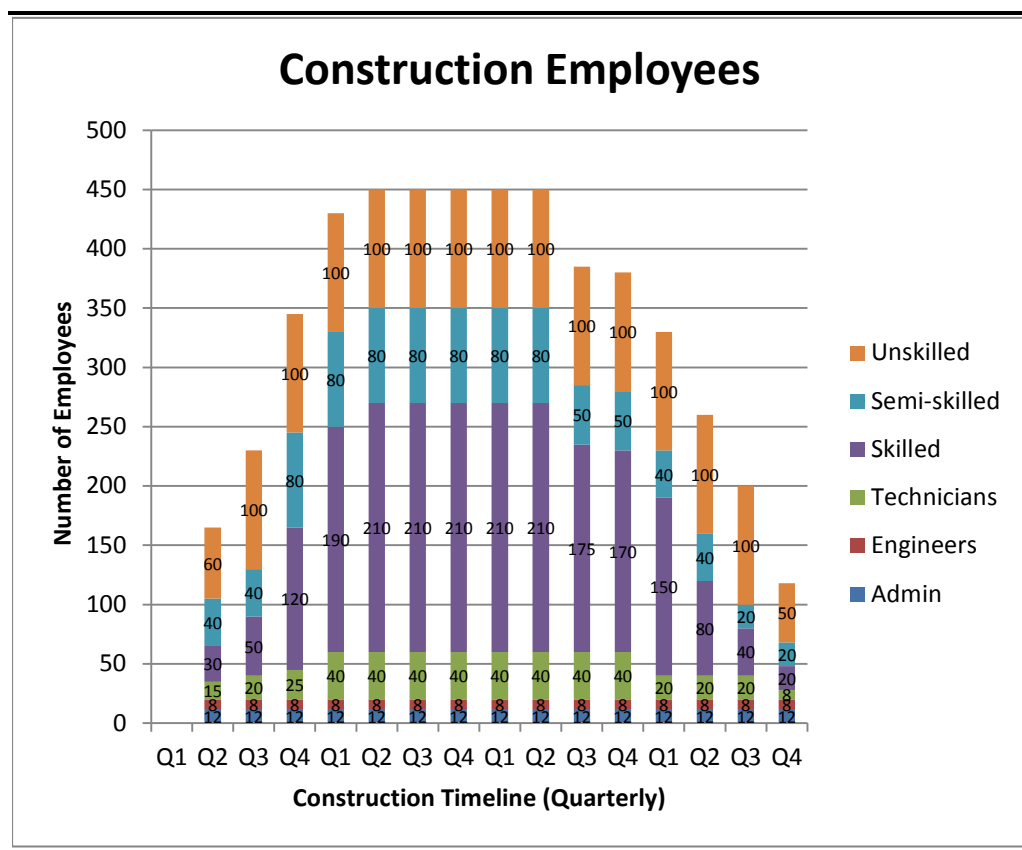
- Skilled labour: 58 percent;
- Semi-skilled labour: 20 percent; and
- Unskilled labour: 22 percent.

A further breakdown of the employment opportunities is provided in *Table 2.5*.

**Table 2.5** *Estimated Employment Positions Available During Construction*

Employment Position	Number of Positions
Admin	12
Engineers	8
Technicians	40
Skilled	210
Semi skilled	80
Unskilled	100
<b>Total</b>	<b>450</b>

Figure 2.4 Employment requirements during the construction phase



It is understood that there will be no worker accommodation on site during construction. The unskilled workforce will, as far as possible be employed from the local community, reducing the need to the provision of accommodation. The skilled and semi-skilled workforce from outside the area will be housed within Saldanha Bay Local Municipality.

#### *Traffic Requirements During the Construction Phase*

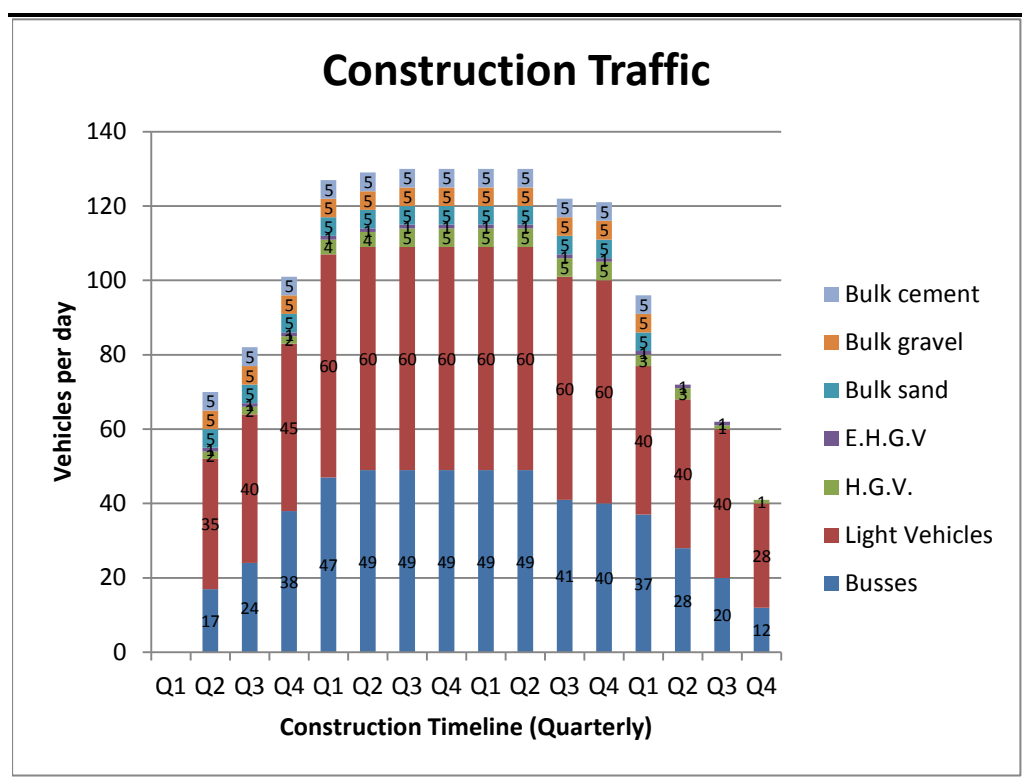
Approximately 35,000 tons of bulk cement and concrete aggregate, 800 tons re-bar steel, and 6,500 tons equipment and structural steel will need to be transported to the construction site.

It is envisaged that construction staff, up to a maximum of 350 persons, would be bussed to site in 8-seater or 10-seater mini busses and pass through this gate; about 40 - 50 busses per day, twice a day. Light vehicle traffic due to construction will start at around 35 vehicles per day and increase rapidly to 60 per day where it will remain for the bulk of the construction period.

There will be an expected 5 vehicles per day of HGV's, bulk gravel, bulk sand, and bulk cement respectively for the duration of the construction phase right up to Q1 of year 4, after which it tails off rapidly.

The gas turbines and other heavy equipment will be delivered via truck. This will involve some abnormal loads being moved on the roads during this time.

Figure 2.5 Predicted traffic loads during the construction phase



#### Water Requirements During the Construction Phase

During the construction phase the main water requirement will be for the concrete batching plant. It is estimated that 30 000m<sup>3</sup> of water will be required for the concrete batching. Additional water will be required for:

- Off-site dust control: Post treatment recycled water will be used for dust control on unsurfaced roads where required during high traffic periods and during construction. Estimated temporary provision of 5,000 m<sup>3</sup> per annum in 2017 and 2018.
- Domestic purposes by on site workers: Maximum water usage during peak construction period (600 site personnel) is estimated to be 60 m<sup>3</sup>/day. This peak requirement is estimated to be needed for approximately 2 years – 2017 and/ 2019.
- Construction and on-site dust control: Water is required for the manufacture of concrete during construction. The power plant will require approximately 80,000 – 90,000 m<sup>3</sup> of concrete for foundations, road works, hard standing and other site works. Estimated temporary provision of 5,800 m<sup>3</sup> per annum - 2017 and/ 2019.

During the commissioning phase the following water will be required:

- 2,000 – 5,000 m<sup>3</sup> for blow-out of the steam piping (Testing/commissioning);
- 2,000 – 5,000 m<sup>3</sup> for blow out and chemical clean of the Benson boilers; and
- 23 000m<sup>3</sup> (approximately) for pipeline cleaning and hydraulic pressure testing.

Initially water will be trucked in 30 m<sup>3</sup> loads from local farms (ground and surface water sources) <sup>(1)</sup>. It will be transferred to a temporary stainless-steel tank for immediate use in preparing concrete for a small lay-down area and foundations for the first permanent raw-water storage tanks.

### 2.3.2 *Operation Phase*

The power plant will be operated on a 24 hour, 7 days a week basis. The position and location of the buried gas pipeline will be indicated above-ground by special marker beacons laid above the pipeline in line-of-sight of each other along the pipeline servitude route (*Figure 2.6*). The markers will be able to collect and transmit essential pipeline information.

**Figure 2.6** *Example of a marker indicating pipeline below ground*



The pipeline is expected to operate continuously, for 8760 hours per year, only the flow rate will vary.

(1) Agreements with land owners are currently in the process of being developed.

### *Employment during the Operation Phase*

The number of workers on site during operations will be about 107 operational employees and up to 70 part-time employees. These will include plant management and maintenance staff, skilled mechanical and electrical technicians, drivers, medical, quality control, and cleaning staff and a number of experienced plant operators who will operate and maintain the plant, and who are expected to be a mix of expatriate and local staff.

As the plant will operate 24 hours a day, three full-time shifts will be created per day, and the breakdown of the skills required will be as follows:

- Skilled labour: 65 - 70 percent;
- Semi-skilled labour: 15 - 20 percent; and
- Unskilled labour: 10 - 15 percent.

A further breakdown of the employment opportunities is provided in *Table 2.6*.

**Table 2.6**      *Estimated Employment Positions Available During Operation*

Position	Number of Positions Available
Admin	4
Security	15
Warehouse and Stores	6
Medical	6
Plant Control	15
Engineers	9
Technicians	9
Skilled	9
Unskilled	9
Tuition and Training	4
Quality Control, Water	3
Canteen	6
<b>Total</b>	<b>95</b>

It is understood that there will be no worker accommodation on site during operation. The unskilled workforce will, as far as possible be employed from the local community, reducing the need to the provision of accommodation. The skilled and semi-skilled workforce from outside the area will be housed within Saldanha Bay Local Municipality.

### *Traffic Requirements during the Operation Phase*

During commercial operations there will be some traffic bringing supplies and spares to the power plant. This will increase during shutdowns and periods of major maintenance.

Maintenance activities will be undertaken by an Operations and Maintenance (O&M) contractor.

## *Water Requirements during the Operation Phase*

Water during operation will be required for the following activities:

- Motive steam for the combined cycle <sup>(1)</sup>: Estimated annual provision 1500 m<sup>3</sup>.
- Annual Cooling water for condensation of steam from steam turbine seals and vacuum plant seals: Estimated annual provision of 500 m<sup>3</sup> (Phase 1 and Phase 2).
- Cooling of lubrication oil for gas turbine, alternators and steam turbine generator, gas compressor air: Estimated annual provision of 500 m<sup>3</sup> per year.
- As water/glycol for combustion air inlet cooling: A cooled water closed-loop is used to cool down the inlet combustion air to as close to 15 °C as possible. Estimated annual provision of 1500 m<sup>3</sup> per year.
- Make-up water for treated water replacement in event of any boiler blow-down requirement: Estimated annual provision of 1000 m<sup>3</sup> per year.
- Fire abatement: Estimated storage provision of 3000 m<sup>3</sup>.

Water requirements during the operational phase are estimated as follows:

- Combined Cycle circuit, replacement feed water: 1 500 m<sup>3</sup>/y
- Potable water: 200 m<sup>3</sup>/y
- Water for ablutions during construction 25 m<sup>3</sup>/day: 1 250 m<sup>3</sup>/y
- Vacuum system and steam seal evaporative water loss: 500 m<sup>3</sup>/y
- Sundry cooling system evaporative losses: 250 m<sup>3</sup>/y
- Water/glycol cooling circuit losses: 1 500 m<sup>3</sup>/y
- Other evaporative losses (PV system washing): 1,500 m<sup>3</sup>/y Water will be produced by at least two methods:
  - Harvesting of rain water climate change dependent: 5 000 m<sup>3</sup>/y
  - Desalination of sea water, 20 - 45 m<sup>3</sup>/day, potable, up to 14 000 m<sup>3</sup>/y. Sea-water to be pumped up to plant along gas servitude. This intended to be a ZLD (zero liquid discharge) process.
  - A third patented process currently being assessed: Recovery by vapour condensation in gas turbine exhaust.

It has been estimated that a provision of 25 000 m<sup>3</sup>/year of water would be sufficient for operation of Phase 1 and Phase 2 of the power plant, this water would be sourced as follows:

(1) The Benson boiler does not consume water, in that there is no water discharge to out of battery limits, the quantity indicated here is a provision over and above what may be used for startup



- Trucking from local farms during the construction phase;
- Collection of annual precipitation in 5 x 2000m<sup>3</sup> storage tanks;
- A Reverse Osmosis plant on site using sea water that will be pumped up from the coast along the gas pipeline servitude. The RO process will be a zero discharge process; and
- Water recovery by condensation from the gas turbine exhaust.

### *Services*

The following services will be provided by the project itself, managed by a services department on site or contracted to a third party:

- Electricity;
- Gas;
- Raw water treatment, including filtration RO and demineralisation;
- Water recovery from waste water;
- Sewage treatment;
- Boiler feed water;
- Boiler blow-down recovery;
- Condensate;
- Fire water;
- Cooling water;
- Hydrogen generator cooling system;
- CO<sub>2</sub> fire abatement system; and
- Compressed air.

The Project will not rely on the Local Municipality for the provision of services.

### 3.1 INTRODUCTION

This section provides an overview of legislation, guidelines and information documents that have informed the scope and content of this report and the approach to the SIA process.

#### 3.1.1 *The National Development Plan 2030*

The National Development Plan (NDP) identifies the need for South Africa to invest in a strong network of economic infrastructure designed to support the country's medium and long-term economic and social objectives. The Plan sets out steps that aim to ensure that South Africa's energy mix looks different 20 years from now, primarily through a decreased dependency on coal.

The NDP recognises the need for the private sector to contribute to the generation of electricity in South Africa, and further supports the use of gas as an alternative and cleaner source of energy.

#### 3.1.2 *The National Energy Act (Act No 34 of 2008)*

This Act aims to promote the diversity of supply of energy and energy sources in sustainable quantities and at affordable prices, to the South African economy in support of economic growth and poverty alleviation. The Act provides the legal framework which supports the development of power generation facilities.

#### 3.1.3 *White Paper on the Energy Policy*

The Energy Policy governs development within the energy sector in South Africa, and has five policy objectives:

- Increased access to affordable energy services;
- Improved energy governance;
- Stimulating economic development;
- Managing energy related environmental and health impacts; and
- Securing supply through diversity.

#### 3.1.4 *WCDM Spatial Development Framework*

The purpose of the WCPSPDF is stated as the following:

- Be the spatial expression of the Provincial Growth and Development Strategy (PGDS);
- Guide municipal (district, local and metropolitan) Integrated Developments Plans (IDPs) and Spatial Development Frameworks (SDFs) and provincial and municipal Spatial Development Plans (SDPs);

- Help prioritise and align investments and infrastructure plans of other provincial departments, as well as national departments and parastatals plans and programmes in the Province;
- Provide clear signals to the private sector about desired development directions;
- Increase predictability in the development environment, for example by establishing “no-go”, “maybe” and “go” areas for development; and
- Redress the spatial legacy of apartheid.

### 3.1.5 *West Coast District Municipality Integrated Development Plan 2012 – 2016*

This is a four year strategic framework to guide the Municipality in fulfilling their developmental mandate. The mission of the WCLM IDP is to ensure outstanding service delivery on the West Coast by pursuing the following objectives:

- Ensuring environmental integrity for the West Coast;
- Pursuing economic growth and facilitation of jobs opportunities;
- Promoting social wellbeing of the community;
- Providing essential bulk services in the region; and
- Ensuring good governance and financial viability.

### 3.1.6 *SBLM Integrated Development Plan 2012 -2017*

This is a five year strategic framework to guide the Municipality in fulfilling their developmental mandate. The mission of the SBLM IDP is stated as follows: “We, the community of Saldanha Bay Municipality, want to make Saldanha Bay Municipality the area of choice in which to live, do business and relax.” The objectives of the SBLM are to:

- Be a leading municipality;
- Render quality service at an affordable price;
- Be a place in which all have access to developmental opportunities;
- Utilise the riches of land and seas in a sustainable manner; and
- Strive to achieve the three aims of sustainable development, namely human well-being, economic success and ecological responsibility.

The IDP seeks to integrate and balance the economic, ecological and social pillars of sustainability within the Saldanha Bay municipal area without compromising the institutional capacity required to implement and coordinate the efforts needed across sectors and relevant spheres of government.

### 3.1.7 *Summary*

The Project will supply the power needs of ArcelorMittal Saldanha Steel (+/- 160 MW of base load energy, peaking up to 250 MW) and excess electricity will be made available to industries within the Saldanha Industrial Development Zone (IDZ) and/or Municipalities within the Western Cape

Province. The Project aims to create a reliable energy source for Saldanha Steel and stimulate economic growth in Saldanha through the provision of electricity. As such, it is aligned with the goals of both the energy related policies and economic development policies discussed above.

## 3.2 **PROJECT MOTIVATION**

When considering an application submitted under the EIA Regulations, the relevant competent authority must take a number of factors into consideration, including the need for, and desirability of, the activity.

The need and desirability of this project is discussed below including strategic plans, frameworks and policies applicable to the area and project.

### 3.2.1 ***Need and Desirability***

#### *Project Background: South Africa's Energy Crisis*

Electricity consumption has outpaced power system capacity building in South Africa (Independent Power Producer (IPP) Projects, n.d.). As a result the country has been experiencing severe electricity supply constraints since 2008. To maintain system stability, a schedule of rolling black outs 'load shedding' have been instituted, but with negative implications for the economy (IPP Projects, n.d.).

The National Development Plan (NDP) is a long term (2030) development plan and aims to eliminate poverty and reduce inequality by growing an inclusive economy, building capabilities, enhancing the capacity of the state, and promoting leadership and partnerships throughout society (RSA, 2012). The NDP requires the development of 10 000 MW additional electricity capacity to be established by 2025 against the 2013 baseline of 44 000 MW (IPP Projects, n.d.). This plan presents the overall national power generation plan.

An Integrated Resource Plan (IRP) (2010) has been developed in addition to the NDP. The IRP outlines the preferred energy mix to meet electricity needs over a 20 year planning horizon to 2030 (IPP Projects, n.d.).

#### *ArcelorMittal's Energy Needs*

The current Eskom electricity situation, which affects both the availability as well as the cost of electricity, has resulted in a "perfect storm" scenario for the manufacturing industry in Saldanha. The timing of the energy crisis within South Africa, in combination with the structural changes in the global commodity markets, has the potential to destroy the manufacturing industry and, specifically, the companies focused on the export market (where cost pressures cannot be given through to the customer).

Saldanha Steel has tried to negate the effect of rising electricity cost through actively engaging in energy efficiency programs run by the Department of Trade and Industry (DTI), United Nations Industrial Development Organization (UNIDO), National Cleaner Production of South Africa (NCPC) and Department of Energy (DoE). The plant made significant improvements and has been used as a case study to illustrate what is possible in an industrial environment with energy efficiency <sup>(1)</sup>. However, there is little opportunity for further improvement without significant capital investment in technology.

Electricity prices started to rise steeply from 2007 and have increased by 328% up to 2015 / 16. The price escalation going forward is expected to be higher than the Consumer Price Index (CPI) for the next 5 years. This price path is unaffordable to AMSA (ArcelorMittal South Africa) and in particular AMSS (ArcelorMittal Saldanha Steel). AMSS is competing mainly on the export market and upward electricity cost pressure with high price competitiveness in the international market pushes AMSS to actively take control of its cost drivers. From this viewpoint AMSS has partnered with an Independent Power Producer (IPP) to supply electricity at a particular price affordable to AMSS and with a definite fixed forward price curve.

IPCSA are investigating the option of developing the power plant as a solution to Saldanha Steel's urgent requirement for stable, economical electricity for the long term future. The proposed 1507 MW CCGT plant is to be erected on the ArcelorMittal Saldanha Steel site. Excess electricity will be made available to industries within the IDZ and/or Municipalities within the Western Cape Province.

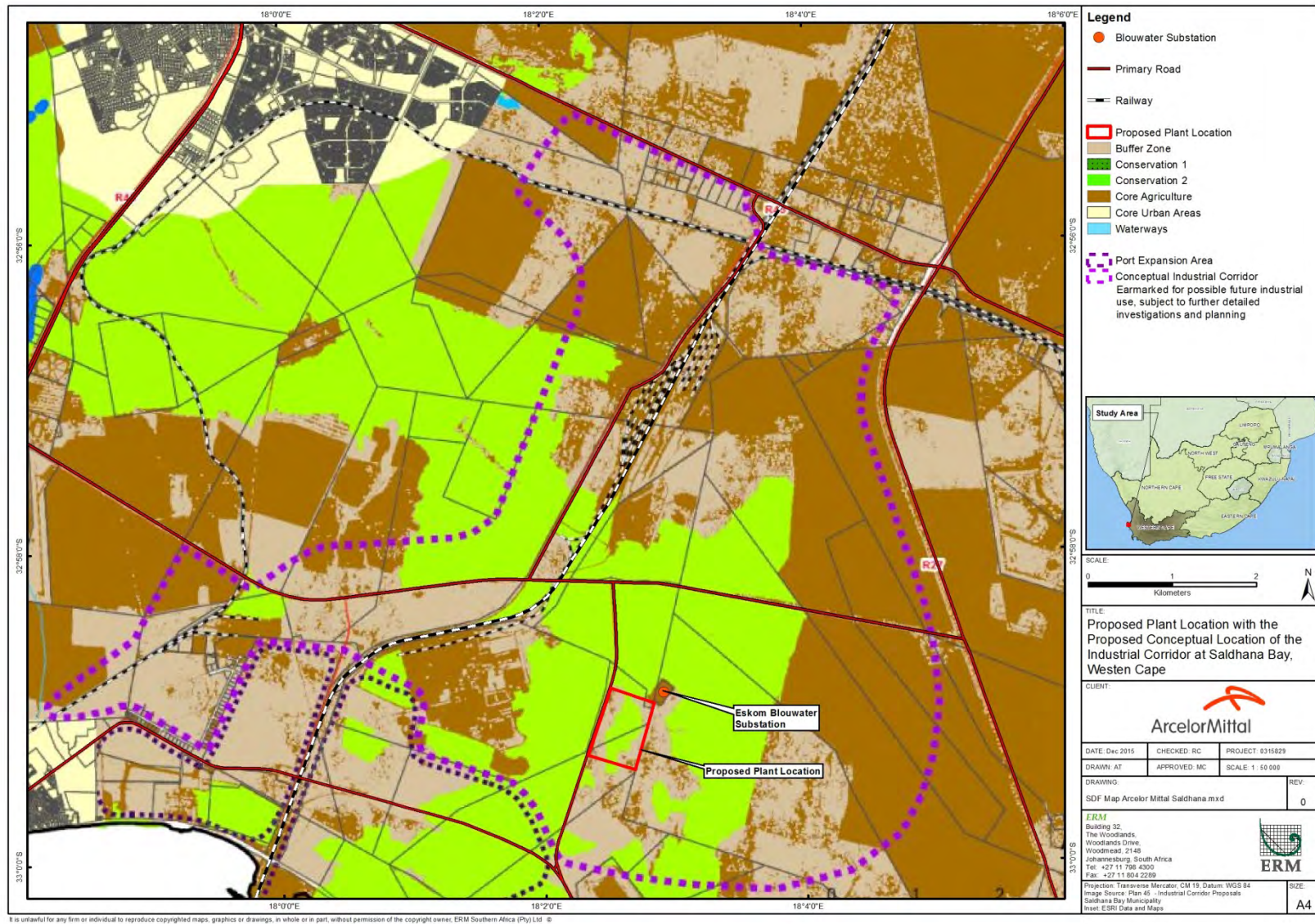
#### *Spatial Development Frameworks*

The proposed site for the development of the power plant is in close proximity to both the Port of Saldanha and Vredenberg, within an area referred to by the West Coast District Municipality Spatial Development Framework (SDF) (2014) as the 'growth engine' of the municipality. The SDF also states that the Port of Saldanha is the key economic catalyst within the district and its utilisation and potential should be optimised, through promotion of initiatives such as the IDZ, better use of the back of port areas and promotion of oil and gas industries. One of the development focus areas identified by the SDF is the Vredenberg-Saldanha area which is viewed as a major regional development or growth centre.

The Saldanha Bay Local Municipality's SDF (2011) indicates that the proposed power plant site falls within what is referred to in the SDF as a 'planned industrial corridor' (see *Figure 3.1*). The location of the proposed facility therefore is in accordance with the current district and local municipal plans for development.

(1) ArcelorMittal implemented 15 energy projects which saw the plant reduce their LPR consumption by 40%. They were awarded an Eskom *eta* Award in 2013.

Figure 3.1 Saldanha Bay Municipality Conceptual Industrial Corridor



Source: Saldanha Bay Municipality SDF (2011)

This section describes the socio-economic environment in which the Project is situated. The description provided in this section is based on publicly available and secondary information, as well as primary data collected for the Project.

#### 4.1 *AREA OF INFLUENCE (AOI)*

The socio-economic baseline description is focused on local level, i.e. within the Saldanha Bay Local Municipality, situated in the West Coast District Municipality. This is because it is expected that although the proposed Project will result in macro-economic benefits at a national level, the primary socio-economic impacts of the Project will be experienced at a district and local level.

The socio-economic area of influence has been divided into the Direct Area of Influence and the Indirect Area of Influence, these are described below.

##### 4.1.1 *Area of Direct Influence*

The Area of Direct Influence, ADI, includes the Project footprint and related facilities as well as the associated effects of the Project on the receiving environment. This encompasses:

- The 45 ha CCGT Power Plant site;
- the 5 km pipeline route;
- the transmission line to Saldanha Steel.

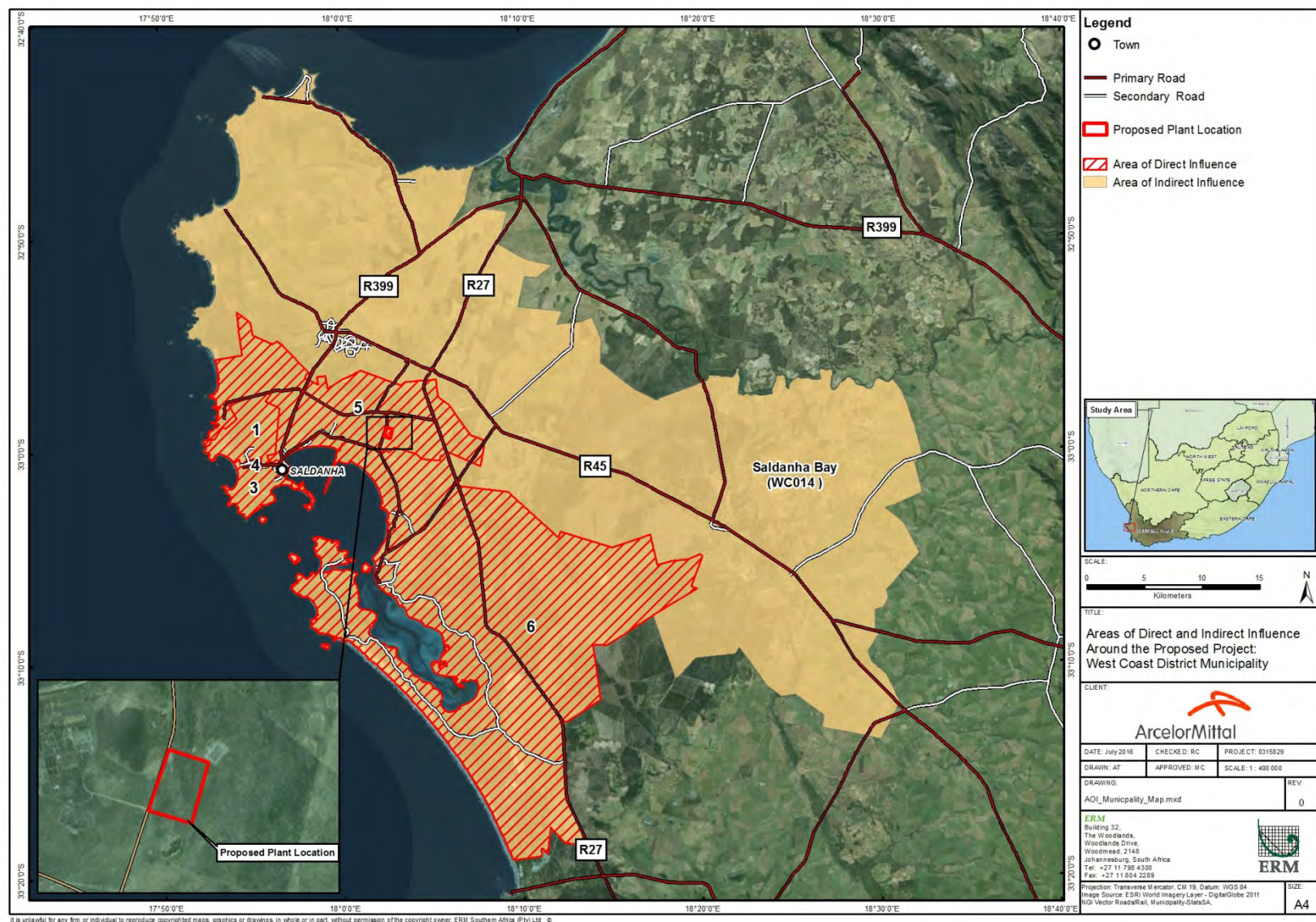
In the context of this study, the ADI further includes areas around the site likely to be affected by the Project activities during the pre-construction, construction and operation phases. The effects can be positive or negative, short or long term or permanent, as well as direct and in-direct. These areas include the settlements located within close proximity to the Project Site, namely, the greater Saldanha Bay area, in particular Ward 1, Ward 3, Ward 4, Ward 5 and Ward 6 (refer to *Figure 4.1*).

##### 4.1.2 *Indirect Area of Influence*

The Area of Indirect Influence, AII, includes areas within a wider radius of the Project Site, which may be affected by the Project, this includes, although to a lesser extent, the remainder of the Saldanha Bay Local Municipality, particularly the town of Vredenburg, Ward 2, Ward 9, Ward 10 and Ward 13 (refer to *Figure 4.1*).



Figure 4.1 Project Area of Influence

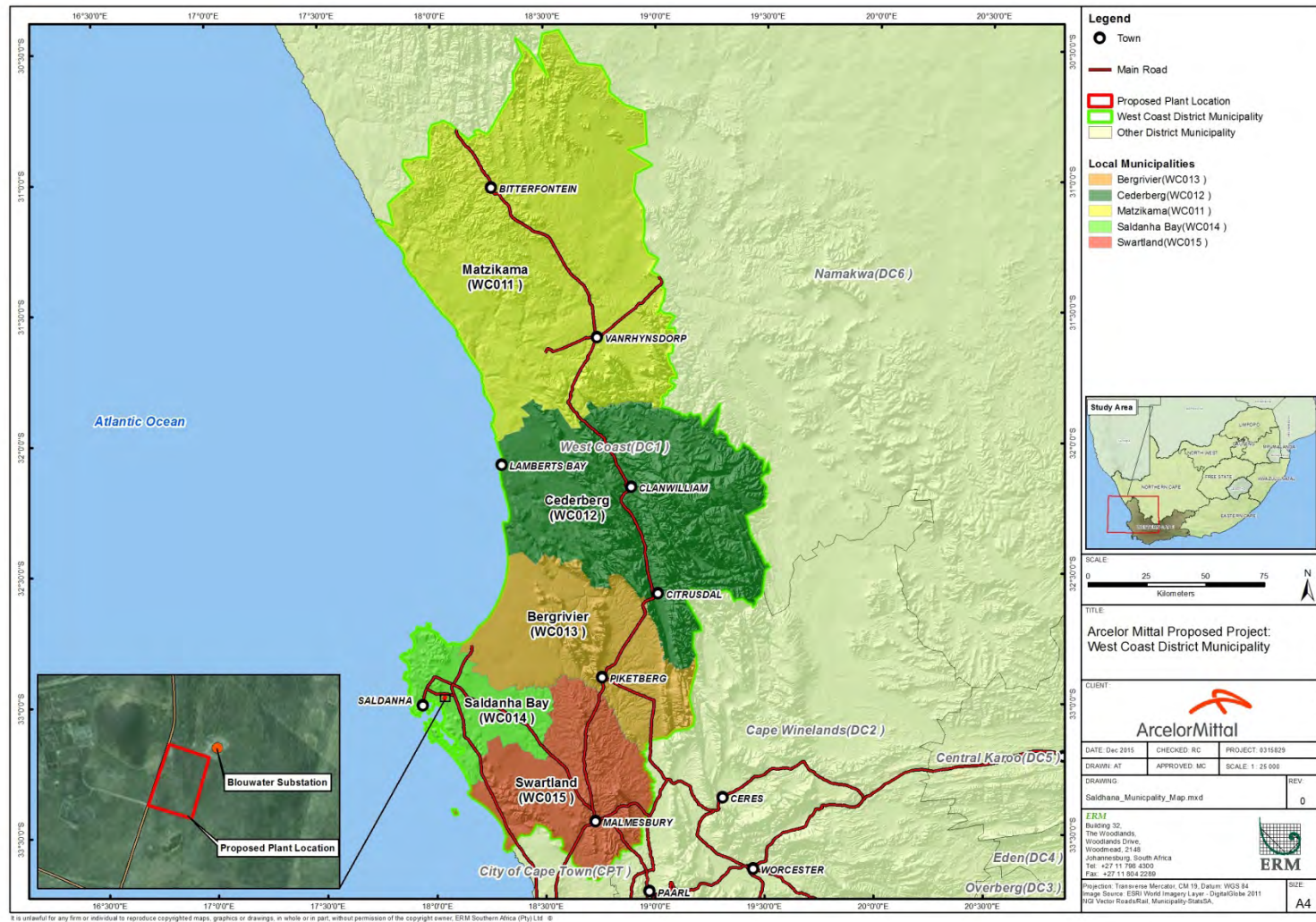




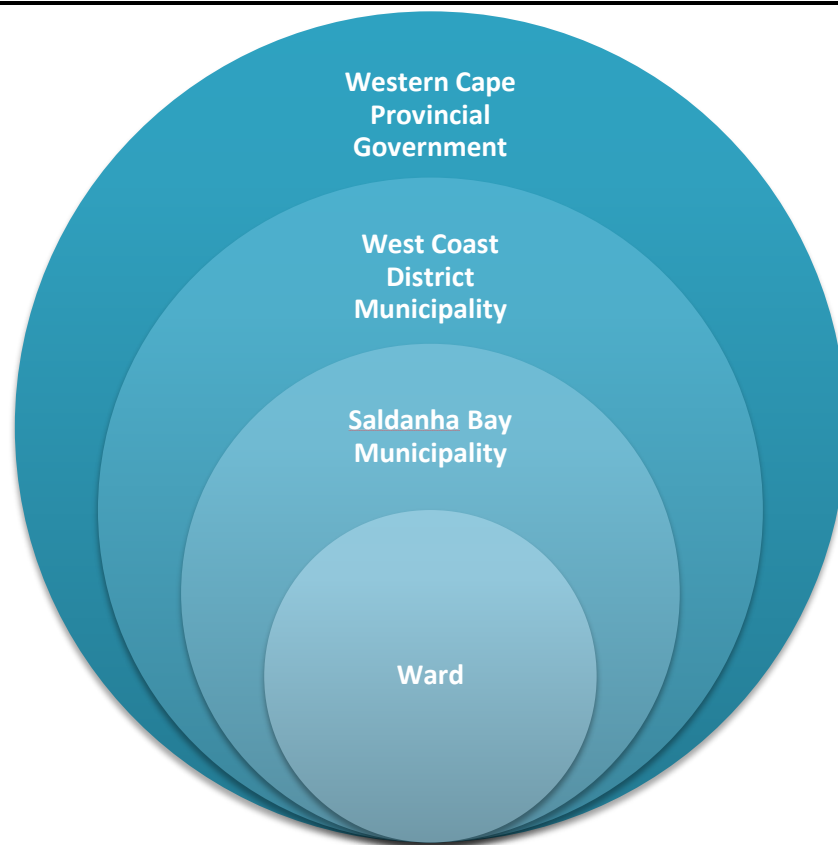
The Project is in the Western Cape Province and the West Coast District Municipality (WCDM). The WCDM borders the Northern Cape District Municipality (NDCM) in the north and the Cape Metro District Municipality (CMDM) and Cape Winelands District Municipality (CWDM) in the south and south-east, respectively. The District Municipality has five local municipalities; namely Swartland, Bergrivier, Matzikama, Cederberg, and Saldanha Bay, and the Project site is located in the Saldanha Bay Local Municipality (SBLM) (see *Figure 4.2*). There are 13 Wards within the SBLM and the Project footprint falls within Ward 5.

The Provincial government is responsible for providing the strategic vision and framework for the Province. They are responsible for ensuring cooperation and collaboration between municipalities and that each municipality performs their respective functions. In turn, each of the District Municipalities is responsible for the preparation of Integrated Development Plans and for the overall provision of services and infrastructure within their District. *Figure 4.3* shows the administrative structure of the respective levels of government.

Figure 4.2 West Coast District Municipality Boundaries



**Figure 4.3**     *Administrative Structure*



### **4.3**     *SITE SETTING AND LANDUSE*

#### **4.3.1**     *Land-use of the Project Site*

The Project site is located on land currently owned by ArcelorMittal, less than 1 km to the east of the existing Saldanha Steelworks, immediately adjacent to the Blouwater substation. The site is vacant and is currently managed by Saldanha Steel for grazing. The site is not leased out to other farmers. The site is located within an area identified for industrial development according the Saldanha Bay Municipal Spatial Development Framework (2011).

The pipeline will traverse across land owned by ArcelorMittal until the Port boundary (where the Scope of this EIA ends).

The site is served by the existing road infrastructure. The access to the development is via TR 85/1 coming from the east off the R27 (TR 77/1). Provincial Road OP7644 abuts the site to the west and links TR85/1 to MR559. OP7644 is a two lane undivided rural roadway from which access to the site is provided opposite the Saldanha Steel entrance.

**Figure 4.4**      *View of the Site*



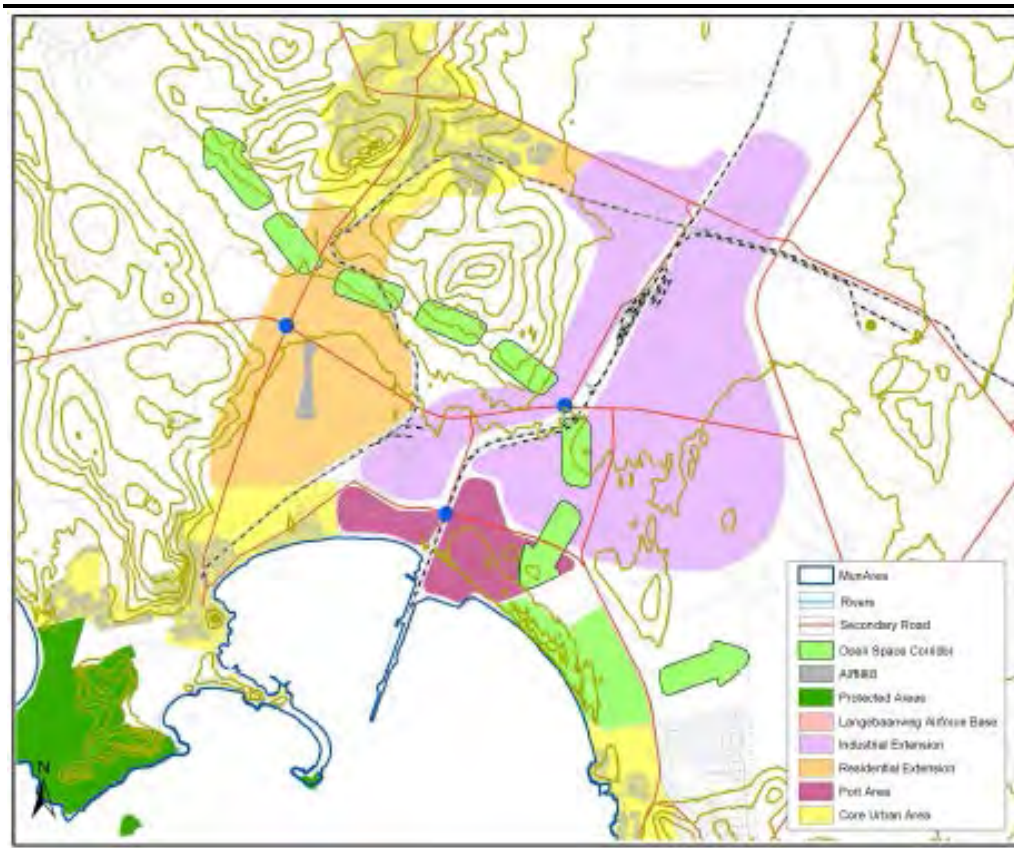
#### **4.3.2**      *Surrounding Land-use*

The Project site is located in an industrial area within Saldanha Bay. The land immediately surrounding the site is utilised for industrial purposes, grazing or is vacant land. Within the broader area, much of the surrounding land to the north and east is utilised for agriculture. The residential areas of Langebaan and Saldanha Bay are located approximately 7 km south and west of the site respectively, while Vredenburg is located approximately 8 km north-west of the site.

Surrounding industries include Saldanha Steel, a number of engineering companies with an oil and gas focus located in the IDZ, and the Port of Saldanha with associated infrastructure and terminals. The West Coast National Park is located approximately 15 km south of the site, and the SAS Saldanha Contractual Nature Reserve is located 12 km south west of the site. *Figure 4.5* shows the planned land-use zoning within Saldanha Bay.



**Figure 4.5** *Planned Land Use within Saldanha Bay Area*



Source: Saldanha Bay Municipal Spatial Development Framework, 2011

The Saldanha Bay residential area is divided into a number of sub-places, namely, Saldanha, Diazville (including Middlepos), White City and the Military Area. Diazville and White City are densely populated areas, with low cost, single unit dwellings on small stands. The population in these areas are predominantly lower income families. The population of Saldanha are predominately of middle to high income. The residential area of Langebaan and the surrounding sub-places consist largely of single unit residential homes and housing estates, many of which are second homes or rented out to accommodate tourists.

This pattern is replicated in Vredenburg, which is divided into Vredenburg, Louwville, Witteklip and Ongegund. Louwville, Witteklip and Ongegund are densely populated, with a population of a lower income bracket, while Vredenburg is comprised of middle to high income families.

### **4.3.3** *The Port of Saldanha*

The Port of Saldanha Bay is South Africa's largest natural anchorage. The Port developed into a modern harbour when it became necessary to facilitate the export of iron ore from the Northern Cape via an 800 km railway line from the mines at Sishen in the Northern Cape. The Port accepts vessels of up to 20.5 m draught. The Port entrance channel is dredged to a depth of -23 m Chart Depth and a width of 400 m.

The total area occupied by the Port (land and water areas) is 18,300 ha and it has a 990 m long jetty containing two iron ore berths linked to the shore along a 3.1 km long breakwater. There is also an 874 m long multipurpose quay for the handling of breakbulk cargo. Between 2011 and 2012 the Port of Saldanha Bay handled a total of 528 ships with a total gross tonnage of 34,503,749-gt. In 2011/12 cargo handled by the port totalled 58,263,030 tonnes, of primarily iron ore but also oil.

**Figure 4.6**     *Ariel View of the Port of Saldanha*



#### **4.4**     *DEMOGRAPHIC PROFILE*

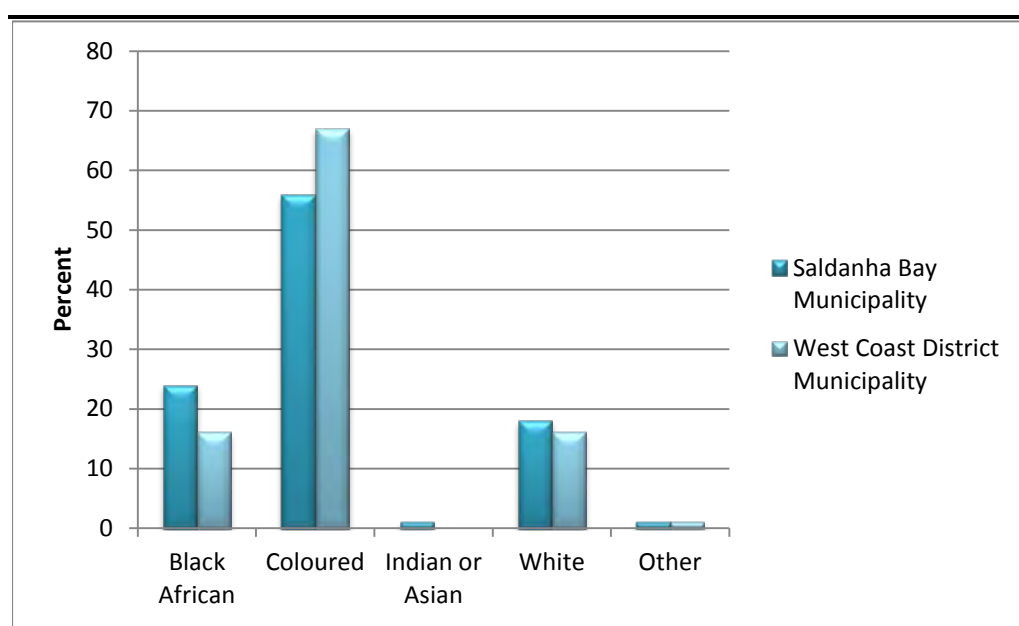
The 2011 Community Survey notes that the population of the WCDM is estimated to be 391 758. The District occupies 19 percent of the total land area of the Western Cape Province and is sparsely populated with a population density of 13 people per square kilometre. Approximately 72 percent of the population lives in urban areas with the remaining 28 percent living in rural areas. The District is relatively urbanised and the rural areas are sparsely populated.

The SBLM has the second largest population (99,193 people) in the District area with the Swartland Municipality having the highest population (113 763). The population of the SBLM increased by 3.4 percent between 2001 and 2011 (StatsSA, 2011), greater than the predicted 2.2 percent growth expected in the Saldanha Bay Local Municipality, IDP, 2007/2008. Some 95 percent of SBLM households are concentrated in urban areas with the remaining 5 percent living in rural areas (DEA&DP, 2012). This is the highest proportion of people living in urban areas as compared to the other Local Municipalities in the WCDM and well above the District average of 72 percent (StatsSA, 2011). The

population density in SBLM is 49 persons per square kilometer which is significantly higher than that of the District Municipality (13 people per square kilometer).

The WCDM's population is composed of three ethnic groups, namely; Coloured, Black Africans and White Communities. The most dominant of these is the Coloured community (67 percent) while both White and Black African groups account from 16 percent of the population, as shown in *Figure 4.7*. Within the SBLM, the Coloured community account for 56 percent of the population, while Black Africans account for 24 percent and White people account of 18 percent of the population (StatsSA, 2011).

**Figure 4.7** *Ethnic Composition in the WCDM and the SBDM*



Source: StatsSA (2011)

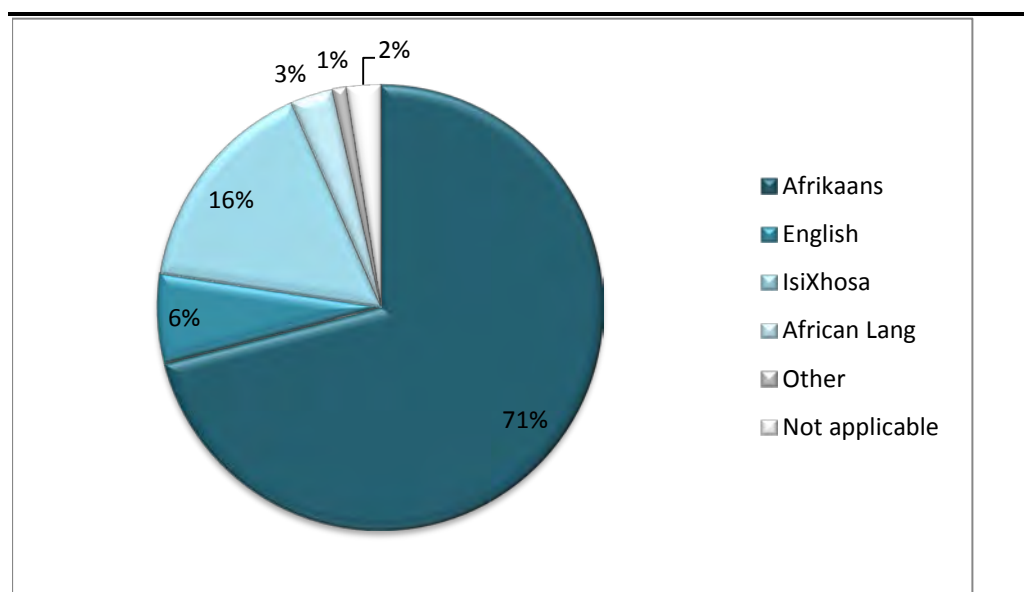
The total population within the ADI is 37,866, and a breakdown thereof is provided in *Table 4.1* below. While the population is fairly evenly spread between the five wards, Ward 3 and 4 are significantly smaller than the other wards, indicating that the population density is highest within these two wards.

**Table 4.1** *Population with the ADI*

Ward	Black African	Coloured	Indian or Asian	White	Other	Total Population
1	4 647	3 519	120	9	105	8 400
3	2 115	3 237	96	717	42	6 207
4	1 191	7 254	84	6	57	8 592
5	492	1 818	96	3 744	51	6 201
6	630	2 931	39	4 749	117	8 466
Total Population						37 866

Afrikaans is the dominant language spoken in the SBLM, with an estimated 71 percent of the population being native speakers, isiXhosa is the second most commonly spoken language at 16 percent and English at 6 percent this is illustrated in *Figure 4.7*.

**Figure 4.8**      *Language Spoken in the SBLM*



Source: StatsSA (2011)

#### 4.5      *MIGRATION*

The primary driver of migration is the search for employment and income, and the urban centres of the Western Cape attract many migrants as they provide a hub of economic activity. The agriculture sector dominates much of the WCDM, with populations highly dependent on agriculture for employment. The contraction of the agriculture sector in the WCDM resulted in notable job losses and although the agricultural sector remains a large employer (25 492 workers), the sector shed 19 786 between 2000 and 2013 (Western Cape Government, 2013). As a result, many people seeking alternative employment will gravitate towards larger urban centres, where there is perceived to be a greater prospect of employment opportunities.

The population of the SBLM increased by 3.4 percent between 2001 and 2011 (StatsSA, 2011), greater than the predicted 2.2 percent growth expected in the Saldanha Bay Local Municipality, IDP, 2007/2008, and this is likely due to an in-migration of job seekers. Saldanha Bay and Vredenburg, the major urban centres in the SBLM, will attract many of the migrants entering the SBLM as they seek access to employment opportunities as well as social infrastructure and services.



The WCDM contributed about 4.3 percent to the Western Cape's total GDP (Regional Gross Domestic Product) in 2011 (Western Cape Government, 2013). The WCDM has experienced slow economic growth in the past five years. This can be attributed to the contraction in agriculture in some of the municipal areas, namely Bergrivier LM, Matzikama LM and Cederberg LM, as well as a struggling manufacturing sector, particularly in the SBLM, which was affected by the economic downturn. While jobs have been lost in the agricultural and manufacturing sectors, positive net employment was recorded in the services sector, with SBLM recording the highest number of new jobs in the service sector (Western Cape Government, 2013).

The agricultural, forestry and fishing sectors were the sectors that performed the best; contributing 16.8 percent to the GDP of the WCDM. Sectors such as wholesale, retail trade catering and accommodation, and finance, insurance, real estate and business services had the lowest contribution to the GDP of the West Coast Region at 3.7 percent and 3.4 percent respectively (Western Cape Government, 2013).

It is important to note that the SBLM differs significantly from the WCDM in terms of economic activity. The SBLM, being host to a large port, supports a more lively manufacturing and processing sector, and has developed the economic hub of the WCDM, supporting more business and commerce than the surrounding rural municipalities.

The SBLM contributed 33.9 percent towards the GDP of the WCDM. The key economic sectors for the SBLM are shown in *Table 4.2*. Collectively, these sectors contributed towards approximately 90 percent to the Local Municipality's economic output in 2011 (Western Cape Government, 2014).

These sectors are discussed further below.

**Table 4.2** *Contribution to the SBLM Economic Output 2014*

Economic Sector	Percent Contribution to Economic Output
Finance, insurance, real estate and business services	32
General government	18
Manufacturing	13
Wholesale and retail, trade, catering and accommodation	10
Transport, storage and communication	9
Agriculture, forestry and fishing	8

Source: Western Cape Government (2014)

#### 4.6.1

#### *Manufacturing and Processing*

The main contributors to the SBLM manufacturing sector are metal processing and food processing. The two sectors contributed 54.2 percent and

37.1 percent, respectively in 2009 (Demacon, 2009), and account for over 80 percent of the SBLM manufacturing sector. The high metals contribution is due to the exporting of metals from the Northern Cape mines for steel-manufacturing plants near the port of Saldanha. The contribution of the food processing is largely driven by the processing of products from the fishing industry. While the manufacturing sector enjoyed steady growth in the past (2,6 and 3,9 percent from 1995 to 2004), the sector has shown slow and negative growth since 2009, largely linked to the slump in the metals industry (Western Cape Government, 2014).

#### **4.6.2 Wholesale and Retail Trade, Catering and Accommodation**

This sector contributed 10 percent towards the SBLM's total GDP, largely driven by the wholesale and retail trade sector. This sector has also been bolstered by positive growth in the tourism industry which is discussed in more detail below.

##### *Tourism*

Tourism is one of the fastest growing sectors of South Africa's economy with its contribution to the country's gross domestic product (GDP) reaching almost 12 percent in 2010. The tourism industry in the Western Cape contributes 14 percent to the total (GDP) of the Province and makes a significant contribution to economic development and jobs, thus being the most important growth sector in the Province.

The contribution made by tourism to the economy of the SBLM is included in the Wholesale and Retail Trade, Catering and Accommodation sector, which contributed 10 percent towards the SBLM's total GDP. Tourism is recognized as sector of economic growth by the SBLM, and is seen to offer economic development potential to a large part of the local community, with the potential of a year round flow of tourists, and consequently, economic activity. Further, eco-tourism and agri-tourism are recognized as ways of supplementing the income of farmers.

The natural environment is the primary attraction for tourists visiting the SBLM. There are numerous protected areas such as the SAS Saldanha Nature Reserve, West Coast National Park, and the West Coast National Fossil Park located in the SBLM (<http://capewestcoastpeninsula.co.za>, accessed November 2015). Within these protected areas people can take part in activities such as gaming, whale and bird watching, and seeing wild flowers blooming in the winter and spring.

WCDM IDP cites a lack of funding as a major challenge for the development and marketing of the tourism sector in the District.

#### 4.6.3 *Transport and Communication*

Transport and communication was the second-largest sector in the Saldanha Bay Municipality, contributing 9 percent to the total GDP in 2011. The industry showed growth between 1996 and 2001, but has subsequently started to slow, if not retract (Demacon, 2009). This could be linked to the general slow-down in economic growth experienced by the SBLM since 2009. Transport activities included bus and tour-bus services, taxis, school buses, travel agents, the hiring of transport equipment and telephone and radio-communication services.

#### 4.6.4 *Agriculture, Forestry and Fishing*

Between 1994 and 2004 the agriculture, forestry and fishing sectors combined contribution to GDP increased from 10 percent to 11.9 percent, (Western Cape Government, 2006). However, this combined contribution decreased to 8 percent in 2011, supporting the notion that there has been a general retraction in the agricultural sector within the WCDM (Western Cape Government, 2014). Agriculture is the primary economic contributor in the rural municipalities of the WCDM, such as Bergrivier, Matzikama and Cederberg. The rural areas of the SBLM, north Vredenburg, rely on agriculture, where as agriculture is not a key economic activity with the ADI.

The SBLM IDP recognizes that the agricultural sector faces challenges, and noted that to improve economic viability and sustainability of agriculture within the municipal area, it is important that the development and implementation of integrated approaches to natural resource management are adopted, and that farmers should consider alternative income generating activities, such as agro-tourism, conservancies and value add services.

In SBLM, mariculture industry and the fishing industry are important activities and are therefore, discussed further below.

##### *Aquaculture*

The aquaculture industry in Saldanha Bay consists of mussel and oyster (bivalve) growers, located predominantly in Small Bay with just one operator with an allocation in Big Bay. Farmers lease space from the Transnet Ports Authority and must obtain a permit to operate from the Department of Agriculture, Forestry and Fisheries (DAFF).

The bivalve industry currently employs approximately 130 people, of which 85 to 90 percent are factory workers or boat crew. Lack of a formal education is not a barrier to entry within the aquaculture sector, and according Olivier et al, 75 percent of the workforce employed by the bivalve sector in Saldanha is educated to Grade 9 level or less, and a further 21 percent of factory employees had passed matric (Grade12), (Olivier et al, 2013). The bivalve industry has provided employment for many people that have lost their jobs due to the decline in the fishing industry in Saldanha.

There are a number of emerging farmers operating in Small Bay who have branched off from the bigger operators. They have received support from bigger companies such as start-up capital. The emerging farmers are typically limited to Small Bay as they do not have the boats and skills to operate in the rougher sea of Big Bay.

**Figure 4.9**      *Mussels seed themselves onto ropes suspended beneath rafts*



Mussel Rafts

Cane hoisting a rope with mussels attached

Source: Dr Sue Jackson

### *Fishing*

There are well known national fishing companies that operate from Saldanha Bay, such as Sea Harvest and Southern Seas Fishing. While the fishing industry is well established in Saldanha, it showed slow growth between 2001 and 2009, (only 2.2 percent) (SBLM IDP) and continues to contract.

**Figure 4.10**     *Fishing Boats Docked in the Port of Saldanha*



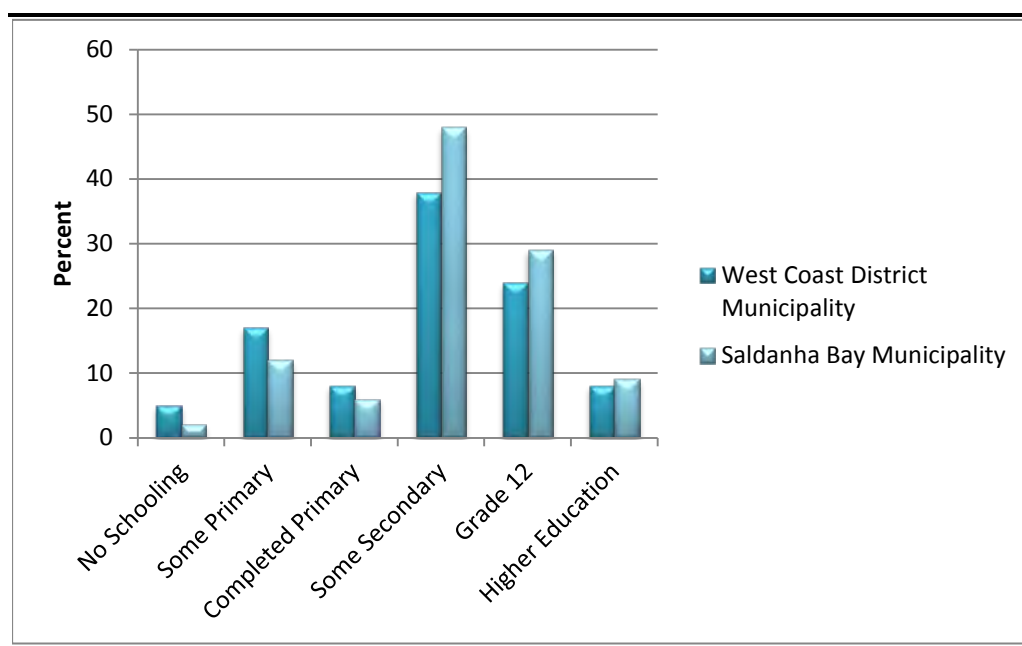
#### **4.7**                *EDUCATION*

The WCDM has a total of 130 schools (primary and secondary schools). The literacy rate <sup>(1)</sup> in the WCDM is 79.1 percent (Western Cape Government, 2014), which falls short of the Provincial literacy rate of 87.2 percent. The teacher student ratio is 28 students per teacher.

SBLM has a total of 19 schools and the literacy rate is 86.7 percent. Similar to the WCDM, the levels of illiteracy are highest amongst those above the age of 14 years. The learner-educator ratio is 1:28.5, in line with that of the WCDM, (Western Cape Government, 2014). *Figure 4.11* below shows that overall the level of education is slightly higher in the SBLM than in the WCDM, with a slightly higher percent of people having obtained a Grade 12 or some level of higher education in the SBLM. The figure also shows that in both Municipalities a greater proportion of learners have completed some secondary schooling, while fewer that have completed Grade 12. Overall, the population within both municipalities is poorly educated, with just a small portion of the population having received higher education.

(1) The Department of Social Development defines people aged 14 years and older as literate if they have successfully completed 7 years formal education (passed Grade 7/Standard 5).

**Figure 4.11** Levels of Education in the Local Municipality



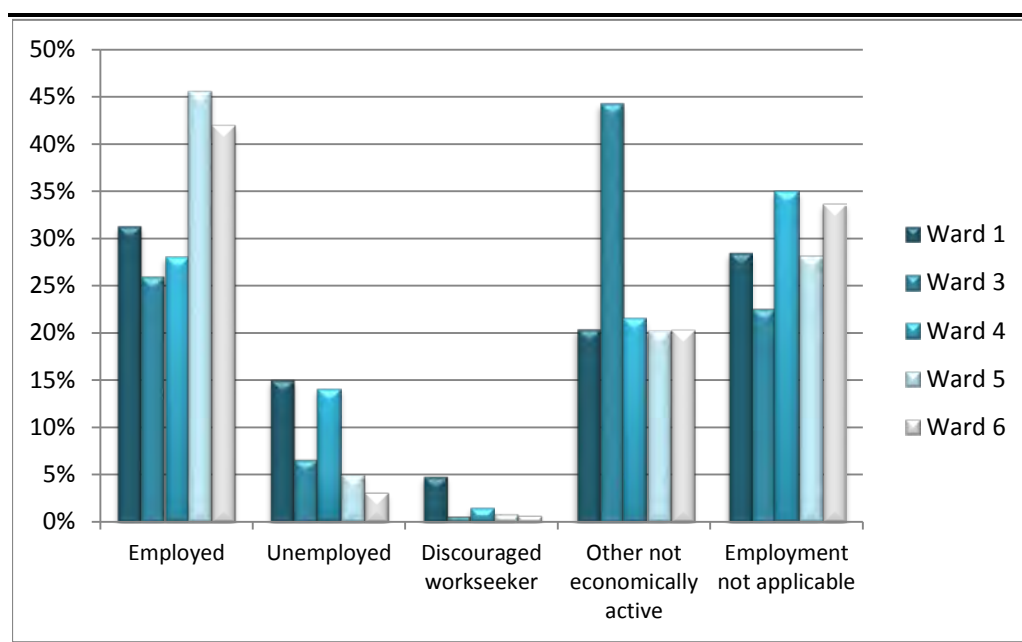
Source: Statssa, Census 2011

## 4.8

### EMPLOYMENT AND SKILLS

The unemployment rate in the WCDM was 14.6 percent in 2011. This is comprised of people who are unemployed but seeking employment, as well as those who are not seeking employment. The unemployment rate in the SBLM was higher than that of the District at 23.4 percent (Western Cape Government, 2014). *Figure 4.12* shows a breakdown of the employment status within the ADI. Wards 5 and 6 have the highest employment rates, while Wards 1 and 4 have the highest unemployment rates. Across all wards, the percentage of people who have stated either that they are not economically active or “that employment does not apply”, is high. This indicates that a large portion of the population are not economically active and are either dependent on social grants, or others people for an income (such as students or the elderly).

**Figure 4.12** *Employment Status within the ADI*



Source: StatsSA (2011)

Sectoral-employment data (2011) showed the following sectors as being the biggest employers in Saldanha Bay Local Table 4.3. Manufacturing is key employer in the SBLM, which is in contrast to the WCDM where agriculture, forestry and fishing are the major employment sector.

**Table 4.3** *Formal Employment by Sector in the SBLM 2014*

Sector	Percent Employed
Manufacturing	24.2
Community, personal, and social services	20.4
Wholesale and retail trade; and catering and accommodation	15.1
Agriculture, forestry and fishing	14.2
Finance and business services	11.4

Source: CCA (2014)

The major employers in the fishing industry include companies such as Sea Harvest, Oceana, Southern Seas and West Point Processors. Within the Steel and mineral-processing companies (Manufacturing sector), the Saldanha Steel Project (ArcelorMittal SA), Namakwa Sands is the major employer.

#### 4.8.1 *Skills Levels*

The population of SBLM is typically engaged in occupations requiring a higher level of skills than that of the WCDM (West Coast District Municipality IDP, 2012 – 2016). According to the IDP, almost half the population of the SBLM has some skills, which implies that they have received some training in the past. Table 4.4 provides a comparison of the skills levels within the two populations.



**Table 4.4 Comparison of Skills Levels between District and Local Municipality in 2012**

Area	Highly Skilled %	Skilled%	Low Skilled%	Not Specified%
West Coast District Municipality	21.3	41.9	27.9	8.9
Saldanha Bay Local Municipality	28.5	49.3	12.1	10

Source: West Coast District Municipality (2012)

#### 4.8.2 Income Levels and Poverty

Within both the WCDM and the SBLM, household income falls predominantly into the middle to low income categories. However, the SBLM does have a larger number of households in the higher income brackets which is likely linked to employment opportunities in skilled positions, as shown in Table 4.5.

Within the ADI, Ward 1 and 4 have a larger number of households in the lower income brackets, while Wards 5 and 6 have a larger number of households in the higher income brackets.

**Table 4.5 Percentage of population per Average Household Income Bracket in 2011**

	No income	R 1 - R 4800	R 4801 - R 9600	R 9601 - R 19 600	R 19 601 - R 38 200	R 38 201 - R 76 400	R 76 401 - R 153 800	R 153 801 - R 307 600	R 307 601 - R 614 400	R 614 001 - R 1 228 800	R 1 228 801 - R 2 457 600	R 2 457 601 or more
WCDM	11%	2%	3%	14%	22%	19%	13%	9%	5%	1%	0%	0%
SBLM	14%	2%	4%	11%	17%	17%	15%	11%	6%	2%	0%	0%
Ward 1	22%	4%	6%	15%	22%	14%	10%	5%	2%	0%	0%	0%
Ward 3	7%	1%	3%	9%	16%	19%	20%	17%	6%	1%	0%	0%
Ward 4	8%	2%	5%	14%	24%	25%	17%	4%	1%	0%	0%	0%
Ward 5	8%	1%	1%	4%	7%	11%	18%	25%	17%	5%	1%	1%
Ward 6	18%	1%	1%	4%	8%	13%	18%	17%	14%	5%	1%	0%

Source: StatsSA (2011)

The SBLM has an estimated poverty rate of 23.9 percent. This is lower than the surrounding municipalities and that of the WCDM, which has a poverty rate of 30.4 percent.

#### 4.9 HEALTH

The WCDM has 76 medical facilities (26 clinics, 24 satellite clinics, 19 mobile clinics and seven district hospitals) (Western Cape Government, 2014). Some of the challenges encountered by the Health Department in the WCDM are the



poor/insufficient physical infrastructure, overcrowded primary healthcare facilities and insufficient numbers of skilled health workers in the region.

The most common illnesses affecting communities are infectious diseases such as HIV/Aids and TB, as well as chickenpox and measles amongst children. The SBLM has the lowest number of antiretroviral treatment (ART) clinics/treatment sites in the WCDM, which is of concern considering it has the heaviest ART patient load in the WCDM (1,779 patients in March 2014, up from 1,435 patients in 2013) (Western Cape Government, 2014).

There has been a general increase in the numbers of teenage pregnancies recorded in the region; the increase in teenage pregnancies is potentially linked to poverty in the area. Violence and substance abuse are also common in the District leading to increased pressure on the local health services (West Coast District Municipality, 2009).

SBLM has 14 medical facilities (8 clinics, 3 satellite clinics, 2 mobile clinics and 1 district hospital) (Saldanha Bay Municipality, 2012). According to the IDP, nine doctors and 59 professional nurses have been employed by the Department of Health to render health services to patients attending the health facilities in Saldanha Bay <sup>(1)</sup>. This indicates that there is high number of patients compared to the nursing staff available to service the patients' medical needs.

The most common illnesses are HIV/Aids and TB; this is similar to the District level. The HIV/Aids prevalence in the District was 4.3 percent in 2005 and it was expected to increase to 5.5 percent by 2010 (West Coast District Municipality, 2006). There is a relationship between the high prevalence of TB and HIV/Aids.

(1) Note that these totals exclude health professionals employed within the private sector.

**Figure 4.13**     *Saldanha Health Clinic*



#### **4.10**                *SOCIAL INFRASTRUCTURE AND SERVICES*

##### **4.10.1**             *Water*

In the SBLM, 99.2 percent of the population has access to piped water; households that have access to water inside their homes, from outside taps on their properties and from communal taps (Western Cape Government, Socio-economic Profile Saldanha Bay Municipality, 2014).

The WCDM provides bulk potable water to the Saldanha Bay Municipality through the Misverstand Scheme which is part of the Berg River – Saldanha supply system (EMF, 2015). Water is obtained from both surface water (Berg River) and groundwater (Langebaan Road Aquifer) for the Misverstand Scheme. This scheme supplies the Saldanha Bay municipality and some of the towns in the Berg River municipality (EMF, 2015).

Water demand in the SBLM increased significantly with the establishment of a number of industries over the past 30 years (EMF, 2015). This is attributed to the development of the Port and associated infrastructure. According to the IDP Review, industrial water users account for approximately 50 percent of potable water use within the Saldanha Bay municipal area (EMF, 2015).

There are plans to construct a desalination plant in Saldanha Bay to supply additional water to the local area (WCDM IDP, 2012).

#### 4.10.2 Sanitation

The WCDM has provided 92 percent of households with adequate sanitation. Compared with the District Municipality, the SBLM has provided 96.2 percent of its households with adequate sanitation facilities (Western Cape Government, 2014).

Table 4.6 below illustrates the existing wastewater treatment plants operated by the Saldanha Bay Local Municipality. In addition, it is important to note that a regional Waste Water Treatment Works (WWTW) is proposed for the SBLM, which will service the proposed industrial areas within Saldanha.

**Table 4.6 Wastewater Treatment Plants in the Saldanha Bay Municipality**

Responsible Municipality/ Organization	Name Of WWTW	Water Disposal Method	Technology Being Used
Saldanha Bay LM	Sandy Point (Shelly Point)	Irrigation, 100 % Re-use	Package plant, Activated sludge
Saldanha Bay LM	Paternoster	Irrigation	Oxidation pond (lined)
Saldanha Bay LM	Laingville (St Helena Bay)	Irrigation, 30 % Re-use	Activated sludge, Maturation ponds, Disinfection
Saldanha Bay LM	Hopefield	Irrigation, 100 % Re-use	Activated sludge, Maturation ponds
Saldanha Bay LM	Langebaan	Irrigation, 100 % Re-use	Oxidation pond (lined), Activated sludge, Maturation ponds, Disinfection
Saldanha Bay LM	Saldanha	Irrigation, 100 % Re-use	Oxidation pond (unlined), Activated sludge, Maturation ponds, Disinfection
Saldanha Bay LM	Vredenburg	Watercourse, 50 % Re-use	Oxidation pond (lined), Activated sludge, Maturation ponds, Disinfection

Source: DWA (2009)

#### 4.10.3 Waste

SBLM dispose of all waste at the licensed Vredenburg landfill and a number of drop-off facilities are provided at various communities (WCDM, 2014). There is also a Materials Recovery Facility at the Vredenburg landfill. In addition, any hazardous material can be discarded at the Visserhoek Disposal facility. Finally, it is important to note that a regional waste disposal facility has been planned to be constructed in Vredendal (WCDM, 2012).

#### 4.10.4 Housing

There is a wide variety of housing in the SBLM, from low cost housing to luxurious holiday homes. Wards 5 and 6 typical have larger houses, while Wards 3 and 4 consist of low cost housing.

There has been a slow delivery of housing in the WCDM and SBLM. Although 2,535 households gained access to housing for the first time since 2007, the number of households on the waiting list for housing is currently estimated at 8,179 and the number of households affected by the housing backlog is 6,730 (Saldanha Bay Local Municipality IDP, 2012). The housing backlog has been increasing steadily since 2001, when it was 2,836.

According to the 2006 West Coast Socio-Economic Profile, the slow pace of housing delivery was attributed to the constantly changing settlement patterns resulting from in-migration.

#### **4.10.5      *Energy***

Within the SBLM the proportion of households using electricity for lighting has increased in the Municipality from 91.6 percent during the 2001 Census to 97 percent in 2011 (StatsSA, 2011). Even though an increase was seen in the number of households having access to electricity, 92 percent of households use electricity for cooking purposes, and the other 8 percent use gas or paraffin (StatsSA, 2011).

#### **4.10.6      *Roads***

The WCDM has approximately 10 097 km of road, (West Coast District Municipality, 2012). The roads are maintained by the WCDM on behalf of the Western Cape Provincial Department Transport and Public Works.

The SBLM has 410 km of tarred Municipal roads and 48, 24 km of gravel roads (excluding private farm roads), and the roads are generally of poor quality. There is a backlog in the SBLM relating to road maintenance, and it is noted in the IDP that 548 households did not have access to a road from their dwelling (Saldanha Bay Local Municipality, 2012)

#### **4.10.7      *Policing and Crime***

There are 26 police stations in the WCDM. These are evenly distributed across the local municipalities, with five in each local municipality. This distribution does not account for the geographic extent or the population size of each local municipality. There are police stations in all the major towns within the SBLM which service the town and the rural surroundings (Saldanha Bay Local Municipality, 2012). The most prolific crimes committed in the SBLM are “burglaries at residential premises” and ‘drug-related crimes” with 995 and 828 incidents being reported in 2013/14 respectively. Crime statistics across all categories increased from 2010 to 2013, but have subsequently started to decrease again (refer to *Table 4.7*). At this stage the reason for this is unclear.

**Table 4.7**      **Crime in the SBLM between 2009 and 2014**

Type of Crime	2009/10	2010/11	2011/12	2012/13	2013/14
Burglary at residential premises	792	787	1 018	1 225	955
Driving under the influence of alcohol or drugs	262	194	161	148	137
Drug-related crime	1 138	1 071	1 006	1 013	828
Murder	35	33	21	29	25
Total Sexual Crimes	154	132	134	147	123

Source: Western Cape Government (2014)

This section presents the potential socio-economic impacts associated with the Project. The potential impacts have been assessed using the impact assessment methodology provided in *Section 1.5*.

The following potential impacts are discussed further below:

- Employment creation, skills enhancement and local business opportunities.
- Impacts on community health and safety, including:
  - Impacts associated with the presence of the workforce and jobseekers;
  - Impacts associated with pressure on social infrastructure;
  - Impact on human health due to air emissions and dust generation;
  - Nuisance due to noise, dust and traffic on sense of place;
- Worker health and safety and rights; and
- Cumulative impacts.

## 5.1

### ***EMPLOYMENT CREATION, SKILLS ENHANCEMENT AND LOCAL BUSINESS OPPORTUNITIES***

The Project is expected to generate positive impacts on the local economy and livelihoods in terms of:

- employment and skills enhancement; and
- local business opportunities through the procurement of goods and services.

Positive impacts will be primarily associated with the construction phase and therefore temporary in nature. The termination of construction contracts will occur once construction activities are completed. Workers who have relocated to the area for the Project are likely to leave the area in search of other opportunities, especially if they are permanent employees of contractors and subcontractors.

Those who have worked on the Project will have an advantage when seeking alternative jobs on similar projects due to the experience and any training received through this Project. The area is characterised by a number of new industrial developments and is earmarked for other gas power projects which may offer alternative employment opportunities. This is considered within the cumulative impacts *Section 7.17*.

*Impact Description*

The construction phase will last approximately 48 months in duration (Phase One 15 -18 months; Phase Two 18 - 20 months) and it is expected that approximately 450 direct employment opportunities will be available during the peak of construction. The breakdown of skills required during the construction phase will be as follows:

- Skilled labour: 58 percent;
- Semi-skilled labour: 20 percent; and
- Unskilled labour: 22 percent.

It is assumed that the majority of skilled workforce will come from outside the ADI and AII, but that many of them will be South African. Given that almost half the population in the SBLM have some level of skills training, it is anticipated that many semi-skilled positions will be available to the local workforce, and that unskilled positions will also be available to the local workforce.

Indirect employment through the construction supply chain will be limited as the major components of the power plant are highly specialised and will be manufactured outside of South Africa. However, much of the balance of plant of plant infrastructure for the Project will be procured within South Africa and where possible, from within the Local Municipality. Local procurement is going to benefit the hospitality and service industries primarily, such as accommodation, catering, cleaning, transport and security services. Local businesses will benefit during the construction phase as there will be increased spending within the area by the wage labour who will have improved buying power while employed by the Project.

Those who are able to secure employment on the Project will have the opportunity to improve their skills and experience through on-the-job training, and will thereby improve their opportunities for future employment. Given that Saldanha Bay is earmarked for further industrial development, with a focus on the oil and gas sector, the upskilling of the local workforce will put the local workforce in a favourable position to secure future employment.

Employment numbers during decommissioning are not known at this stage, but it is expected that the make-up of the workforce will be similar to the construction phase.

*Impact Assessment*

The creation of local employment opportunities, skills enhancement and local business opportunities will be a direct, indirect and induced impact. The duration will be short-term, for the duration of the construction phase and



work contracts will vary in length, based on the type of work being performed. Employment will be created for South Africans at a local and regional level depending on skills and capacity availability, as such the extent will be regional. For those who are able to secure employment on the Project the scale will be medium, as they secure an income for the duration of their contract. The frequency of the impact will be constant for the duration of the construction phase. The magnitude of the impact will be positive.

Given the capacity of the local workforce to fill unskilled and semi-skilled employment positions, together with the opportunity to increase skills and work experience, the vulnerability is medium.

The significance of the impact is rated as **Moderate (+ve)**.

*Proposed mitigation/enhancement*

The objective of mitigation is to optimise opportunities for employment of local people, wherever possible, or alternatively that employment of South Africans is prioritised over foreigners.

The following measures will be implemented to ensure that employment of local people is maximised:

- The Project will establish a recruitment policy which prioritises the employment of South African and local residents (originating from the Local Municipality) over foreigners. Criteria will be set for prioritising local residents and then other South Africans as part of the recruitment process.
- All contractors will be required to recruit in terms of the Project's recruitment policy, where practical.
- The Project will meet with the Local Municipality to access any available skills/employment-seekers database for the area. This database is to be updated and made available to the appointed contractors.
- The Project will advertise job opportunities and criteria for skills and experience needed through local media, at least three months ahead of recruitment. This information should also be provided to all relevant authorities, community representatives and organisations on the interested and affected party database.
- The recruitment policy and procedure should promote the employment of women as a means of ensuring that gender equality is attained.
- On-the-job performance and training will be monitored through performance reviews. Training needs will be identified and provided by the Project.

- No employment will take place at the entrance to the site. Only formal channels for employment will be used.

A local procurement policy will be implemented to ensure that local procurement is maximised, the policy will include:

- Reasonable targets for using local suppliers.
- A clause of none discrimination on any grounds of gender, ethnicity, religion.
- Criteria for monitoring local procurement and reporting on supplier performance management.
- Clearly communicate the criteria and tendering process prior to the commencement of construction activities; and
- The procurement policy and tendering requirements must be easily accessible to potential suppliers.

The following management measures will be implemented to enhance skills development and on-the-job training:

- Develop internal training 'certification' or reference letter provisions to those who receive internal training.
- Training plans will be developed according to each permanent employee's work agreement and relevant to their job description.

#### *Residual impacts*

A summary for the impact the construction and decommissioning phases of the Project is present below.

**Table 5.1** *Pre- and Post- Mitigation Significance for Employment Creation, Skills Enhancement and Local Business Opportunities*

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Employment Creation, Skills Enhancement and Local Business Opportunities	Construction and Decommissioning	Moderate (+ve)	Moderate (+ve)

**Table 5.2** *Pre- and Post- Mitigation Significance for Employment Creation, Skills Enhancement and Local Business Opportunities during Construction*

<b>Nature and Type:</b> Direct, indirect and induced positive impact
<b>Sensitivity/Vulnerability/Importance of Resource/Receptor:</b> Medium
<b>Impact Magnitude:</b> Positive
<ul style="list-style-type: none"> <li>• <b>Extent:</b> Regional</li> <li>• <b>Duration:</b> Short Term</li> <li>• <b>Scale:</b> Large</li> <li>• <b>Frequency:</b> Constant</li> <li>• <b>Reversibility:</b> N/A</li> <li>• <b>Likelihood:</b> N/A</li> </ul>
<b>IMPACT SIGNIFICANCE (PRE-MITIGATION):</b> MODERATE POSITIVE
<b>IMPACT SIGNIFICANCE (POST-MITIGATION):</b> Enhancement measure will ensure the impact remains MODERATE POSITIVE.

### 5.1.2 *Operation: Employment, Skills Enhancement and Local Business Opportunities*

#### *Impact Description*

The power plant will be operated on a 24 hour, 7 days a week basis for the duration of the operation phase. It is anticipated that there will be approximately 95 employment positions available during this phase. As the plant will operate 24 hours a day, three full-time shifts will be created per day, and the breakdown of the skills required will be as follows:

- Skilled labour: 65 - 70 percent;
- Semi-skilled labour: 15 - 20 percent; and
- Unskilled labour: 10 - 15 percent.

A further breakdown of the employment opportunities is provided in *Table 5.3*.

**Table 5.3** *Estimated Employment Positions Available During Operation*

Position	Number of Positions Available
Admin	4
Security	15
Warehouse and Stores	6
Medical	6
Plant Control	15
Engineers	9
Technicians	9
Skilled	9
Unskilled	9
Tuition and Training	4
Quality Control, Water	3
Canteen	6

Position	Number of Positions Available
Total	95

Similar to the construction phase, local workers are expected to be qualified to fill unskilled and semi-skilled positions at first, whilst a limited number of people may be sufficiently qualified for skilled positions. Semi-skilled and skilled positions will initially be recruited from elsewhere in the region and South Africa. Over time, however, local workers will be able to fill more of the semi-skilled and skilled positions as training will be provided by the Project to the local workforce, will improve skills levels relevant to the Project.

During the operation phase the contracts that were in place during the construction phase will be terminated and procurement opportunities will be centred around maintenance activities, and providing goods and services to the Project. For those companies that meet eligibility criteria, become approved suppliers and enter the supply chain, there will be long-lasting and sustained benefits to the businesses and their employees through increased experience, capacity and training. As such, during the operation phase there will be opportunity for local business growth and development

#### *Impact Assessment*

The creation of local employment opportunities, skills enhancement and local business opportunities will be a direct, indirect and induced impact. The duration will be long-term, for the duration of the operation phase. Employment will be created for South Africans at a local and regional level depending on skills and capacity availability, as such the extent will be regional. For those who are able to secure employment or procurement contracts with the Project the scale will be large, as they secure long-term, stable income. The frequency will be constant for the duration of the operation phase. The magnitude of the impact will be Positive.

Given the limited employment and procurement opportunities during the operation phase, together with the lack of appropriate skills in the ADI, the vulnerability is low.

The significance of the impact is rated as **Minor (+ve)**.

#### *Proposed mitigation/enhancement*

The mitigation/ enhancement measure provided for the construction phase, will apply to the operation phase.

#### *Residual impacts*

A summary for the impact during the operation phases of the project is presented below.

**Table 5.4** *Pre- and Post- Mitigation Significance for Employment Creation, Skills Enhancement and Local Business Opportunities*

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Employment Creation, Skills Enhancement and Local Business Opportunities	Operation	Minor (+ve)	Minor (+ve)

**Table 5.5** *Pre- and Post- Mitigation Significance for Employment Creation, Skills Enhancement and Local Business Opportunities during Operation*

**Nature and Type:** Direct, indirect and induced positive impact

**Sensitivity/Vulnerability/Importance of Resource/Receptor:** Low

**Impact Magnitude:** Positive

- **Extent:** Regional
- **Duration:** Long Term
- **Scale:** Large
- **Frequency:** Constant
- **Reversibility:** N/A
- **Likelihood:** N/A

**IMPACT SIGNIFICANCE (PRE-MITIGATION):** MINOR POSITIVE

**IMPACT SIGNIFICANCE (POST-MITIGATION):** Enhancement measures will ensure the impact remains MINOR POSITIVE.

## 5.2

### *IMPACTS ON COMMUNITY HEALTH AND SAFETY*

The presence of the Project could affect the health, safety and security of the communities in the area of influence as a result of worker-community interactions, in-migration to the area, increased incomes in the local community that may be used for drugs, alcohol and prostitution, the risk of injury associated with construction and decommissioning activities, increased pressure on health care resources and changes to the environment. Any community concerns or perceptions with regard to reduced health and physical safety and security by the community need to be addressed.

There are numerous ways in which the development of the Project could impact on community and individual levels of health. The term “health” is used broadly to include physical and mental health and well-being. The expected impacts on community health, safety and security as a result of construction, operation and decommissioning of the Project are:

- Impacts associated with the presence of the Project workforce.
- Impacts associated with an influx of jobseekers.
- Impact on human health due to air emissions.

### 5.2.1

#### *Construction, Operation and Decommissioning: Impacts Associated with the Presence of the Workforce and Jobseekers*

##### *Impact Description*

An increase in disposable income within the Project Area (among Project workers, both local and external) has been observed to result in a change in spending habits and behaviour resulting in increase in alcohol and drug abuse, increased incidences of prostitution and casual sexual relations, which poses a threat to community health and safety. Anticipated impacts associated with the presence of the workforce are:

- Increased incidence of alcohol and drug use;
- Increase in the spread of HIV/ Aids and other STIs;
- Increased incidence of teenage or unwanted pregnancies; and
- Increase in prostitution.

It is estimated that there will be approximately 450 people employed during the peak construction phase. The Project will seek to maximise the employment of local people, thereby reducing the size of the external workforce in the ADI, however an external workforce will be required. The external workforce (largely comprised of semi-skilled and skilled workers) will be housed with the ADI, as onsite worker accommodation is not feasible for health and safety reasons given the Project Site's close proximity to Saldanha Steel.

Experience from large infrastructure projects elsewhere in South Africa has shown that increased disposable income within the local workforce may result in increased incidences of illegal activities or antisocial behaviours such as prostitution and casual sexual relations as well as increased levels of substance abuse. Abuse of alcohol (and drugs, should this occur) often correlates with increased levels of criminal behaviour and violence (e.g. domestic violence) while under the influence of the substance. Such behaviour increases the number of people indirectly affected by, or vulnerable to, alcohol and drug abuse; and casual sexual relations could lead to an increased incidence of HIV/ AIDS.

Further, it has been shown that members of an external workforce are likely to father children with local women while they are living in the Project Area. Given the temporary nature of the work, it is possible that both the women and children will be abandoned when the construction phase ends and the contractors move on, leaving single female-headed households.

A further impact associated with an influx of jobseekers is the potential for social tension, and increased competition for employment. The distribution of employment opportunities between locals and in-migrants often leads to tension and conflict, especially when locals perceive the migrants to be taking

their jobs. Competition for jobs has been raised as a concern by some stakeholders.

#### *Impact Assessment*

The impacts related to the presence of the workforce and jobseekers in the Project Area will be indirect and negative as the presence of a mostly male workforce, with an increased disposable income may adversely impact on health, safety and security of the local community through a likely increase in illegal or antisocial behaviour. The impact will be experienced at a local level, within the ADI. While the workforce will be in the Project Area for a limited time during the construction phase, jobseekers may stay in the area. Those affected by antisocial behaviour, such as the victims of abuse, women with unwanted pregnancies and people living with HIV/ AIDS, the duration of the impact will be long-term. The scale of the impact will be large for those affected as it will lead to a fundamental change in their life, and/ or health status, particularly for those affected by violence, unwanted pregnancies or HIV/ AIDS. For those affected, the impact will be largely irreversible. The frequency of the impacts will not be uniform, but may be felt often. Given the above, the magnitude of the impact is considered medium.

The external workforce will be housed within the Saldanha Bay area, and will interact with the local community. The local workforce will come from residential areas within the ADI such as Diazville, White City and Saldanha.

Teenage pregnancies are already of concern in region, and according to the WCDM, there has been a general increase in the numbers of recorded teenage pregnancies. The WCDM further notes that violence and substance abuse are also common in the District and that the HIV/ AIDS is increasing (see *Section 4.9*). In light of this, the vulnerability of receptors is considered medium, however, teenage girls are considered to be highly sensitive to this impact.

The significance of the impact is rated as **Moderate negative** overall, but the significance will be of **high** negative to those affected by unwanted pregnancies and HIV/ AIDS.

During the operation phase, there will be limited employment opportunities and the external construction workforce will likely leave the area. The number of local people with disposable income will decrease, as will the impacts associated with this. This impact will not be felt during the operation phase.

#### *Proposed mitigation/enhancement*

The Project will develop an induction programme, including a Code of Conduct, for all workers directly related to the project. A copy of the Code of



Conduct is to be presented to all workers and signed by each person. The Code of Conduct must address the following aspects:

- respect for local residents and customs;
- zero tolerance of bribery or corruption;
- zero tolerance of illegal activities by construction personnel including: unlicensed prostitution; illegal sale or purchase of alcohol; sale, purchase or consumption of drugs; illegal gambling or fighting;
- no alcohol and drugs policy during working time or at times that will affect ability to work;
- description of disciplinary measures for infringement of the Code and company rules. If workers are found to be in contravention of the Code of Conduct, which they signed at the commencement of their contract, they will face disciplinary procedures that could result in dismissal.

The Project will implement a grievance procedure that is easily accessible to the local community, through which complaints related to contractor or employee behaviour can be lodged and responded to. The Project will respond in a serious manner to any such complaints. Key steps include:

- Circulation of contact details of 'grievance officer' or other key Project contact;
- Awareness raising among the local community regarding the grievance procedure and how it works; and
- Establishment of a grievance register to be updated and maintained by the Project.

The Project will develop and implement an HIV/AIDS policy and information document for all workers directly related to the Project. The information document will address factual health issues as well as behaviour change issues around the transmission and infection of HIV/AIDS.

#### *Residual impacts*

The implementation of the above mitigation measures would ensure that the construction phase significance is reduced to **Minor-Moderate** significance. A summary for the impact the construction phase of the Project is present below.

**Table 5.6** *Pre- and Post- Mitigation Significance for Impacts Associated with the Presence of the Workforce and Jobseekers*

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impacts Associated with the Presence of a Workforce	Construction and Decommissioning	Moderate (-ve)	Minor - Moderate (-ve)

**Table 5.7** *Pre- and Post- Mitigation Significance for Impacts Associated with the Presence of a Workforce and Jobseekers*

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<b>Nature and Type:</b> Indirect negative impact
<b>Sensitivity/Vulnerability/Importance of Resource/Receptor:</b> Medium
<b>Impact Magnitude:</b> Medium
<ul style="list-style-type: none"> <li>• <b>Extent:</b> Local</li> <li>• <b>Duration:</b> Permanent</li> <li>• <b>Scale:</b> Large</li> <li>• <b>Frequency:</b> Constant</li> <li>• <b>Reversibility:</b> Irreversible</li> <li>• <b>Likelihood:</b> N/A</li> </ul>
<b>IMPACT SIGNIFICANCE (PRE-MITIGATION):</b> MODERATE NEGATIVE
<b>IMPACT SIGNIFICANCE (POST-MITIGATION):</b> MINOR - MODERATE NEGATIVE

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**5.2.2** *Construction, Operation and Decommissioning: Pressure on Social Infrastructure and Services*

*Impact Description*

It is generally accepted that large-scale infrastructure projects attract job-seekers into the Project Area. The Project is expected to stimulate in-migration as job-seekers enter the area with the intention of securing employment on the Project. In-migration of people will be further stimulated by possibility of business opportunities linked to the provision of goods and services to the Project, and by real or perceived opportunities arising from the general increase in economic activity in the area.

It is likely that a number of people will continue to stay in the area irrespective of whether they are able to secure employment and these people may move their families to the area. There is the possibility that people will return to their place of origin or move on to seek employment elsewhere if there are no employment opportunities for them, or when the construction phase is complete.

The expected impacts associated with an influx of jobseekers are:

- Pressure on existing social infrastructure – particularly housing, education and health facilities

The presence of the Project is likely to increase the rate of in-migration into the area, as people are attracted to the area in the hope of securing employment. The increase in population is expected to add pressure on existing infrastructure and services; specifically on housing services. Housing delivery has been slow in the SBLM and the housing backlog has been steadily increasing since 2001. The number of households on the waiting list for housing is currently estimated at 8,179 and the number of households affected

by the housing backlog is 6,730 (Saldanha Bay Local Municipality IDP, 2012). In-migrants will likely seek housing in Wards 3 and 4, where the SBLM is struggling to keep up with the local housing demand. This could be further exacerbated if job seekers decide to relocate their families to the area.

An influx of jobseekers and their families would place pressure on health and education facilities. SBLM has 14 medical facilities, but there are only two clinics located in the Saldanha Bay area (one in Ward 4 and the other in Ward 3). These already understaffed clinics would be placed under pressure to cope with the increase in population within their catchment.

### *Impact Assessment*

The impacts related to pressure on social infrastructure and services will be an indirect impact. The impacts will be negative as they will place pressure on infrastructure and services and the local government, who will have to provide the services should the influx occur.

The impact will be experienced at a local level, within the ADI. The impacts will be long-term despite the fact that the period of influx may be limited to the construction phase, the associated impacts will continue to occur into the future. The scale of the impact will be medium, as the Project is not expected to attract large volumes of in-migration and the degree of change for local population will therefore be notable but will not dominate over existing conditions. The frequency of the impacts will not be uniform, but will be felt often until in-migration stabilises and upgrades to infrastructure are undertaken. The impact is revisable as social infrastructure and services can be improved to address the impact. Given the information presented above, the impact will be medium in magnitude.

The population within the SBLM has been increasing at a rate greater than expected which has been attributed to the in-migration of people seeking economic opportunities. There is an existing housing backlog in the SBLM, and health services are under pressure. Therefore, the vulnerability of receptors is considered medium.

Therefore, the significance of the impact is rated as **Moderate negative**, the level of in-migration, and movement of job-seekers cannot be accurately predicted.

During the operational phase, there will be limited employment opportunities and the Project is unlikely to attract further job seekers.

### *Proposed Mitigation Measures*

The Project will implement a grievance procedure that is easily accessible to the local community, through which complaints related to contractor or

employee behaviour can be lodged and responded to. The Project will respond in a serious manner to any such complaints. Key steps include:

- Circulation of contact details of 'grievance officer' or other key Project contact.
- Awareness raising among the local community regarding the grievance procedure and how it works.
- Establishment of a grievance register to be updated and maintained by the Project.

Implement management measures associated with the prioritization of local labour, as outlined in *Section 5.1.1*

#### *Residual impacts*

The implementation of the above mitigation measures would ensure that the construction phase significance remains of Moderate significance. A summary for the impact the construction phase of the Project is present below.

**Table 5.8** *Pre- and Post- Mitigation Significance for Impacts Associated with Pressure on Social Infrastructure and Services*

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impacts Associated with Pressure on Social Infrastructure and Services	Construction	Moderate (-ve)	Moderate (-ve)

**Table 5.9** *Pre- and Post- Mitigation Significance for Impacts Associated Pressure on Social Infrastructure and Services*

---

**Nature and Type:** Indirect negative impact

**Sensitivity/Vulnerability/Importance of Resource/Receptor:** Medium

**Impact Magnitude:** Medium

- **Extent:** Local
- **Duration:** Long term
- **Scale:** Medium
- **Frequency:** Often
- **Reversibility:** Reversible
- **Likelihood:** N/A

**IMPACT SIGNIFICANCE (PRE-MITIGATION): MODERATE NEGATIVE**

**IMPACT SIGNIFICANCE (POST-MITIGATION): MODERATE NEGATIVE**

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### ***Construction and Decommissioning Phase: Impact on Human Health due to Air Emissions and Dust Generation***

#### *Impact Description*

Most construction and decommissioning activities generate dust, which settles on surrounding properties and land, and is often more of a nuisance than a health issue. The dust is generally coarse, but may include fine respirable particles (PM<sub>10</sub>) and these are known to be a risk to human health. Exhaust emissions from construction vehicles and equipment typically include particulates (including PM<sub>10</sub>), carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), sulphur dioxide (SO<sub>2</sub>) and volatile organic compounds (VOCs) including benzene. The creation of dust associated with vehicle traffic will be limited as most of the roads in the ADI are paved.

#### *Impact Assessment*

The impacts on human health due to air emissions and dust generation will be a direct, negative impact. The duration will be short-term, for the duration of the construction phase. The extent of the impact will be local, as the pollutants will be limited in dispersion and will occur onsite and around the main transport routes. Based on the outcomes of the Air Quality Specialist Report, *Section 10.3 of the EIR, and Annex D*, air emissions generated as a result of construction phase activities not expected to have an adverse effect on health, therefore the degree of change experienced by individuals will be negligible and the scale of the impact will be small. The impact is considered reversible. The frequency of the impact will vary depending on construction activities, but it will be often for the duration of the construction phase. Given the above factors, the magnitude of the impact is considered small.

The vulnerability of receptors is considered low as the Project Site located in an industrial area with no sensitive receptors located adjacent to the site. People living along transport routes have access to health care and would be able to seek medical attention if their health was adversely affected by air emissions.

Therefore it is anticipated that the significance of the impact will be **negligible**.

#### *Mitigation*

All of the mitigation measures outlined in *Section 10.3 of the EIR, and Air Quality Specialist Report, Annex D* must be implemented by the Project.

In addition, the Project will develop and implement a Grievance Mechanism to address stakeholder concerns related to the Project in a timely manner.

### *Residual Impact*

The implementation of mitigation measures will ensure that the impact remains of negligible significance.

**Table 5.10** *Pre- and Post- Mitigation Significance for Impact on Human Health due to Air Emissions and Dust Generation*

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impact on Human Health due to Air Emissions and Dust Generation	Construction	Negligible	Negligible

**Table 5.11** *Pre- and Post- Mitigation Significance for Impact on Human Health due to Air Emissions and Dust Generation*

---

**Nature and Type:** Direct, negative impact

**Sensitivity/Vulnerability/Importance of Resource/Receptor:** Medium

**Impact Magnitude:** Low

- **Extent:** Local
- **Duration:** Short-term
- **Scale:** Small
- **Frequency:** Often
- **Reversibility:** Reversible
- **Likelihood:** N/A

**IMPACT SIGNIFICANCE (PRE-MITIGATION):** NEGLIGIBLE

**IMPACT SIGNIFICANCE (POST-MITIGATION):** NEGLIGIBLE

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#### **5.2.4** *Operations Phase: Impact on Human Health due to Air Emissions*

##### *Impact Description*

The operation of the power plant will result in emissions due to the operation of combustion sources mainly the turbines and generators, which could result in decreases in air quality. Emissions of air pollutants from the ArcelorMittal CCGT power plant will result during operations through the combustion of LNG or CNG resulting in NO<sub>x</sub>, CO and CO<sub>2</sub> emissions and some methane (CH<sub>4</sub>). Increased emissions of any of these pollutants can result in negative implications for human health. Respiratory diseases and cardiovascular diseases are most likely to result. In order to protect human health, air quality standards have been established and emissions below these standards are considered to have a negligible impact on the health of communities.

Exhaust emissions from Project associated vehicles and equipment typically include particulates (including PM<sub>10</sub>), carbon monoxide (CO), nitrogen oxides

(NO<sub>x</sub>), sulphur dioxide (SO<sub>2</sub>) and volatile organic compounds (VOCs) including benzene.

#### *Impact Assessment*

The impacts on human health due to air emissions and dust generation will be a direct, negative impact. The duration will be long-term, for the duration of the operation phase. The extent of the impact will be local, as the pollutants will be limited in dispersion, occurring onsite and adjacent to the site, as well as the main transport routes. Based on the outcomes of the Air Quality Specialist Report, *Section 10.3 of the EIR, and Annex D*, for all pollutants the predicted ambient concentrations are well below the respective National Ambient Air Quality Standards (NAAQS). Therefore, air emissions generated as a result of the operation phase is not expected to have an adverse effect on health - the degree of change experienced by individuals will be negligible and the scale of the impact will be small. The impact is considered reversible. The frequency of the impact will be constant, as the power plant will operate 24 hrs a day, 7 days a week. Given the above factors, the magnitude of the impact is considered medium.

The vulnerability of receptors is considered low as the Project Site is located in an industrial area with no sensitive receptors located adjacent to the site. People living along transport routes have access to health care and would be able to seek medical attention if their health was adversely affected by air emissions.

Therefore it is anticipated that the significance of the impact will be **Minor (-ve)**.

#### *Mitigation*

All of the mitigation measures outlined in *Section 10.3 of the EIR, and Air Quality Specialist Report, Annex D* must be implemented by the Project.

In addition, the Project will develop and implement a Grievance Mechanism to address stakeholder concerns related to the Project in a timely manner.

#### *Residual Impact*

The implementation of mitigation measures will ensure that the impact remains of Minor significance.

**Table 5.12** *Pre- and Post- Mitigation Significance for Impact on Human Health due to Air Emissions and Dust Generation*

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
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Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impact on Human Health due to Air Emissions and Dust Generation	Operation	Minor (-ve)	Minor (-ve)

**Table 5.13** *Pre- and Post- Mitigation Significance for Impact on Human Health due to Air Emissions and Dust Generation*

---

**Nature and Type:** Direct, negative impact

**Sensitivity/Vulnerability/Importance of Resource/Receptor:** Low

**Impact Magnitude:** Medium

- **Extent:** Local
- **Duration:** Long-term
- **Scale:** Small
- **Frequency:** Constant
- **Reversibility:** Reversible
- **Likelihood:** N/A

**IMPACT SIGNIFICANCE (PRE-MITIGATION):** MINOR

**IMPACT SIGNIFICANCE (POST-MITIGATION):** MINOR

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### 5.3 *INCREASED NUISANCE FACTORS AND CHANGE IN SENSE OF PLACE*

The Project Site is located within an industrial area, adjacent to the Saldanha Steel facility. The land immediately surrounding the site is utilised for industrial purposes, grazing or is vacant land. Within the broader area, much of the surrounding land to the north and east is utilised for agriculture, nature reserves and recreational activities, residential and holiday homes. There are existing visual intrusions around the Project Site, such as power lines, railway pylons, industrial and port facilities, therefore, the landscape should not be seen as pristine.

The Project will introduce a gas-fired power plant and associated infrastructure such as a substation and Operation and Maintenance (O&M) buildings into the area, within close proximity to existing industrial infrastructure. The construction and operation of the Project will lead to an increase in ambient noise, the generation of dust and increased traffic volumes, all of which have the ability to alter the sense of place of the existing environment.

### ***Construction, and Decommissioning Phase: Increased Nuisance Factors and Change in Sense of Place***

#### *Impact Description*

Impacts associated with air quality, traffic and noise have been assessed by specialists and are discussed in *Section 10.9 of the EIR, the Traffic Assessment Report (Annex D), the Noise Impact Assessment Report (Annex D) and Air Quality Specialist Report (Annex D)*.

The Project will cause nuisance of the communities in the ADI due to noise, dust and vibration, as well as increased traffic volumes during construction and decommissioning.

Noise levels are expected to increase as a result of construction activities on site such as trucks that deliver construction equipment and materials; earthworks using heavy machinery, and site preparation, or piling activities if required.

Additional vehicle movements during peak periods are anticipated to be in the order of 600 person trips during the peak hour or 275 cars, the equivalent of 18 minibus taxis and two buses. The minibus taxis and buses will collect and dispatch the workforce in the vicinity of the site, including areas in the ADI (such as Ward 3 and 4) and AII (such as Vredenburg).

The anticipated ambient noise levels during the construction phase of the Project has been modelled and based on the results thereof, it is anticipated that the change in ambient noise levels will be negligible during construction. The construction phase sound levels may impact on the ambient noise levels for an area of 2 500 m from the Project Site, the Site located in an industrial area and ambient noise levels are not going to exceed the 35 dBA guideline at any of the identified receptors.

The increase in traffic volumes will be notable during peak traffic times in the morning and afternoon, and may frustrate other road users, but the increase in traffic will be manageable through the implementation of mitigation measures.

Dust associated with the Project will be largely limited to the Project site.

While each of the above mentioned impacts are considered to be largely manageable, the combined effect of the noise, dust and traffic impacts are likely to have a negative impact on the sense of place for some stakeholders.

#### *Impact Assessment*

The impacts associated with increased nuisance factors and change in sense of place during construction and decommissioning will be a direct, negative impact. The duration will be short-term, for the duration of the construction

phase. The extent of the impact will local, limited to the site and immediate surrounds, as well as the local transport routes.

The scale of the impact will be medium. The impact is considered reversible. The frequency of the impact will vary depending on construction activities, but it will be often as it relates to nuisance factors, and constant as it relates to sense of place. Given the above factors, the magnitude of the impact is considered medium.

The vulnerability of receptors is considered small to medium, as traffic volumes in the area are low, and road users will find the increased traffic volumes frustrating. The construction phase sound levels may impact on the ambient noise levels for an area of 2 500 m from the Project Site.

Therefore it is anticipated that the significance of the impact will be **Moderate negative**.

#### *Mitigation*

All of the mitigation measures outlined in *Section 10.9 of the EIR, the Traffic Assessment Report, the Noise Impact Assessment Report and Air Quality Specialist Report (Annex D)* must be implemented by the Project.

In addition, the Project will develop and implement a Grievance Mechanism to address stakeholder concerns related to the Project in a timely manner.

#### *Residual Impact*

The implementation of mitigation measures will result in the impact being of Minor significance.

**Table 5.14** *Pre- and Post- Mitigation Significance for Increased Nuisance Factors and Change in Sense of Place*

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Nuisance due to Noise, Dust and Vibration during Construction and Decommissioning	Construction	Moderate (-ve)	Minor (-ve)

**Table 5.15** *Pre- and Post- Mitigation Significance for Increased Nuisance Factors and Change in Sense of Place during Construction and Decommissioning*

---

**Nature and Type:** Direct, negative impact

**Sensitivity/Vulnerability/Importance of Resource/Receptor:** Medium

**Impact Magnitude:** Medium

- **Extent:** Local
- **Duration:** Short-term
- **Scale:** Medium
- **Frequency:** Often to constant
- **Reversibility:** Reversible
- **Likelihood:** N/A

**IMPACT SIGNIFICANCE (PRE-MITIGATION):** MODERATE NEGATIVE

**IMPACT SIGNIFICANCE (POST-MITIGATION):** MINOR NEGATIVE.

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### 5.3.2 *Operation Phase: Increased Nuisance Factors and Change in Sense of Place*

#### *Impact Description*

The Project will cause nuisance to the communities in the ADI due to noise, dust and vibration, as well as increased traffic volumes during operation. This will affect the communities and households closest to the Project site and along the main access roads, as well as along the routes used to transport the workforce to and from the site on a daily basis.

During operation, the power plant will operate 24 hours a day, seven days a week. It is anticipated that the change in ambient noise levels will be negligible during Phase 1 of the project and low during Phase 2, with the 35dBA ambient guideline been slightly exceeded at two sensitive receptors. This noise will have a more constant characteristic and will be perceived as a humming sound. Operational phase sound levels may impact on the ambient noise levels for an area of 3,000 m from the proposed activity.

The Project associated traffic will decrease during the operations phase as there will be fewer people employed by the Project during this phase. Additional vehicle movements are associated with the commuting of employees to and from work each day. Additional vehicle movements during peak periods are anticipated to be in the order of 177 person trips during the peak hour or 80 cars, the equivalent of 5 minibus taxis and one bus.

The presence of the Project may alter the visual character of the landscape during the operation phase. While the Project Site is located in an industrial area, there are a number of tourism and recreational areas in the border surrounding areas, as listed above. *Figure 5.1* provides an analysis of the view shed of the Project, ie it indicated, based on topography and landscape features, where the Project will be visible from. It does not take into account

how visible the how Project will be based on distance from the Project. Based on *Figure 5.1* the Project may be partially visible from some sensitive areas, such as Langebaan, Mykanos, the West Coast National Park. It will also be visible from surrounding residential areas. Based on a Visual Impact Assessment for a similar power plant facility with an estimated height of 40 m in Saldanha Bay (M. Cilliers (PrLArch.) & D. Townshend (BL (UP))), it is noted that the vanishing threshold <sup>(1)</sup> is estimated at 8 km away during the day and 16 km away at night. The proposed facility is located in proximity to the following potentially affected receptors:

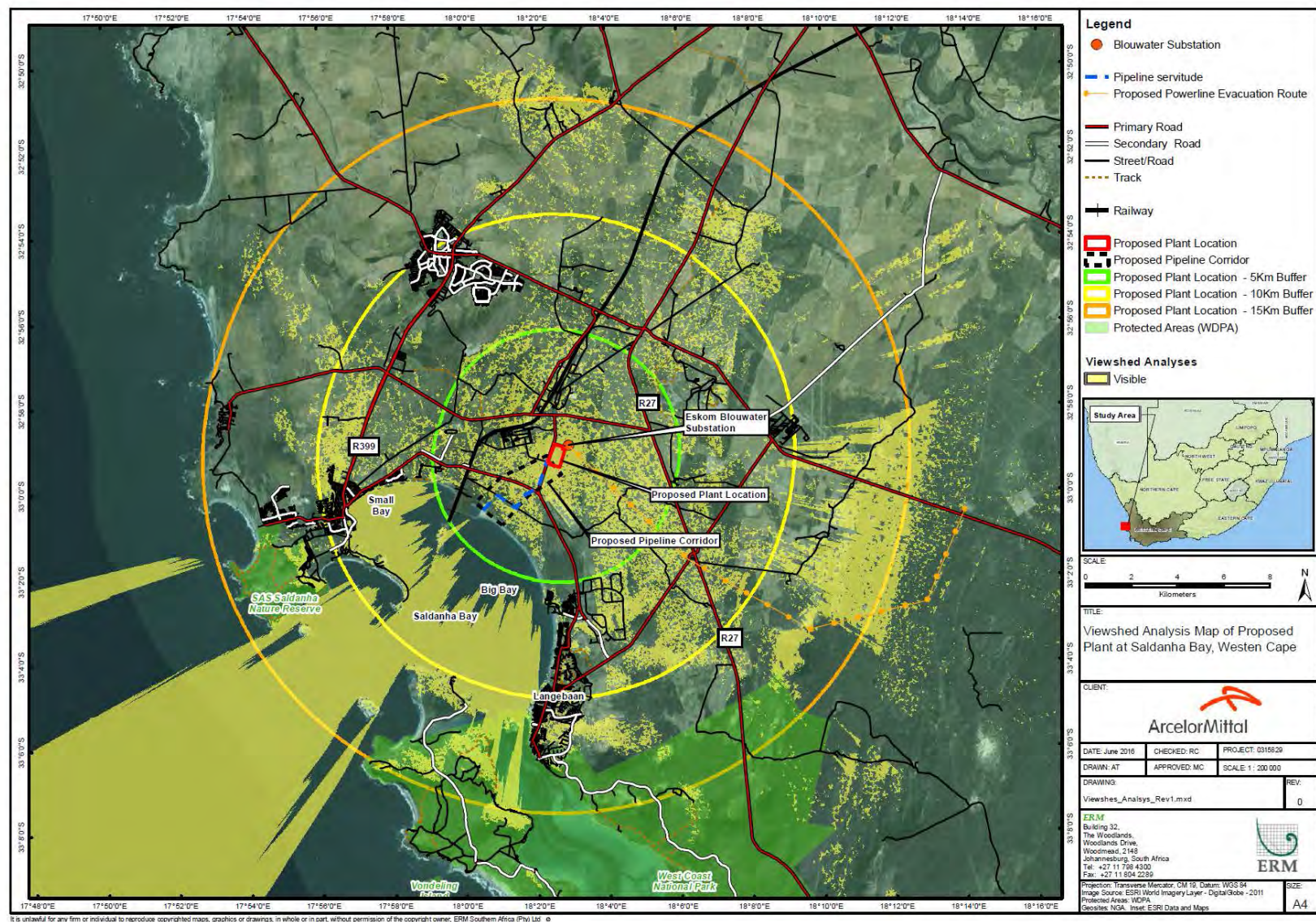
- 7 km from Blouwater Bay residential area
- 8 km from Louwville residential area
- 6.5 km from Mykonos tourism and recreational facilities
- 6.5 km from the West Coast Fossil Park
- 10 km from Langebaan residential area
- 10 km from Langebaan Weg
- 13 km from SAS Saldanha Contractual Nature Reserve
- 14 km from Jacobsbaai residential area
- 20 km from the West Coast National Park

The Project will be visible from a number of tourism and recreational areas, as well as residential area. Given the distance between the Project and the potential receptors (largely in excess of 6 km), it can be concluded that while the Project will be visible, it will not dominate the landscape or detract from the receptors experience in of the area

(1) This is the distance where no discernible impact is observed, even if the proposal is technically still visible.



Figure 5.1 View Shed for the Saldanha Steel Gas-fired Power Plant, not taking into Account Vanishing Threshold



### *Impact Assessment*

The impacts due to increased nuisance factors and change in sense of place during operation will be a direct, negative impact. The duration will be long-term, for the duration of the operation phase. The extent of the impact will be local, limited to the site and immediate surrounds, as well as the local transport routes. It is anticipated that the change in ambient noise levels will be negligible during Phase 1 of the project and low during Phase 2, with the 35dBA ambient guideline being slightly exceeded at two sensitive receptors. The Project will be visible from a number of tourism and recreational areas, as well as residential area. Given the distance between the Project and the potential receptors (largely in excess of 6 km), it can be concluded that while the Project will be visible, it will not dominate the landscape or detract from the receptors experience in of the area. Never-the-less, for those receptors impacted by for increased nuisance factors and change in sense of place the scale of the impact will be medium.

The impact is considered irreversible. The frequency of the impact will be constant for the duration of the operation phase. Given the above factors, the magnitude of the impact is considered medium.

The vulnerability of receptors is considered medium as most sensitive receptors are located in quiet areas, with low ambient noise levels, low traffic volumes, and are people who are attracted to the area for outdoor and recreational activities (particularly in the case of those visiting parks and tourism facilities).

Therefore it is anticipated that the significance of the impact will be **Moderate (-ve)**.

### *Mitigation*

The ability to which visual impacts can be managed is limited by the size of the facility and the industry standards governing setbacks and fire control. However, the following measures should be implemented to minimise the impact of lighting at night:

- Lighting should be limited to areas where it is required.
- Lights should be directional and avoid light spillage.
- Low-level lights should be used over flood lights along walkways.

All of the mitigation measures outlined in *Section 10.9 of the EIR, the Traffic Assessment Report the Noise Impact Assessment Report and Air Quality Specialist Report (Annex D)* must be implemented by the Project.

In addition, the Project will develop and implement a Grievance Mechanism to address stakeholder concerns related to the Project in a timely manner.



### *Residual Impact*

The implementation of mitigation measures will result in the remaining of **Moderate negative** significance.

**Table 5.16** *Pre- and Post- Mitigation Significance for Increased Nuisance Factors and Change in Sense of Place During Operation*

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Increased nuisance factors and change in sense of place operation	Operation	Moderate (-ve)	Moderate (-ve)

**Table 5.17** *Pre- and Post- Mitigation Significance for Increased Nuisance Factors and Change in Sense of Place Operation*

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**Nature and Type:** Direct, negative impact

**Sensitivity/Vulnerability/Importance of Resource/Receptor:** Medium

**Impact Magnitude:** Medium

- **Extent:** Local
- **Duration:** Long-term
- **Scale:** Medium
- **Frequency:** Constant
- **Reversibility:** Reversible
- **Likelihood:** N/A

**IMPACT SIGNIFICANCE (PRE-MITIGATION): MODERATE NEGATIVE**

**IMPACT SIGNIFICANCE (POST-MITIGATION): MODERATE NEGATIVE.**

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## **5.4** *WORKER HEALTH AND SAFETY AND RIGHTS*

Workers' rights including occupational health and safety need to be considered to avoid accidents and injuries, loss of man-hours, labour abuses and to ensure fair treatment, remuneration and working and living conditions.

These issues will be considered not only for workers who are directly employed by the Project but also contractors (including sub-contractors) and workers within the supply chain. The main risks in relation to worker's management and rights are associated with the use of contractors and subcontractors and the supply chain.

The Project is expected create 450 direct employment opportunities during the peak of the construction period, which will be approximately 48 months in duration. The majority of workers will be engaged by the EPC contractor and will consist of a semi-skilled to skilled workforce. The operation phase is

planned for a lifespan of 25 - 30 years and will involve around 95 permanent site employees including skilled and semi-skilled staff.

The expected impacts on worker rights and H&S as a result of construction, operation and decommissioning activities and Project operation are as follows:

- Risk to workers H&S due to hazardous construction and decommissioning activities;
- Risk to workers H&S due to hazardous operation activities; and
- Violation of workers' rights.

This impact assessment is based on the assumption that no specific Project H&S policies, procedures and training provisions are in place for construction workers (both of EPC Contractor and subcontractors) as limited information is available on this at the current Project stage.

#### **5.4.1 Construction and Decommissioning Phase: Risk to Workers' H&S due to Hazardous Construction Activities**

##### *Impact Description*

The construction activities will involve the following main activities (in order of occurrence):

- Site preparation including levelling;
- Piling of the foundations;
- Concrete works in scope of building construction;
- Construction of fuel supply arrangements;
- Construction of the powerline; and
- Underground pipeline laying.

Details of the activities associated with decommissioning are not yet detailed but will involve removal of all installed infrastructure.

These activities will involve the operation of heavy equipment and trucks, working at height, working in confined spaces, construction traffic, use of electric devices, handling of hazardous materials and other hazardous activities. Due to the nature of the activities being undertaken during construction and decommissioning, worker H&S is a key risk with the potential for accidents that may result in injuries and fatalities as well as lost man-hours.

Within South Africa, worker health and safety falls under the ambit of the Department of Labour, and is primarily governed through the Occupational Health and Safety Act (OSHA) (Act No. 83 of 1993). Employees working informally and those with limited or without awareness of their rights (for example, migrant workers, or those newly entering the labour market) are likely to be most at risk of working in unsafe conditions.

### *Impact Assessment*

The impact on worker health and safety from the Project will be a direct, negative impact. The duration will be short-term, for the duration of the construction phase. The extent of the impact will be regional, as it will affect those directly employed by the Project, as well as people employed in the supply chain. The scale of the impact will be large for anyone adversely affected by a health and safety incident on the Project, as they may experience a temporary loss of work time, or in the worst-case scenario may be rendered permanently unable to work. In most instances, this impact is considered reversible, as incidences can be addressed through medical intervention where required and health and safety can be constantly improved to avoid future incidences. The frequency of the impact will not be uniform, but will likely occur often the duration of the construction phase. The magnitude of the impact is therefore considered Medium.

The vulnerability of the workers to this impact is considered low, as there are laws in place in South Africa to protect worker rights. However, migrant workers, or those newly entering the labour market may not be aware of their rights, and people may be willing to compromise their rights to secure employment in light of high unemployment rates.

The impact is therefore considered to be of Minor - Moderate negative significance.

### *Mitigation*

- The Project will comply with all applicable South African legislation in terms of health and safety, and worker rights, which will include access to workmans compensation for loss of income resulting from an onsite incident.
- As part of the contractor and supplier selection process the Project will take into consideration performance with regard to worker management, worker rights, health and safety as outlined in South African law, international standards and the Project's policies.
- The Project will provide support to contractors and subcontractors to ensure that labour and working conditions are in line with South African law through capacity building.
- Workers will be provided with primary health care and basic first aid at construction camps / worksites.
- Facilities and operations will be developed, planned and maintained such that robust barriers are in place to prevent accidents. All employees have the duty to stop any works if adequate systems to control risks are not in place.

- In line with the worker code of conduct employees should not be under the influence of intoxicants which could adversely affect the ability of that employee to perform the work or adversely affect the health and safety of other employees, other persons or the environment.
- The Project will provide of Personal Protective Equipment (PPE), training and monitoring as well as ongoing safety checks and safety audits.

#### *Residual Impact*

Following the implementation of mitigation measures the impact significance will be (post-mitigation) of Minor negative significance.

**Table 5.18** *Pre- and Post- Mitigation Significance for Risk to Workers' H&S due to Hazardous Construction Activities*

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Risk to Workers' H&S due to Hazardous	Construction	Minor to Moderate (-ve)	Minor (-ve)

**Table 5.19** *Pre- and Post- Mitigation Significance for Risk to Workers' H&S due to Hazardous Construction and Decommissioning Activities*

**Nature and Type:** Direct, negative impact

**Sensitivity/Vulnerability/Importance of Resource/Receptor:** Low to Medium

**Impact Magnitude:** Low

- **Extent:** Regional
- **Duration:** Short-term
- **Scale:** Large
- **Frequency:** Often
- **Reversibility:** Reversible
- **Likelihood:** N/A

**IMPACT SIGNIFICANCE (PRE-MITIGATION):** MINOR to MODERATE NEGATIVE

**IMPACT SIGNIFICANCE (POST-MITIGATION):** Enhancement measures will ensure the impact remains MINOR NEGATIVE.

#### **5.4.2** *Operation Phase: Risk to Workers' H&S due to Hazardous Operation Activities*

*Please note: For the operation of the Project the mitigation and prevention measures outlined above for construction (Section 5.4.1) are considered as embedded controls.*

### *Impact Description*

Hazardous activities during the operation phase and regular maintenance activities will include, but not be limited to; the operation of heavy equipment and trucks, use of electrical devices including high voltage, working at height, maintenance of high pressure pipework and vessels and handling of hazardous materials. During these activities the workers will be at risk for accidents and injury.

### *Impact Assessment*

The impact on worker health and safety as a result of the Project will be a direct, negative impact. The duration will be long-term, for the duration of the operation phase. The extent of the impact will be regional, as it will affect those directly employed by the Project, as well as people employed in the supply chain. The scale of the impact will be large for anyone adversely affected by a health and safety incident on the Project, as they may experience a temporary loss of work time, or in the worst-case scenario may be rendered permanently unable to work. In most instances, this impact is considered reversible, as incidences can be addressed through medical intervention where required and health and safety can be constantly improved to avoid future incidences. The frequency of the impact will not be uniform, but will likely occur occasionally the duration of the operation phase. The magnitude of the impact is therefore considered small.

The vulnerability of the workers to this impact is considered low, as there are laws in place in South Africa to protect worker rights and most employees will be highly skilled engineers and technicians, who have likely been educated around their rights and H&S practices.

The impact is therefore considered to be of minor significance.

### *Mitigation*

The implementation of mitigation measures defined for the construction phase will continued throughout the operation phase with consideration in the health and safety management system of the specific risks associated with operation and maintenance activities and the new size and structure of the workforce. In this regard, mitigation measures outlined in *Section 5.4.1* above are applicable to the operation.

### *Residual Impacts*

The implementation of mitigation measures will ensure that the significance remains of minor negative significance.

**Table 5.20** *Pre- and Post- Mitigation Significance for Risk to Workers' H&S due to Hazardous Operation Activities*

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Risk to Workers' H&S due to Hazardous Operation Activities	Operation	Minor (-ve)	Minor (-ve)

**Table 5.21** *Pre- and Post- Mitigation Significance for Risk to Workers' H&S due to Hazardous Operation Activities*

**Nature and Type:** Direct, negative impact

**Sensitivity/Vulnerability/Importance of Resource/Receptor:** Low

**Impact Magnitude:** Low

- **Extent:** Regional
- **Duration:** Long Term
- **Scale:** Large
- **Frequency:** Rare
- **Reversibility:** Reversible
- **Likelihood:** N/A

**IMPACT SIGNIFICANCE (PRE-MITIGATION):** MINOR NEGATIVE

**IMPACT SIGNIFICANCE (POST-MITIGATION):** Enhancement measures will ensure the impact remains MINOR NEGATIVE.

## 5.5 CUMULATIVE IMPACTS

The Project is located in an area ear-marked for further industrial development. The National Department of Energy, through its Gas to Power Programme, is investigating the feasibility of development of a gas-fired power station in the Saldanha Bay area. In addition, the IDZ is being promoted as an oil and gas hub and industrial development is being encouraged in the area.

The preceding impact assessment assessed the socio-economic impacts associated with the Project largely in isolation. It is important to, assess cumulative impacts associated with a proposed development and there also is a legislated requirement in South Africa to do so. The cumulative impacts on the socio-economic environment are discussed below.

### 5.5.1 Method

There are numerous proposed developments in the Saldanha – Vredenburg area. At this stage, not all developments can be confirmed and the timing of the developments is not known. A selection of similar developments and

those either confirmed or most likely to come to fruition have been considered in this cumulative impact assessment including:

- The IDZ development itself, covering an area of up to 4000ha;
- Afrisam Cement Plant;
- LPG storage Facilities – Sunrise and Avidia ;
- Vredenburg Industrial Development
  - Frontier Separation Plant;
  - Chlor-Alkali Facility;
- One desalination plant; and
- One additional 1000 MW gas-fired power plant.

The cumulative impact of the above mentioned projects, together with the Gas-fired Independent Power Plant to Support Saldanha Steel and Other Industries in Saldanha Bay may impact of the following:

- Economy, Employment and Skills
- Community Health Safety and Security
- Pressure on Social Infrastructure and Services

At the request of the Department of Environmental Affairs, the methodology described in *Chapter 1* has been used to assess the cumulative impacts.

## 5.5.2 *Cumulative Impacts of the Socioeconomic Environment*

### *Economy, Employment and Skills Development*

#### Impact Description

The development of large scale industrial projects will result in increased direct and indirect employment during the construction and operation of each of the projects. The nature and extent of the benefits will depend on the employment strategy of the various developers and the extent to which they are committed to maximise local employment.

There may be overlap between the construction phases of the Project with the other developments, or they may run consecutively. Either way, this will result in a significant uplift in local employment directly and indirectly through the procurement of goods and services. Furthermore, those that have been employed by one of the developers may be in better position to find employment with the other developers as they will have increased their skills and experience. As such, the potential for cumulative positive benefits associated with economy, employment and skills development is considered to be higher than for the Project alone.

The operation of the developments outlined will occur over the same period of time and will be located in close proximity as such the economic, employment and skills development opportunities outlined will be greater for all the projects combined than just for the Project development.



It should be noted that expectations regarding economic development, employment and skills development will be high amongst stakeholders in the local community and as such, in the event that one developer does not meet expectations, there is the potential for all developers to be the target of this negative feedback.

#### Impact Assessment

The cumulative creation of local employment opportunities, skills enhancement and local business opportunities will be a direct, indirect and induced impact. The duration will be medium to long-term, as the Projects will not all happen concurrently. Employment will be created for South Africans at a local and regional level depending on skills requirements of each project, as such the extent will be regional. For those who are able to secure employment on the Project the scale will be medium to high, depending on the duration of the contract. The magnitude of the impact will be positive.

Given the capacity of the local workforce to fill unskilled and semi-skilled employment positions, together with the opportunity to increase skills and work experience, the vulnerability is medium.

The significance of the impact is rated as **Moderate (+ve)**.

#### Proposed mitigation/ enhancement

It is recommended the Project investigates opportunities to work with other developers to develop a collaborative approaches to training, employment and skills development for the local population, starting now in the run up to Project construction. This may include developing a coordinated standard set of requirements for service providers (eg required labour numbers of carpenters, welders, Heavy Goods Vehicle drivers, etc. and the minimum qualifications required for these) and making the communities aware of these requirements. The developers should also plan and implement a coordinated approach to community skills development based on these requirements.

#### Residual impacts

The implementation of the above mentioned mitigation measures will ensure that the positive impact on the Economy, Employment and Skills Development remains **moderate positive**.

**Table 5.22** *Pre- and Post- Mitigation Significance for Economy, Employment and Skills Development Cumulative Impact*

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
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Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Economy, Employment and Skills Development	Cumulative Impact	Moderate (+ve)	Moderate (+ve)

A summary for the impact presented below.

**Table 5.23** *Pre- and Post- Mitigation Significance for Economy, Employment and Skills Development Cumulative Impact*

**Nature and Type:** Indirect positive impact

**Sensitivity/Vulnerability/Importance of Resource/Receptor:** Medium

**Impact Magnitude:** Positive

- **Extent:** Regional
- **Duration:** Long Term
- **Scale:** Medium to Large
- **Reversibility:** N/A
- **Likelihood:** N/A

**IMPACT SIGNIFICANCE (PRE-MITIGATION):** MODERATE POSITIVE

**IMPACT SIGNIFICANCE (POST-MITIGATION):** MODERATE POSITIVE.

### *Community Health Safety and Security*

#### Impact Description

The presence of an external workforce for the combined projects housed within the communities and construction camps could increase the spread of communicable diseases and STIs such as HIV/AIDS. The profile of these diseases will be influenced by the existing health profile of communities within the area of influence of the project and that of the workers, which is difficult to predict for the various projects.

Increased air emissions as a result of the Project and another power plant as well as additional risks of industrial accidents and explosions could result in cumulative impacts on community health and safety. However, according to the Air Quality Report (Annex D of EIR), the cumulative impact on air quality is expected to be minor, and according to the QRA(Annex D of EIR), the cumulative risks associated with the Project are acceptable.

While the Project alone is not expected to attract vast numbers of jobseekers to the area, the development of multiple projects is likely to attract people seeking employment opportunities, particularly in light of a declining agricultural sector in the West Coast District Municipality, and given that Saldanha Bay is already seen as an economic hub. An influx of jobseekers will

result in increased competition for employment which may contribute locally to social tension and conflict within the local communities.

### Impact Assessment

The impacts related to community health and safety in the Project Area will be indirect and negative. The impact will be experienced at a local level, within the ADI. The duration of the impact will be long term, as projects may occur over an extended period of time. The scale of the impact will be large for those affected as it will lead to a fundamental change in their life, and/ or health status, particularly for those affected by violence, unwanted pregnancies or HIV/ AIDS. For those affected, the impact will be largely irreversible. Given the above, the magnitude of the impact is considered medium.

In light of this, the vulnerability of receptors is considered medium, however, teenage girls are considered to be highly sensitive to this impact.

The significance of the impact is rated as **Moderate negative** overall, but the significance will be of **high** negative to those affected by unwanted pregnancies and HIV/ AIDS.

### Proposed mitigation/ enhancement

- The Project should engage with other developers to ensure that community education and awareness campaigns in relation to health, safety and security are developed and implemented collaboratively to avoid duplication of effort.
- The Project should engage with its neighbours to develop combined emergency response plans which take into account all the proposed developments and the community. This should consider combined use of security personal and risks from unplanned events.

### Residual impacts

The implementation of the above mitigation measures would ensure that the impact significance **remains that of Moderate**.

A summary for the cumulative impact is present below.

**Table 5.24** *Pre- and Post- Mitigation Significance for Community Health and Safety Cumulative Impact*

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impacts Associated with the Presence of a Workforce	Cumulative Impact	Moderate (-ve)	Moderate (-ve)

**Table 5.25** *Pre- and Post- Mitigation Significance for Community Health and Safety Cumulative Impact*

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**Nature and Type:** Indirect negative impact

**Sensitivity/Vulnerability/Importance of Resource/Receptor:** Medium

**Impact Magnitude:** Medium

- **Extent:** Local
- **Duration:** Long term
- **Scale:** Large
- **Reversibility:** Irreversible
- **Likelihood:** N/A

**IMPACT SIGNIFICANCE (PRE-MITIGATION): MODERATE NEGATIVE**

**IMPACT SIGNIFICANCE (POST-MITIGATION): MODERATE NEGATIVE**

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### *Pressure on Social Infrastructure and Services*

#### Impact Description

Related to the above, the influx of jobseekers together with presence of the workforce associated with each Project could place additional pressure on the delivery of social infrastructure and services, in particular housing. This is largely related to the unskilled workforce, as it is expected that the skilled and semi-skilled workforce would be able to enter the housing market.

Projects that bring a large external unskilled workforce in the area and do not provide accommodation will be increasing the burden on the provision of low cost housing. The SBLM is faced with a housing backlog, and healthcare facilities are under pressure.

#### Impact Assessment

The impacts related to increased pressure on existing social infrastructure and services will be an indirect impact. The impacts will be negative as they will place pressure on infrastructure and services and the local government, who will have to provide the services as demand grows.

The impact will be experienced at a local level, within the ADI. The impacts will be long-term as the provision of social infrastructure and services may take time to catch-up with the increased demand. The scale of the impact will be medium, as it will be notable but will not dominate over existing conditions. The impact is reversible as social infrastructure and services can be improved to address the impact. Given the information presented above, the impact will be medium in magnitude.

The population within the SBLM has been increasing at a rate greater than expected which has been attributed to the in-migration of people seeking economic opportunities. There is an existing housing backlog in the SBLM, and health services are under pressure. Therefore, the vulnerability of receptors is considered medium.

Therefore, the significance of the impact is rated as **Moderate negative**.

Proposed mitigation/ enhancement

Mitigation measures implemented by the Project, particularly a commitment to employing local labour will help to minimise this impact, however, the potential impact on social infrastructure and services remains that of moderate, as the Project cannot influence how other developments employ or house their workforce.

Residual Impact

The impact significance remains of Moderate significance. A summary for the impact is present below.

**Table 5.26** *Pre- and Post- Mitigation Significance for Impacts Associated with Pressure on Social Infrastructure and Services Cumulative Impact*

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Pressure on Social Infrastructure and Services	Cumulative	Moderate (-ve)	Moderate (-ve)

**Table 5.27** *Pre- and Post- Mitigation Significance for Impacts Associated Pressure on Social Infrastructure and Services*

**Nature and Type:** Indirect negative impact

**Sensitivity/Vulnerability/Importance of Resource/Receptor:** Medium

**Impact Magnitude:** Medium

- **Extent:** Local
- **Duration:** Long term
- **Scale:** Medium
- **Frequency:** Often
- **Reversibility:** Reversible
- **Likelihood:** N/A

**IMPACT SIGNIFICANCE (PRE-MITIGATION): MODERATE NEGATIVE**

**IMPACT SIGNIFICANCE (POST-MITIGATION): MODERATE NEGATIVE**

An unplanned event is a reasonably foreseeable event that is not planned to occur as part of the Project (i.e. would not occur as part of routine operating procedures), but which may conceivably occur as a result of Project activities (e.g. accidents). The risk of unplanned events related to the Project are accessed in *Section 10.12* of the *EIR*.

Both potential positive and negative socio-economic impacts associated with the development of the Saldanha Steel Independent Gas-fired Power Plant have been identified and assessed through this SIA. The key findings have been summarized below.

- **Employment creation, skills enhancement and local business opportunities:** The Project will create up to 450 employment opportunities during the construction phase and 95 during the operation phase. It is anticipated the unskilled and to a large extent semi-skilled workforce will be drawn from the local area. Those who secure employment will benefit from on the job training which will leave them well-placed to secure future employment on similar projects.
- **Impacts on community health and safety:** The presence of the Project could affect the health, safety and security of the communities in the area of influence as a result of worker-community interactions, in-migration to the area, increased disposable income in the local community that may be used for drugs, alcohol and prostitution, the risk of injury associated with construction and decommissioning activities, increased pressure on health care resources and changes to the environment. Air emissions, noise and increased traffic associated with the Project are also considered impacts that may affect community health and safety.

The impacts on community health and safety range from minor to moderate, however, with the implementation of management measures, these impacts will be minor in significance, with the exception of impacts associated with the presence of the workforce. This is largely due to the long-term impacts that may arise from unwanted pregnancies and an increased incidence of HIV/ AIDS.

- **Worker health and safety and rights:** Workers' rights, including occupational health and safety need to be considered to avoid accidents and injuries, loss of man-hours, labour abuses and to ensure fair treatment, remuneration and working and living conditions. The development of health and safety plans and policies will ensure that this impact is of minor significance.

The implementation of management measures detailed in this report, as well as in other specialist reports are fundamental to ensuring that negative impacts associated with the Project are managed, and the positive impacts are enhanced. Key management measures are summarized below.

- The Project will establish a recruitment policy which prioritises the employment of South African and local residents (originating from the

Local Municipality) over foreigners. Criteria will be set for prioritising local residents and then other South Africans as part of the recruitment process.

- All contractors will be required to recruit in terms of the Project's recruitment policy, where practical.
- The Project will develop an induction programme, including a Code of Conduct, for all workers directly related to the project. A copy of the Code of Conduct to be presented to all workers and signed by each person. The Code of Conduct must address the following aspects:
  - respect for local residents and customs;
  - zero tolerance of bribery or corruption;
  - zero tolerance of illegal activities by construction personnel including: unlicensed prostitution; illegal sale or purchase of alcohol; sale, purchase or consumption of drugs; illegal gambling or fighting;
  - no alcohol and drugs policy during working time or at times that will affect ability to work;
  - description of disciplinary measures for infringement of the Code and company rules. If workers are found to be in contravention of the Code of Conduct, which they signed at the commencement of their contract, they will face disciplinary procedures that could result in dismissal.
- The Project will implement a grievance procedure that is easily accessible to the local community, through which complaints related to contractor or employee behaviour can be lodged and responded to. The Project will respond in a serious manner to any such complaints. Key steps include:
  - circulation of contact details of 'grievance officer' or other key Project contact;
  - awareness raising among the local community regarding the grievance procedure and how it works; and
  - establishment of a grievance register to be updated and maintained by the Project.
- The Project will develop and implement an HIV/ AIDS policy and information document for all workers directly related to the Project. The information document will address factual health issues as well as behaviour change issues around the transmission and prevention of HIV/ AIDS.
- All of the mitigation measures outlined in *Section 10 of the EIR, the Traffic Assessment Report (Annex D), the Noise Impact Assessment Report (Annex D) and Air Quality Specialist Report (Annex D)* must be implemented by the Project.



The findings of the Social Impact Assessment for the Saldanha Steel Independent Gas-fired Power Plant indicate that the Project will have positive benefits for the local community through the creation of employment and skills enhancement, during both the construction and operation phases. While potential negative impacts associated with the Project have been identified, these can be managed through the implementation of the mitigation measures outlined in this SIA, the EIR and other specialist reports.

It is, therefore, recommended that the Project be supported subject to the implementation of the mitigation measures outlined in this SIA, the EIR and other specialist reports.

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#### ***PRIMARY DATA SOURCES***

David Joubert Senior Manager: Strategic Planning and Enterprise Risk Services - Telephonic interview

Comments received during the Draft Scoping Phase

Comments received during the Public Meeting held in Saldanha Bay, 16 February 2016.

#### ***COMMENTS FROM THE SCOPING PHASE***

The following comments related to potential socio-economic impacts were recorded during the Scoping Phase of the EIA:

1. Sounds good. How many skilled and unskilled jobs will this project create? and when do the intend to start building the gas power plant?
2. Labour employed

There is no breakdown of the labour to be sourced during construction and production into:-

- Skilled – to be brought in by contractors.
  - Semi-skilled – to be sourced locally.
  - Unskilled – to be sourced locally.
3. Contractors and Sub-contractors should target employing 90 percent semi-skilled and unskilled labour that has 5 years proven residence in the Saldanha Bay Municipal Area.
  4. During the EIA stages, applicable skills needs must be identified throughout the different stages of construction and must a training development campaign be launched for individuals and SMME's within the area of jurisdiction.
  5. Plans with the municipality should be considered to address possible pressure on the municipal infrastructure, especially basic services. Consideration should be given to the current IDZ developments and its impact on the environment.



# Lindsey Bungartz

Senior Consultant  
Social Consulting Services (SCS)



Lindsey Bungartz is a Senior Consultant within ERM based in Social Consulting Services team in Cape Town. She joined ERM Southern Africa in October 2007.

Lindsey has a Social Science Degree with majors in Environmental and Geographical Science and Sociology. She has completed a post-graduate Honours Degree in Environmental Management.

Lindsey has extensive experience in the power sector (renewable energy, hydropower, transmission), and has also worked the mining, oil and gas sectors. Through her experience in the power sector (renewable energy, hydropower, transmission), Lindsey has developed a deep understanding of the impacts (both adverse and beneficial) energy projects can on surrounding communities. She has experience in designing and implementing stakeholder engagement plans in a number of different stakeholder landscapes.

Lindsey has worked extensively in South Africa and in various African including Malawi, Mozambique, Ghana, Zambia and Zimbabwe.

Before joining ERM Lindsey worked for Amathemba Environmental Consulting as an Environmental Control Officer and assisting on Basic Assessment Reports. Prior to that, Lindsey completed an internship at Sustainable Energy Africa where she assisted with research on the development of a "Renewable Energy Act for local government."

Lindsey's fields of competence include Social Consulting Services, Environmental Impact Assessments, Environmental Management Plans, Project Management and Administration.

## Professional Affiliations & Registrations

- International Association for Impact Assessment South Africa (IAIASa)

## Fields of Competence

- Social Impact Assessment (SIA)
- Social Screening and Risk Identification
- Stakeholder Engagement
- Environmental Impact Assessment (EIA)
- Environmental Management Plans
- Project Management

## Education

- Bachelor of Social Science (Honours), Environmental Management, University of Cape Town, South Africa, 2002.
- Bachelor of Social Science (Environmental and Geographical Science and Sociology), University of Cape Town, South Africa, 2001.

## Languages

- English
- Afrikaans

## Key Industry Sectors

- Power
- Oil & Gas
- Mining
- Telecommunications
- Food & Beverage

## **Key Projects**

### **Social Consulting Services**

#### **Environmental and Social Impact Assessment for a new pipeline and Floating, Storage and Offloading (FSO) in Mozambique, Sasol, 2015 – ongoing**

ERM was commissioned to undertake an ESIA for new pipeline from an existing landbased Central Processing Facility to new FSO located 50 km offshore. Lindsey is part Social Specialist team. Her responsibilities included managing subcontractors and coordinating the primary data gathering process. She is responsible for the technical review of the social baseline written by sub-contractors, the identification and assessment of impacts and the development of appropriate mitigation measures. Further, Lindsey is responsible for developing stakeholder engagement material for public participation process associated with the ESIA.

#### **Development of Environmental and Social Management Plans, ACWA Power, 2016**

ERM as approached by a ACWA Power to develop a set of environmental and social management plans that would meet IFC requirements and could be rolled out across a number of different Projects in Southern Africa. Lindsey was responsible for the drafting of a comprehensive internal and external Grievance Mechanism and an HIV Awareness Guideline.

#### **ESDD for six solar farms sites in South Africa, confidential client, 2016**

ERM was appointed to complete an Environmental and Social Due Diligence for six proposed solar farm sites across South Africa to identify potential cost and time risks, as well as fatal flaws. Lindsey was responsible for identifying and addressing non-technical risks associated with the six sites.

#### **Regional Environmental Impact Assessment for two concession blocks for Sasol, Mozambique, 2015**

ERM has been commissioned to undertake a high level and broad environmental and social assessment of two distinct concession blocks. Lindsey is leading the social team, and is responsible for managing local social sub-contractors, overseeing their in-country activities and for technical reviews of all social deliverables on the Project.

#### **Environmental and Social Impact Assessment Due Dilligence for a Wind Farm in South Africa, confidential client, 2015**

ERM was appointed to undertake a due diligence of an Environmental and Social Impact Assessment undertaken for a proposed Wind Farms in South Africa,

on behalf of a potential investor. Lindsey undertook the review of the ESIA, highlighted rated potential risks and flaws, and advised client on how to address the potential risks.

#### **Stakeholder Engagement and Social Impact Assessment for a Floating Power Plant in Saldanha Bay for the Department of Energy, South Africa, 2015 - ongoing**

ERM was appointed to undertake an ESIA for a Floating Power Plant and associated in Saldanha Bay. Lindsey was the Stakeholder Engagement lead for the Project, responsible for designing and implementing a public participation process which meets legislative requirements and takes cognisance of a complicated stakeholder landscape. In addition, Lindsey was responsible for the delivery of the Social Impact Study for the Project, which entailed undertaking primary and secondary data gathering, writing up the social baseline, the identification and assessment of impacts and the development of appropriate mitigation measures.

#### **Stakeholder Engagement and Social Impact Assessment for a Floating Power Plant in Richards Bay for the Department of Energy, South Africa, 2015 - ongoing**

ERM was appointed to undertake an ESIA for a Floating Power Plant in Richards Bay. Lindsey was the Stakeholder Engagement lead for the Project, responsible for designing and implementing a public participation process which meets legislative requirements and takes cognisance of a complicated stakeholder landscape. In addition, Lindsey was responsible for the delivery of the Social Impact Study for the Project, which entailed undertaking primary and secondary data gathering, writing up the social baseline, the identification and assessment of impacts and the development of appropriate mitigation measures.

#### **Stakeholder Engagement and Social Impact Assessment for LNG Impact Facilities in Saldanha Bay for the Department of Energy, South Africa, 2015 - ongoing**

ERM was appointed to undertake an ESIA for the development of LNG Import Facilities in Saldanha Bay, in furtherance of Department's Gas to Power Programme. Lindsey was the Stakeholder Engagement lead for the Project, responsible for designing and implementing a public participation process which meets legislative requirements and takes cognisance of a complicated stakeholder landscape. In addition, Lindsey was responsible for the delivery of the Social Impact Study for the Project, which entailed



undertaking primary and secondary data gathering, writing up the social baseline, the identification and assessment of impacts and the development of appropriate mitigation measures.

**Stakeholder Engagement and Social Impact Assessment for LNG Import Facilities in Richards Bay for the Department of Energy, South Africa, 2015 - ongoing**

ERM was appointed to undertake an ESIA for the development of LNG Import Facilities in Richards Bay, in furtherance of Department's Gas to Power Programme. Lindsey was the Stakeholder Engagement lead for the Project, responsible for designing and implementing a public participation process which meets legislative requirements and takes cognisance of a complicated stakeholder landscape. In addition, Lindsey was responsible for the delivery of the Social Impact Study for the Project, which entailed undertaking primary and secondary data gathering, writing up the social baseline, the identification and assessment of impacts and the development of appropriate mitigation measures.

**Stakeholder Engagement and Social Impact Assessment for a Gas-fired Power Plant, ArcelorMittal, South Africa, 2015 - ongoing**

ERM was appointed to undertake an ESIA for a gas-fired power plant at ArcelorMittal's Saldanha Steel facility. Lindsey was the Stakeholder Engagement lead for the Project, responsible for designing and implementing a public participation process which meets legislative requirements and takes cognisance of a complicated stakeholder landscape. In addition, Lindsey was responsible for the delivery of the Social Impact Study for the Project, which entailed undertaking primary and secondary data gathering, writing up the social baseline, the identification and assessment of impacts and the development of appropriate mitigation measures.

**Environmental and Social Management Plan (ESMP) for a new sugar mill, PressCane, Southern Region, Malawi, 2015**

ERM has been appointed to develop a Scoping Report and ESMP for the development of a new sugar mill at an existing site. Lindsey is leading the social baseline reporting, and the development of the social management measures to be included in the ESMP. She will be responsible for disseminating the findings of the ESMP to the stakeholders including government authorities and traditional leaders.

**Environmental and Social Impact Assessment for a new sugar mill, EthCo, Central Region Malawi, 2015**

ERM has been appointed to undertake an ESHIA for the development of a new sugar mill at a greenfield site in a rural area. Lindsey is leading the baseline fieldwork, consultation and reporting for the SIA and Stakeholder Engagement process. The project will include permanent physical and economic displacement of land users currently utilising the identified Project Site. The SIA will include the identification and assessment of impacts and development of appropriate mitigation measures.

**Environmental and Social Impact Assessment Due Dilligence for a Wind Farm in South Africa, confidential client, 2015**

ERM was appointed to undertake a due diligence of an Environmental and Social Impact Assessment undertaken for three proposed Wind Farms in South Africa, on behalf of a potential investor. Lindsey undertook the review of the ESIA, highlighted rated potential risks and flaws, and advised client on how to address the potential risks.

**Environmental and Social Impact Assessment Due Dilligence for a Wind Farm in South Africa, confidential client, 2015**

ERM was appointed to undertake a due diligence of an Environmental and Social Impact Assessment undertaken for a proposed Wind Farms in South Africa, on behalf of a potential investor. Lindsey undertook the review of the ESIA, highlighted rated potential risks and flaws, and advised client on how to address the potential risks. Lindsey accompanied the Client to the site to verify the findings on the ESIA and provided further advice around stakeholder risks associated with the Project.

**Environmental and Social Impact Assessment for the OCTP non-associated gas development in Ghana, ENI, 2014 - 2015**

ERM was appointed to undertake an ESHIA for the non-associated gas (NAG) development at the Offshore Cape Three Points (OCTP) block and associated onshore receiving facility. Lindsey was part Social Impact Assessment team. Her responsibilities included managing subcontractors and coordinating the primary data gathering process. Further, she was responsible for undertaking secondary data gathering, writing up the social baseline, the identification and assessment of impacts and the development of appropriate mitigation measures.

**Social Impact Assessment for the new Muchinga Hydropower Plant on the Mkushi River, Zambia, Muchinga Power Company, 2012 – 2013**

ERM was appointed to under an ESIA for the development of a new Hydropower Plant, including a new dam and inundation area. Lindsey was part of a two person team to undertake the SIA for the Project. The SIA entailed the collecting of secondary data and working with local social specialist in gathering primary data, including a household survey and focus group meetings. The SIA included the identification and assessment of impacts and development of appropriate mitigation measures.

**Social Impact Assessment for the upgrade of the Mulungushi Hydropower Plant, Zambia, Lumsenfwa Hydro Power Company, 2012 – 2013**

ERM was appointed to under an ESIA for the upgrade of the existing Mulungushi Hydropower Plant. Lindsey was part of a two person team to undertake the SIA for the Project. The SIA entailed the collecting of secondary data and working with local social specialist in gathering primary data, including a household survey and focus group meetings. The SIA included the identification and assessment of impacts and development of appropriate mitigation measures.

**Post Resettlement Monitoring Review of the permanent resettlement of the Mulepe Village, by the Lunda Northeast Project, Angola, 2013**

ERM completed a post resettlement audit for De Beers Angola, Prospecting Limited (DEBAP) in Angola. Lindsey was responsible for reviewing primary data gathered by local sub consultants and compiling the outcome of the resettlement review into a report to be presented to the client.

**International Finance Corporation (IFC) Update of SIAs: Port and Mining Complex, Angola, AEMR, 2012 – 2013**

ERM was commissioned to update an ESIA for a mine and port, to comply with IFC Performance Standards. Lindsey was part of a team of Social Specialists responsible for updating and rewriting of social baseline, the identification and assessment of impacts, as well as the development of appropriate mitigation measures.

**Social Impact Assessment for the Proposed Genoegsaam Solar Park, Eastern Cape, Solaire Direct, 2012**

ERM was appointed to undertake a full Scoping/EIA for a proposed solar park in the Eastern Cape. Lindsey was responsible for undertaking the Social Impact

Assessment that was integrated into the EIA. The SIA entailed primary and secondary data collection, identification and assessment of impacts and development of appropriate mitigation measures.

**Social Impact Assessment for the Proposed Graspan Solar Park, Northern Cape, Solaire Direct, 2012**

ERM was appointed to undertake a full Scoping/EIA for a proposed solar park in the Northern Cape. Lindsey was responsible for undertaking the Social Impact Assessment that was integrated into the EIA. The SIA entailed primary and secondary data collection, identification and assessment of impacts and development of appropriate mitigation measures.

**Social Impact Assessment for the Proposed Melkville Solar Park, Northern Cape, Solar Reserve, 2012**

ERM was appointed to undertake a full Scoping/EIA for a proposed solar park in the Northern Cape. Lindsey was responsible for undertaking the Social Impact Assessment that was integrated into the EIA. The SIA entailed primary and secondary data collection, identification and assessment of impacts and development of appropriate mitigation measures.

**Social Impact Assessment for the Proposed Ruigte Solar Park, Free State Province, Solar Reserve, 2012**

ERM was appointed to undertake a full Scoping/EIA for a proposed solar park in the Free State Province. Lindsey was responsible for undertaking the Social Impact Assessment that was integrated into the EIA. The SIA entailed primary and secondary data collection, identification and assessment of impacts and development of appropriate mitigation measures.

**Environmental and Social Screening Study for the Vleesbaai Wind Farm, Western Cape, 2011**

ERM was commissioned to undertake a detailed environmental and social screening of a potential wind farm site. Lindsey was responsible for the social component of the deliverable, identifying potential social risks and flaws associated with the proposed site, and presenting recommendations to the client.

**Strategic Environmental Assessment for the Mozambique Regional Gateway Programme, 2012**

ERM was appointed by the Mozambique Regional Gateway Programme to undertake a Strategic Environmental Assessment for the Programme. Lindsey was responsible for the compilation of the socio-economic baselines for four countries (Botswana, Malawi, Zimbabwe and Zambia), as well as the gathering of primary data through in-country visits.

### **Social and Communities External Performance Review, Richards Bay Minerals, 2012**

ERM was appointed to undertake an assessment and review of the social and communities work carried out during the pre-feasibility phase of the Zulti South Project. Lindsey undertook a document review and internal and external stakeholder consultation to monitor performance against internal standards. The findings of the gap analysis were presented in a report that included series of key themes and made key recommendations for addressing the identified gaps.

### **Other Social Consulting Projects**

#### **Revision of Anglo American's Socio-Economic Assessment Toolkit, SEAT, 2011**

ERM was appointed by Anglo American to update their Socio-Economic Assessment Toolkit, SEAT, initially developed by ERM in 2001. Lindsey worked as part of a team of consultants and was responsible for developing new case studies, updating SEAT in accordance with changes made to the IFC and Equator Principals, adding new content and final review of the updated SEAT.

#### **Support on SEAT process for Anglo America, 2011**

Lindsey provided support to three Anglo American operations during their SEAT process by reviewing the Draft SEAT report and providing feedback in order to get the SEAT Reports ready for publishing.

#### **Baseline Risk Assessment Report, Anglo Coal, 2009**

Lindsey was part of a team that assisted AngloCoal to identify high-level socio-economic risks as part of an exploration phase project. Lindsey was involved in primary data collection through focus groups and one-to-one interviews and capturing the findings in a report that would be useful to the client. The team developed a comprehensive stakeholder engagement strategy that addressed the various project components and the cumulative changes in the proposed project area.

#### **SEAT Review for Anglo's Johannesburg Corporate Office, 2009**

Lindsey was part of a team that undertook a SEAT Assessment for the Johannesburg Corporate Office. Lindsey was responsible for primary data collection through focus groups and face-to-face interviews at Anglo's Corporate Office in Johannesburg. Together with the team, she consolidated their findings into a report that was presented back to the Head Office as part of their Social and Economic Assessment Review.

### **City of Cape Town Performance Strategy, 2009**

ERM was appointed by the City of Cape Town to develop an Environmental Performance Strategy for various departments within the City. Lindsey was involved in the coordination of the interview process with selected key stakeholders within the City and data gathering.

### **Environmental Impact Assessment and Permitting**

#### **Basic Environmental Impact Assessment for a new service station, 2012 - 2013.**

ERM was appointed to complete a Basic Assessment for a new filling station in the Western Cape. Lindsey is acting as Project Manager and is responsible for guiding the public participation process, the coordination of specialist studies, identifying and assessing potential positive and negative impacts, as well as proposing mitigation measures for the Project.

#### **Environmental Impact Assessment for the Richtersveld Wind Farm, Northern Cape, G7 Energies, 2010 - 2011**

ERM was appointed to undertake a full Scoping/EIA for a proposed wind farm in the Northern Cape. Lindsey was the consultant on this project responsible for report writing, managing specialists, undertaking research for the Social Impact Assessment and liaison with local, provincial and national environmental authorities. She was also involved in the stakeholder engagement component associated with this EIA.

#### **Environmental Impact Assessment for the Victoria West Renewable Energy Facility, Northern Cape, Mainstream SA, 2010 - 2011**

ERM was appointed to undertake a full Scoping/EIA for a proposed renewable energy facility, incorporating wind and solar power generating technologies. Lindsey was the consultant on this project responsible for report writing, managing specialists, undertaking research for the Social Impact Assessment and liaison with local, provincial and national environmental authorities. She was also involved in the stakeholder engagement component associated with this EIA.

#### **Environmental Impact Assessment for the Sutherland Renewable Energy Facility, Western Cape, Mainstream SA, 2010 - 2011**

ERM was appointed to undertake a full Scoping/EIA for a proposed renewable energy facility, incorporating wind and solar power generating technologies. Lindsey was the consultant on this project responsible for report writing, managing specialists, undertaking research for the Social Impact Assessment and liaison with local, provincial and national environmental authorities. She

was also involved in the stakeholder engagement component associated with this EIA.

**Environmental Impact Assessment for the Perdekraal Renewable Energy Facility, Western Cape, Mainstream SA, 2009 – 2011**

ERM was appointed to undertake a full Scoping/EIA for a proposed renewable energy facility, incorporating wind and solar power generating technologies. Lindsey was the consultant on this project responsible for report writing, managing specialists, undertaking research for the Social Impact Assessment and liaison with local, provincial and national environmental authorities. She was also involved in the stakeholder engagement component associated with this EIA.

**Environmental Impact Assessment for the Nooitgedacht Renewable Energy Facility, Western Cape, Mainstream SA, 2009 – 2011**

ERM was appointed to undertake a full Scoping/EIA for a proposed renewable energy facility incorporating wind and solar power generating technologies. Lindsey was the consultant on this project responsible for report writing, managing specialists, undertaking research for the Social Impact Assessment and liaison with local, provincial and national environmental authorities. She was also involved in the stakeholder engagement component associated with this EIA.

**Environmental Impact Assessment for the Konstabel Renewable Energy Facility, Western Cape, Mainstream SA, 2009 – 2011**

ERM was appointed to undertake a full Scoping/EIA for a proposed renewable energy facility incorporating wind and solar power generating technologies. Lindsey was the consultant on this project responsible for report writing, managing specialists, undertaking research for the Social Impact Assessment and liaison with local, provincial and national environmental authorities. She was also involved in the stakeholder engagement component associated with this EIA.

**Environmental Impact Assessment for the Beaufort West Renewable Energy Facility, Western Cape, Mainstream SA, 2009 – 2011**

ERM was appointed to undertake a full Scoping/EIA for a proposed renewable energy facility incorporating wind and solar power generating technologies. Lindsey was the consultant on this project responsible for report writing, managing specialists, research for the Social Impact Assessment and liaison with local, provincial and national environmental authorities. She was also

involved in the stakeholder engagement component associated with this EIA.

**Basic Environmental Impact Assessment for the installation of a transmission line and associated substation, 2010 - 2012**

ERM was appointed to complete a Basic Assessment for a new Transmission line in the Mountains near Piketberg. Lindsey is acting as Project Manager and is responsible for guiding the public participation process and completing of the report.

**Environmental Scoping Report for the Maasrust Renewable Energy Facility, Western Cape, 2009 – 2010**

ERM was appointed to complete an Environmental Scoping Report for a proposed renewable energy facility incorporating wind and solar power generating technologies. Lindsey was a consultant on this project, responsible for report writing, managing specialists, and was also involved in the initial stakeholder engagement component associated with the Scoping Report.

**Environmental Scoping Report for the Dwarskersbos Renewable Energy Facility, Western Cape, 2009 – 2010**

ERM was appointed to complete an Environmental Scoping Report for a proposed renewable energy facility incorporating wind and solar power generating technologies. Lindsey was a consultant on this project, responsible for report writing, managing specialists, and was also involved in the initial stakeholder engagement component associated with the Scoping Report.

**Feasibility study for SATA backhaul project, Southern Africa, 2009**

Lindsey was part of a project team that undertook a feasibility study of proposed backhaul routes of subsurface telecommunications cables across Southern Africa. The project involved a desktop-based study of the proposed routes to identify potential environmental and social impacts and provide mitigation measures to reduce potential impacts.

**Basic Assessment for wind measuring masts at eight sites in the Western and Northern Cape, 2010**

ERM completed a Basic Assessment for the installation of wind measuring masts at eight sites across the country. Lindsey was a project consultant responsible for undertaking the report writing, coordination of public participation process and compiling the environmental management plan.

**Basic Environmental Assessment for the installation of Aboveground Storage Tanks at a chemical processing facility in Cape Town, 2009**

Lindsey was the project consultant responsible for undertaking this Basic Assessment. She completed the Basic Assessment Report and associated Environmental Management Plan, and was also responsible for coordinating the public participation process that included hosting an open house meeting, and Authority liaison.

**Basic Environmental Assessment for the installation of Aboveground Storage Tanks at Johnson & Johnson, East London, 2009/ 2010**

Lindsey completed a Basic Assessment Report for the installation of Aboveground Tanks for the storage of Alcohol at the site and writing the Environmental Management Plan. Lindsey was responsible for undertaking the associated public participation process and Authority liaison.

**ECO during the repair to the Simonstown Seawall, Metro Rail, 2009/ 2010**

Lindsey was part of a team that drew up an Environmental Management Plan for construction work along the Simonstown Railway Line, is a highly sensitive environment. Lindsey also acted as the Environmental Control Officer (ECO) during the construction phase. Her responsibilities included onsite monitoring and producing a report to feedback to the client.



**Kerryn Desai**

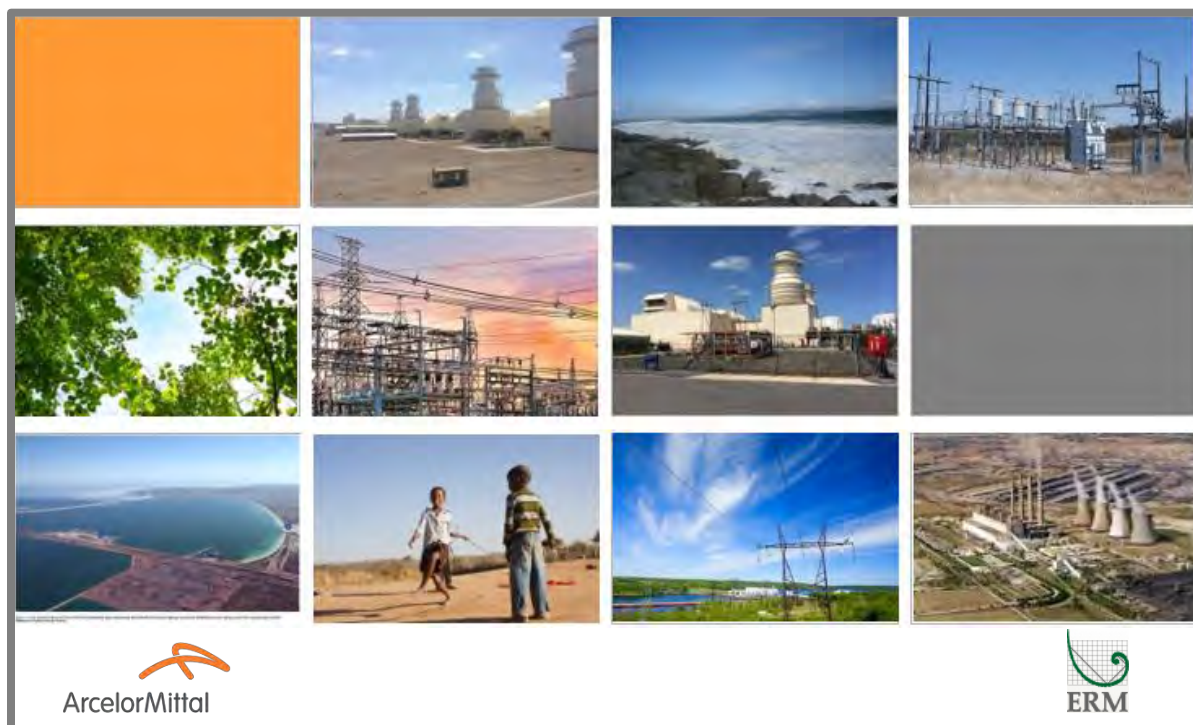
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# ENVIRONMENTAL RESOURCES MANAGEMENT'S ArcelorMittal Social Impact Assessment

## PEER REVIEW



Reviewed by  
**Kerryn McKune Desai**

July 2016

# 1 INTRODUCTION

The Department of Environmental Affairs (DEA) require that all specialist reports that are compiled by internal specialists, from the appointed lead Consultancy, be peer reviewed by an external and independent consultant. In this regard, Kerry McKune Desai<sup>1</sup> was appointed by Environmental Resources Management Southern Africa (Pty) Ltd (ERM) to undertake a peer review of a Social Impact Assessment (SIA) researched and written by an internal ERM social specialist. The SIA is for ArcelorMittal's proposed gas-fired independent power plant that is intended to support Saldanha Steel and other industries in Saldanha Bay.

## 1.1 Review Approach

The review was undertaken as a desk-based exercise to assess the draft SIA in terms of the specific criteria defined by DEA; as illustrated in Box 1-1.

### Box 1-1 DEA Terms of Reference for Peer Reviews

- Is the Terms of Reference acceptable for this specialist study within the context of the proposed project and site location?
- Is the methodology clearly explained and acceptable?
- Are the findings acceptable, and scientifically defensible (review data evidence)?
- Are the mitigation measures and recommendation measures appropriate?
- Is the literature referenced in the report appropriate?
- Is the article well-written and easy to understand?
- Are there any shortcomings to this study, if yes, please describe?

The reviewer was briefed by the lead author about the proposed Project, the SIA methodology (including determination of the area of influence, selection of data gathering techniques, process of identifying and assessing impacts, and process for determining mitigation and management measures), integration with related specialist studies, and assumptions and limitations of the study.

For each of the review criteria stipulated by DEA, the reviewer has rated the information provided in the SIA on a scale of 1 to 5, where 1 = inadequate and 5 = comprehensive. A comment is provided to support each rating and recommended actions are provided.

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<sup>1</sup> An overview of the reviewer is provided in *Annex A*. A full CV is available on request.



## 1.2 Assumptions and Limitations

The following assumptions and limitations apply to this review.

- The review is based only on the criteria defined by the DEA; no other national or international requirements have been assessed.
- It assumed that all Project and baseline information is correct and accurately reflects the respective sources.
- The related specialist studies have not been reviewed, the information and assertions drawn from those reports are assumed to be accurate.

## 1.3 Report Structure

The report is structured as follows:

- Section 2: review comments and recommendations;
- Section 3: conclusion; and
- *Annex A*: about the reviewer.

## 2 REVIEW COMMENTS AND RECOMMENDATIONS

DEA Questions	Adequacy (1-5)	Comment
Is the Terms of Reference acceptable for this specialist study within the context of the proposed project and site location?	5	<p>Findings</p> <ul style="list-style-type: none"> <li>The Terms of Reference are closely aligned with the Western Cape Department of Environmental Affairs and Development Planning Guidelines for Social Impact Assessment (February 2007). Section 1.3 outlines the Terms of Reference used to develop this SIA.</li> <li>All components required in an SIA for a project of this nature and scale are included in the SIA.</li> </ul> <p>Recommended Actions</p> <ul style="list-style-type: none"> <li>No further work required.</li> </ul>
Is the methodology clearly explained and acceptable?	3	<p>Findings</p> <ul style="list-style-type: none"> <li><b>Section 1.4 ‘Study Approach and Methodology’</b> provides an overview of the approach and method followed. A combination of primary and secondary data was used to inform the baseline description, impact identification, impact description and assessment.</li> <li>No key informants had been interviewed prior to the review. The Social Specialist is in the process of conducting interviews with selected key informants. These interviews must be undertaken to support baseline findings and some of the impact findings. This will add credibility to the SIA.</li> <li>Section 1.4 does not give a comprehensive list of the secondary data sources or the names/designations or the key informants. This information is currently not included in the report; the Reference List and List of Interviews is incomplete.</li> <li>It is unclear which related specialist studies have been integrated into the SIA findings. These should be clearly listed in the ‘Study Approach and Methodology’ Section.</li> </ul> <p>Recommended Actions</p> <ul style="list-style-type: none"> <li>Provide some more detail in Section 1.4 about the primary and secondary data sources. Complete the reference list to include secondary and primary sources.</li> <li>Undertake interviews with selected key informants to support some of the findings and corroborate the assessment. For example: <ul style="list-style-type: none"> <li>Speak to a Planner regarding historical and future anticipated growth. Discuss possible reasons for historic and future growth trends, preferred locations for settlement by migrants, social problems that arise, pressure on infrastructure, strategies to address social problems and pressure on infrastructure, etc. The baseline refers to numerous planned infrastructure projects – explore whether these are</li> </ul> </li> </ul>

DEA Questions	Adequacy (1-5)	Comment
		<p>designed to address current and/or future demand and what percentage growth they are planning for.</p> <ul style="list-style-type: none"> <li>○ Speak to a social worker or clinic representative to explore current/ growing social ills and the reasons for these problems.</li> <li>○ Other potential respondents may include an IDP Manager and Ward Councillors.</li> </ul> <ul style="list-style-type: none"> <li>• Clearly state the related specialist reports that were used to inform the SIA.</li> </ul>
Are the findings acceptable, and scientifically defensible (review data evidence)?	4	<p>Findings</p> <ul style="list-style-type: none"> <li>• The baseline and impact findings are based on available secondary data and feedback from the public consultation process. Social conditions and potential socio-economic impacts are not static and can be difficult to predict given that human issues, interests and motives are ever-changing. The Social Specialist has based the assessment on available data, reflection on similar projects in the area, and professional judgement. Feedback from key informants (as identified above) will add credibility to the findings presented in the SIA.</li> </ul> <p>Recommended Actions</p> <ul style="list-style-type: none"> <li>• Undertake key informant interviews with respondents that will support the baseline findings and impacts identified. Incorporate their views into the text, as required.</li> </ul>
Are the mitigation measures and recommendation measures appropriate?	3	<p>Findings</p> <ul style="list-style-type: none"> <li>• Generally, the enhancement and mitigation measures are adequate and suit the scale and significance of the impacts identified and described. Some gaps have been identified.</li> <li>• Impact 1: '<i>Employment Creation, Skills Enhancement and Local Business Opportunities</i>' (construction and decommissioning) – there are no enhancement measure provided to address local business opportunities. There are limited measures proposed to develop and build skills of the workforce.</li> <li>• Impact 2: '<i>Impact on Community Health and Safety</i>'<sup>2</sup> (linked to influx of job-seekers) – the mitigation measures are vague and will not serve to reduce the significance of the impact as proposed. Consider including [recommended] measures that aim to collaborate with the authorities/ other industries to address the impact, etc. It is difficult to include mitigation measures that require partnerships with other parties given that it is not possible to enforce other parties to participate. Also, rethink the reduction in the post-mitigation significance rating - it is extremely difficult to manage indirect impacts.</li> </ul>

<sup>2</sup> Note that the impact needs to be revised, as such the mitigation measures will need to be updated to suit the revised impact/s.

DEA Questions	Adequacy (1-5)	Comment
		<ul style="list-style-type: none"> <li>Ensure that the pressure on existing social infrastructure and services is assessed, then add mitigation measures that aim to alleviate the pressure; e.g. through Corporate Social Responsibility initiatives, partnerships with authorities/ other industries.</li> <li>No standalone visual impact assessment was undertaken for this Project. The Social Specialist has used a view shed analysis produced by ERM to discuss the visual impact as it affects the general sense of place of the area. No mitigation measures have been provided to minimise the negative visual impact on the sense of place.</li> </ul>
		<p>Recommended Actions</p> <ul style="list-style-type: none"> <li>Consider including enhancement measures to address the growth of local business opportunities.</li> <li>Reflect on, and potentially add, measures to build skills of the local workforce.</li> <li>Once the impacts related to community health and safety and the increased pressure on infrastructure and services have been refined, update the mitigation measures to adequately address each impact.</li> <li>Consider categorising the mitigation measures into those that are required and those that are recommended. Mitigation measures that address indirect and induced impacts will require the cooperation of the authorities, surrounding industries and other third parties; it is not possible to enforce their cooperation. As such, these should be recommended.</li> <li>Add mitigation measures to reduce the visual impacts of the proposed Project.</li> </ul>
Is the literature referenced in the report appropriate?	3	<p>Findings</p> <ul style="list-style-type: none"> <li>There are references throughout the text. The references appear to be relevant, up-to-date, and varied.</li> <li>At the time of the review, the reference list was incomplete. The Social Specialist is in the process of compiling it.</li> </ul>
		<p>Recommended Actions</p> <ul style="list-style-type: none"> <li>Complete the reference list to include all secondary sources used in the text, including the related specialist studies. The list should also clearly indicate all primary sources interviewed, including their designations.</li> </ul>
Is the article well-written and easy to understand?	3/4	<p>Findings</p> <ul style="list-style-type: none"> <li>The SIA is generally well-written, logical and the points are made clearly. There are a number of minor errors that can be addressed by a final internal review and edit.</li> <li>There is some repetition of text and sections that are similar and could benefit from being merged. Notably, the '<i>Project Motivation</i>' and '<i>Policy and Planning</i></li> </ul>

DEA Questions	Adequacy (1-5)	Comment
		<p><i>Framework</i> sections are very similar and would serve to simplify the report, if merged.</p> <ul style="list-style-type: none"> <li>The project description has been taken from the EIA Report. There are references and links to information that have been cut out of the full version. The project description needs to be reviewed and refined to ensure it is complete and readable.</li> <li>The <i>'Cumulative Impact'</i> and <i>'Key Findings and Recommendations'</i> sections need to be updated to reflect the revised impacts.</li> </ul> <p>Recommended Actions</p> <ul style="list-style-type: none"> <li>Once all final comments are addressed, the SIA would benefit from a final internal review and edit to address spelling and grammar mistakes, inconsistencies, and review of additions. Pay particular attention to the <i>'Project Description'</i>.</li> <li>Consider merging the <i>'Project Motivation'</i> and <i>'Policy and Planning Framework'</i> sections to improve the read and simplify the report.</li> <li>Update the <i>'Cumulative Impact'</i> and <i>'Key Findings and Recommendations'</i> to reflect the revised impacts.</li> </ul>
Are there any shortcomings to this study, if yes, please describe?	3	<p>Findings</p> <p><u>Project Description:</u></p> <ul style="list-style-type: none"> <li>The Project is located on 2 properties that are both owned by ArcelorMittal. There is no illustration of these properties; it would be useful to see the placement of the proposed project on the ArcelorMittal-owned land. This would serve to demonstrate that key impacts (notably nuisance factors) are limited to ArcelorMittal land. This is not essential but would add value.</li> <li>The project aspects that may have social consequences need to be covered systematically for each project phase. For example: <ul style="list-style-type: none"> <li>there is no information about worker accommodation for either phase;</li> <li>there is no information about traffic or employment for the operational phase; and</li> <li>information about water, power, sewerage, etc. need to be covered clearly for each phase.</li> </ul> </li> <li>The route of the pipeline is not described in the <i>'Project Description'</i>. It is important to describe the land use types and activities that may be affected by the pipeline. It is possible that the proposed pipeline will be located in existing servitudes and on ArcelorMittal-owned land, however the relevant information is not provided.</li> </ul> <p><u>Baseline Description:</u></p> <ul style="list-style-type: none"> <li>Section 5.6.2 <i>'Livelihoods and Economy'</i> presents the contribution of the various economic sectors. The figures indicate that the most and least dominant economic activities in the WCDM and SBLM are almost exactly opposite. This point needs to be made more clearly, it is currently left up to the reader to determine this.</li> </ul>

DEA Questions	Adequacy (1-5)	Comment
		<ul style="list-style-type: none"> <li>In Section 5.6.2, it is not clear how or why only some sectors are discussed in greater detail, and not others. For example, despite the Finance sector being the most dominant in the SBLM, it is not discussed further; and the sub-category of agriculture is not discussed despite the relevance for this study. Tourism is discussed in detail (as it should be) but it is not quantified as one of the contributors to the economy – <b>it is possibly subsumed into 'catering and accommodation'</b>. Be consistent when presenting detailed information about WCDM and/or SBLM for the sectors; currently this is not consistent. Describe the sectors in a logical order and make that logic clear for the reader.</li> </ul> <p><u>Impact Assessment:</u></p> <ul style="list-style-type: none"> <li>Impact 2: <i>'Impacts on Community Health and Safety'</i> – the text in this impact is currently confused (and very repetitive in places). The text refers to the impact <b>being about 'community health and safety', and sometimes to 'the increased pressure on infrastructure and services'; both of which are important and</b> should not be omitted. They may need to be addressed as separate impacts.</li> <li>Impact 2 is separated into impacts resulting from workers and those resulting from job-seekers; there is no mention of the contribution of the project activities themselves to the impact. For example, the increased pressure on social infrastructure and services as a result of direct project activities has not been assessed, or scoped out. The baseline indicates that there are various infrastructure/ service upgrades, presumably due to an existing lack of capacity. The Project itself could further exacerbate the problem.</li> <li>Impact 2 also addresses the impact of air emissions on health. The Air Quality (AQ) Assessment assessed this impact on human health and found that the impact is negligible due to low level emissions and no sensitive receptors in proximity to the source (with the exception of those located along the roads). The impact should not be reassessed here. The findings of the AQ Study should be used to inform the impact on nuisance factors/ Sense of Place.</li> <li>The impact assessment does not assess the potential impacts linked with the construction and operation of the pipeline. Depending on the pipeline route (not described in the <i>'Project Description'</i>), there may be loss of agricultural land, or similar. It is possible that the pipeline will run in existing servitudes or over ArcelorMittal land. In the absence of a description or map, it is difficult to determine.</li> <li>The <i>'Cumulative Impact'</i> and <i>'Key Finding'</i> sections need to be updated to reflect the impacts identified and described.</li> </ul> <p>Recommended Actions</p> <ul style="list-style-type: none"> <li>Include a map showing the placement of the proposed project on ArcelorMittal-owned land. This would add value but is not essential.</li> <li>Update the <i>'Project Description'</i> to ensure it is relevant for the SIA. Include all relevant information to support social impacts for all pertinent project phases (e.g. traffic, employment, worker accommodation, use of social infrastructure).</li> <li>Elaborate on, and potentially restructure, Section 5.6.2 to more accurately reflect the economic contributions of the various sectors and to illustrate the</li> </ul>

DEA Questions	Adequacy (1-5)	Comment
		<p>relative importance of each. <b>Include more detailed descriptions of the 'finance' and the 'agricultural' sectors given their importance in the SBLM.</b></p> <ul style="list-style-type: none"> <li>Review and restructure Impact 2: <i>'Impacts on Community Health and Safety'</i> in a manner that addresses the findings above. The impact focus needs to be clarified. Ensure that the increased pressure on infrastructure and services is also assessed. The impacts of the direct project activities (including workers) and the indirect influx of job-seekers must also be covered; as related to each of the defined impacts.</li> <li>The impact on human health due to emissions should not be repeated in the SIA as it was assessed in the AQ study. Incorporate the findings into the impact on nuisance factors/ sense of place – as relevant for the social receptors.</li> <li>Describe the route of the pipeline and the land uses and activities that will be affected. As required, describe and assess the associated construction and operation phase impacts of the pipeline. If the pipeline traverses ArcelorMittal-owned land only, then the impacts will be limited; however, these should be mentioned and scoped out (this may have been clear in the Scoping Report<sup>3</sup>).</li> <li>Update the cumulative impact section to reflect the identified impacts.</li> </ul>

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<sup>3</sup> The Scoping Report was not assessed as part of this Peer Review.

### 3 CONCLUSION

The SIA is generally well-written and comprehensive. The socio-economic baseline description is particularly strong and provides all relevant information to support the identification and assessment of impacts.

There are some gaps that will need to be filled to improve the rigour of the study and to ensure that all relevant impacts are clearly identified, described and assessed. In turn, the related mitigation measures will need to be incorporated. The most notable areas for improvement are:

- outstanding key informant interviews to support some of the baseline findings and impacts;
- unpacking of the impact of increased pressure on existing social infrastructure and resources resulting from direct project activities (including workers) and indirect activities (notably the influx of job-seekers to the area);
- assessment of (or clearly scoping out) the impacts of the Project/ pipeline on land use activities;
- updating mitigation measures related to pressure on infrastructure and services and visual impacts of the Project; and
- a final review and edit to address spelling and grammar mistakes, inconsistencies and readability.

Once the recommended actions have been addressed, it is the opinion of the reviewer that the SIA is comprehensive and will suitably address the potential socio-economic impacts of the proposed Project.



## ***ANNEX A: ABOUT THE REVIEWER***

### **Kerryn McKune Desai**

Kerryn offers nearly fifteen years of experience in the fields of socio-economic development and social performance in corporate, non-profit and academic environments. Her social capabilities draw on in-depth knowledge of accepted best practice social performance. She has experience in the following practice areas:

- social impact assessment and peer review;
- stakeholder engagement planning and implementation;
- review and assessment of existing and planned social programmes at both the corporate and operational levels;
- review/ gap analyses of existing reports and management plans;
- social risk identification and assessment;
- resettlement planning and reviews;
- auditing of social and labour/ working conditions;
- development and facilitation of training and capacity building; and
- qualitative research and analysis.

She has diverse sector expertise, including work in the mining, oil and gas, renewable energy, and telecommunications sectors. She has worked throughout Africa, including South Africa, Botswana, Uganda, Cameroon, Ghana, Nigeria, Tanzania, Guinea, Namibia, Zambia, São Tomé and Príncipe, Mozambique, as well as in Albania and Turkey.

She aims to use her skills and experience to support companies and projects to plan for and manage their challenging socio-economic environments and the associated risks. The anticipated outcome would be to build trust based on best practice principles, a positive reputation, and the attainment of a regulatory and social license to operate.

**Table.1**      *Reponses to Peer Review Recommended Actions*

DEA Questions	Adequacy (1-5)	Comment	Actions Taken
Is the Terms of Reference acceptable for this specialist study within the context of the proposed project and site location?	5	<p>Findings</p> <p>The Terms of Reference are closely aligned with the Western Cape Department of Environmental Affairs and Development Planning Guidelines for Social Impact Assessment (February 2007). Section 1.3 outlines the Terms of Reference used to develop this SIA.</p> <p>All components required in an SIA for a project of this nature and scale are included in the SIA.</p> <p>Recommended Actions</p> <p>No further work required.</p>	No actions required.
Is the methodology clearly explained and acceptable?	3	<p>Findings</p> <p>Section 1.4 'Study Approach and Methodology' provides an overview of the approach and method followed. A combination of primary and secondary data was used to inform the baseline description, impact identification, impact description and assessment.</p> <p>No key informants had been interviewed prior to the review. The Social Specialist is in the process of conducting interviews with selected key informants. These interviews must be undertaken to support baseline findings and some of the impact findings. This will add credibility to the SIA.</p> <p>Section 1.4 does not give a comprehensive list of the secondary data sources or the names/designations or the key informants. This information is currently not included in the report; the Reference List and List of Interviews is incomplete.</p> <p>It is unclear which related specialist studies have been integrated into the SIA findings. These should be clearly listed in the 'Study Approach and Methodology' Section.</p> <p>Recommended Actions</p> <p>Provide some more detail in Section 1.4 about the primary and secondary data sources. Complete the reference list to include secondary and primary sources.</p> <p>Undertake interviews with selected key informants to support some of the findings and corroborate the assessment. For example:</p>	<p>Reference list complete refer to Chapter 8.</p> <p>Interviews undertaken with key informants listed in Chapter 8.</p>

DEA Questions	Adequacy (1-5)	Comment	Actions Taken
		<p>o Speak to a Planner regarding historical and future anticipated growth. Discuss possible reasons for historic and future growth trends, preferred locations for settlement by migrants, social problems that arise, pressure on infrastructure, strategies to address social problems and pressure on infrastructure, etc. The baseline refers to numerous planned infrastructure projects – explore whether these are designed to address current and/or future demand and what percentage growth they are planning for. Speak to a social worker or clinic representative to explore current/ growing social ills and the reasons for these problems. Other potential respondents may include an IDP Manager and Ward Councillors.</p> <p>Clearly state the related specialist reports that were used to inform the SIA.</p>	Provided in Section 1.4.
Are the findings acceptable, and scientifically defensible (review data evidence)?	4	Findings	
		<p>The baseline and impact findings are based on available secondary data and feedback from the public consultation process. Social conditions and potential socio-economic impacts are not static and can be difficult to predict given that human issues, interests and motives are ever-changing. The Social Specialist has based the assessment on available data, reflection on similar projects in the area, and professional judgement. Feedback from key informants (as identified above) will add credibility to the findings presented in the SIA.</p>	
		Recommended Actions	
		Undertake key informant interviews with respondents that will support the baseline findings and impacts identified. Incorporate their views into the text, as required.	Interviews undertaken with key informants listed in Chapter 8.
Are the mitigation measures and recommendations on measures appropriate?	3	<p>Findings</p> <p>Generally, the enhancement and mitigation measures are adequate and suit the scale and significance of the impacts identified and described. Some gaps have been identified.</p> <p>Impact 1: ‘Employment Creation, Skills Enhancement and Local Business Opportunities’ (construction and decommissioning) – there are no enhancement measures provided to address local business opportunities. There are limited measures proposed to develop and build skills of the workforce.</p> <p>Impact 2: ‘Impact on Community Health and Safety’<sup>2</sup> (linked to influx of job-seekers) – the mitigation measures are vague and will not serve to reduce the significance of the impact as</p>	

DEA Questions	Adequacy (1-5)	Comment	Actions Taken
		proposed. Consider including [recommended] measures that aim to collaborate with the authorities/ other industries to address the impact, etc. It is difficult to include mitigation measures that require partnerships with other parties given that it is not possible to enforce other parties to participate. Also, rethink the reduction in the post-mitigation significance rating - it is extremely difficult to manage indirect impacts.	
		<p>Ensure that the pressure on existing social infrastructure and services is assessed, then add mitigation measures that aim to alleviate the pressure; e.g. through Corporate Social Responsibility initiatives, partnerships with authorities/ other industries.</p> <p>No standalone visual impact assessment was undertaken for this Project. The Social Specialist has used a view shed analysis produced by ERM to discuss the visual impact as it affects the general sense of place of the area. No mitigation measures have been provided to minimise the negative visual impact on the sense of place.</p>	
		<p>Recommended Actions</p> <p>Consider including enhancement measures to address the growth of local business opportunities.</p> <p>Reflect on, and potentially add, measures to build skills of the local workforce.</p> <p>Once the impacts related to community health and safety and the increased pressure on infrastructure and services have been refined, update the mitigation measures to adequately address each impact.</p> <p>Consider categorising the mitigation measures into those that are required and those that are recommended. Mitigation measures that address indirect and induced impacts will require the cooperation of the authorities, surrounding industries and other third parties; it is not possible to enforce their cooperation. As such, these should be recommended.</p> <p>Add mitigation measures to reduce the visual impacts of the proposed Project.</p>	<p>Additional management measures included.</p> <p>Impact of social infrastructure and services has been refined as suggested by peer reviewer.</p> <p>Additional mitigation measures included. Post-mitigation to remain moderate.</p> <p>Mitigation measures to address visual impact have been included.</p>
Is the literature referenced in the report appropriate?	3	<p>Findings</p> <p>There are references throughout the text. The references appear to be relevant, up-to-date, and varied.</p> <p>At the time of the review, the reference list was incomplete. The Social Specialist is in the process of compiling it.</p>	

DEA Questions	Adequacy (1-5)	Comment	Actions Taken
		<p>Recommended Actions</p> <p>Complete the reference list to include all secondary sources used in the text, including the related specialist studies. The list should also clearly indicate all primary sources interviewed, including their designations.</p>	<p>Reference list complete refer to Chapter 8.</p> <p>Interviews undertaken with key informants listed in Chapter 8.</p>
Is the article well-written and easy to understand?	3/4	<p>Findings</p> <p>The SIA is generally well-written, logical and the points are made clearly. There are a number of minor errors that can be addressed by a final internal review and edit.</p> <p>There is some repetition of text and sections that are similar and could benefit from being merged. Notably, the 'Project Motivation' and 'Policy and Planning Framework' sections are very similar and would serve to simplify the report, if merged.</p> <p>The project description has been taken from the EIA Report. There are references and links to information that have been cut out of the full version. The project description needs to be reviewed and refined to ensure it is complete and readable.</p> <p>The 'Cumulative Impact' and 'Key Findings and Recommendations' sections need to be updated to reflect the revised impacts.</p>	
		<p>Recommended Actions</p> <p>Once all final comments are addressed, the SIA would benefit from a final internal review and edit to address spelling and grammar mistakes, inconsistencies, and review of additions. Pay particular attention to the 'Project Description'.</p> <p>Consider merging the 'Project Motivation' and 'Policy and Planning Framework' sections to improve the read and simplify the report.</p> <p>Update the 'Cumulative Impact' and 'Key Findings and Recommendations' to reflect the revised impacts.</p>	<p>Project description has been refined.</p> <p>'Project Motivation' and 'Policy and Planning Framework' sections have been merged.</p> <p>Key Findings and Recommendations and Cumulative Impact sections have been updated.</p>
Are there any shortcomings to this study, if yes, please describe?	3	<p>Findings</p> <p><u>Project Description:</u> The Project is located on 2 properties that are both owned by ArcelorMittal. There is no illustration of these properties; it would be useful to see the placement of the proposed project on the ArcelorMittal-owned land. This would serve to demonstrate that key impacts (notably nuisance factors) are limited to ArcelorMittal land. This is not essential but</p>	

DEA Questions	Adequacy (1-5)	Comment	Actions Taken
		<p>would add value.</p> <p>The project aspects that may have social consequences need to be covered systematically for each project phase. For example: there is no information about worker accommodation for either phase; there is no information about traffic or employment for the operational phase; and information about water, power, sewerage, etc. need to be covered clearly for each phase.</p> <p>The route of the pipeline is not described in the 'Project Description'. It is important to describe the land use types and activities that may be affected by the pipeline. It is possible that the proposed pipeline will be located in existing servitudes and on ArcelorMittal-owned land, however the relevant information is not provided.</p> <p><u>Baseline Description:</u> Section 5.6.2 'Livelihoods and Economy' presents the contribution of the various economic sectors. The figures indicate that the most and least dominant economic activities in the WCDM and SBLM are almost exactly opposite. This point needs to be made more clearly, it is currently left up to the reader to determine this.</p>	
		<p>In Section 5.6.2, it is not clear how or why only some sectors are discussed in greater detail, and not others. For example, despite the Finance sector being the most dominant in the SBLM, it is not discussed further; and the sub- category of agriculture is not discussed despite the relevance for this study. Tourism is discussed in detail (as it should be) but it is not quantified as one of the contributors to the economy – it is possibly subsumed into 'catering and accommodation'. Be consistent when presenting detailed information about WCDM and/or SBLM for the sectors; currently this is not consistent. Describe the sectors in a logical order and make that logic clear for the reader.</p> <p><u>Impact Assessment:</u> Impact 2: 'Impacts on Community Health and Safety' – the text in this impact is currently confused (and very repetitive in places). The text refers to the impact being about 'community health and safety', and sometimes to 'the increased pressure on infrastructure and services'; both of which are important and should not be omitted. They may need to be addressed as separate impacts.</p> <p>Impact 2 is separated into impacts resulting</p>	

DEA Questions	Adequacy (1-5)	Comment	Actions Taken
		<p>from workers and those resulting from job-seekers; there is no mention of the contribution of the project activities themselves to the impact. For example, the increased pressure on social infrastructure and services as a result of direct project activities has not been assessed, or scoped out. The baseline indicates that there are various infrastructure/ service upgrades, presumably due to an existing lack of capacity. The Project itself could further exacerbate the problem.</p> <p>Impact 2 also addresses the impact of air emissions on health. The Air Quality (AQ) Assessment assessed this impact on human health and found that the impact is negligible due to low level emissions and no sensitive receptors in proximity to the source (with the exception of those located along the roads). The impact should not be reassessed here. The findings of the AQ Study should be used to inform the impact on nuisance factors/ Sense of Place.</p> <p>The impact assessment does not assess the potential impacts linked with the construction and operation of the pipeline. Depending on the pipeline route (not described in the 'Project Description'), there may be loss of agricultural land, or similar. It is possible that the pipeline will run in existing servitudes or over ArcelorMittal land. In the absence of a description or map, it is difficult to determine.</p> <p>The 'Cumulative Impact' and 'Key Finding' sections need to be updated to reflect the impacts identified and described.</p>	
		<p><b>Recommended Actions</b></p> <p>Include a map showing the placement of the proposed project on ArcelorMittal- owned land. This would add value but is not essential.</p> <p>Update the 'Project Description' to ensure it is relevant for the SIA. Include all relevant information to support social impacts for all pertinent project phases (e.g. traffic, employment, worker accommodation, use of social infrastructure).</p> <p>Elaborate on, and potentially restructure, Section 5.6.2 to more accurately reflect the economic contributions of the various sectors and to illustrate the relative importance of each. Include more detailed descriptions of the 'finance' and the 'agricultural' sectors given their importance in the SBLM.</p>	<p>Project description has been updated and refined.</p> <p>Section 5.6.2 has been restructured as suggested.</p>
		Review and restructure Impact 2: 'Impacts on	Impact of social

DEA Questions	Adequacy (1-5)	Comment	Actions Taken
		<p>Community Health and Safety' in a manner that addresses the findings above. The impact focus needs to be clarified. Ensure that the increased pressure on infrastructure and services is also assessed. The impacts of the direct project activities (including workers) and the indirect influx of job-seekers must also be covered; as related to each of the defined impacts.</p> <p>The impact on human health due to emissions should not be repeated in the SIA as it was assessed in the AQ study. Incorporate the findings into the impact on nuisance factors/ sense of place – as relevant for the social receptors.</p> <p>Describe the route of the pipeline and the land uses and activities that will be affected. As required, describe and assess the associated construction and operation phase impacts of the pipeline. If the pipeline traverses ArcelorMittal-owned land only, then the impacts will be limited; however, these should be mentioned and scoped out (this may have been clear in the Scoping Report<sup>3</sup>).</p> <p>Update the cumulative impact section to reflect the identified impacts.</p>	<p>infrastructure and services has been refined as suggested by peer reviewer.</p> <p>Key Findings and Recommendations and Cumulative Impact sections have been updated.</p>