# ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED NEW ESKOM COAL-FIRED POWER STATION PROJECT (MATIMBA B) IN THE LEPHALALE AREA, LIMPOPO PROVINCE: PUBLIC PARTICIPATION PROCESS

### LIMPOPO PROVINCE AUTHORITIES FOCUS GROUP MEETING 28 JUNE 2005 10:00

### OFFICES OF THE LIMPOPO TREASURY, POLOKWANE

### DRAFT MINUTES

### 1. INTRODUCTION

Ms Karen Kück, as facilitator, welcomed the attendants to the focus group meeting regarding the proposed new coal-fired power station in the Lephalale area, Limpopo Province. She indicated that the meeting proceedings would be minuted for record purposes. An attendance register is attached in Appendix A.

She explained that an Environmental Impact Assessment (EIA) process has two phases. Issues will be identified and investigated in the first phase, namely the Scoping Phase. These issues would then be assessed in more detail during the detailed Environmental Impact Assessment phase. The purpose of this session was therefore to explain the proposed project to the representatives of the various provincial Departments, and to identify issues, comments and concerns that are relevant and which should be further assessed in detail during the detailed EIA phase.

The purpose of the meeting was to:

- Provide information regarding the proposed Matimba B project;
- Provide a brief overview of the Environmental Impact Assessment (EIA) and Public Participation process;
- Provide an opportunity to seek clarity on the project;
- Record issues, comments and concerns raised; and
- For interaction with the project team.

Karen Kück introduced herself, being from Bohlweki Environmental, the independent consultants appointed to undertake the EIA. She introduced the following members of the project team:

- Mr Tony Stott: Generation: Senior manager stakeholder management
- Ms Deidre Herbst: Generation: Environmental manager
- Mr Nigel Volk: Project manager this phase of the project

Apologies were received from Mr G Ambani from the Department of Minerals and Energy. The proposed agenda was approved without amendment.

### 2. OVERVIEW OF ELECTRICITY DEMAND AND SUPPLY SITUATION

Mr Tony Stott provided more information on:

- The concept of electricity;
- Energy and electricity supply in South Africa;
- Eskom's existing power stations;
- The electricity demand and supply in South Africa;
- Eskom's installed capacity; and
- The planning processes undertaken by Eskom and the Department of Minerals and Energy, the National Integrated Resource Plan (NIRP) and the Integrated Strategic Electricity Plan (ISEP).

In addition he referred to the decision-making processes to be undertaken by Eskom Holdings and technology options investigated by the organisation. This presentation is included within Appendix B.

### 3. NEW COAL FIRED POWER STATION IN THE LEPHALALE AREA

Eskom's need for a new power station and the use of coal as the fuel for this power station was addressed by Mr Nigel Volk. He stressed that Eskom Holdings use the term Matimba B, but that the name could be changed in future if the project was approved. The potential source of coal could come from the Grootegeluk Mine of Kumba Resources, which supplies the existing power station.

He provided more information regarding the following:

- Matimba B decision process within Eskom;
- The process followed to identify the priority site;
- The pre-feasibility findings;
- The major activities involved in the feasibility study;
- The major assumptions and the major decisions to be made by Eskom in the short term with regards to the construction of a new coal fired power station in the Lephalale area;
- The aspects taken into account with sites investigated for the Matimba B siting;
- Technical details of the power station;
- The proposed schedule and expenditure; and
- Benefits to the Limpopo Province and Lephalale.

This presentation is included within Appendix B.

### 4. EIA AND PUBLIC PARTICIPATION PROCESS

Ms Karen Kück explained that Eskom Holdings appointed Bohlweki Environmental as independent consultants to undertake the EIA. The project team consisted of a host of specialists chosen due to their experience in the Limpopo Province and/or discipline. She discussed the following issues:

- Why the environmental studies are needed;
- The identification and assessment of the potential environmental impacts (biophysical and social);
- The location of the alternatives assessed in the Scoping phase;
- The public participation process;
- Key project information;
- The aims of the environmental Scoping study;
- The EIA process that would be undertaken; and
- The specialist studies.

This presentation is included within Appendix B.

### 5. DISCUSSION SESSION

Ms Karen Kück opened the discussion session and invited the attendees to raise their views and comments. The following questions were addressed during the discussion session:

- Tsunduka Hatlane (Limpopo DEDET) enquired how many units the existing Matimba A station currently operates.
   Nigel Volk stated that six 600 MW units are installed and operate at the existing Matimba Power Station.
- Tsunduka Hatlane (Limpopo DEDET) stated that the presentation indicated that the eastern side of the existing power station unsuitable for the second station due to the dominant wind direction. He enquired what the impact in terms of air pollution is from emissions from the coal mine and Matimba A, and if these emissions are within the limits. In addition, what would be the effect with a second power station.

Nigel Volk advised that the potential positions of the station were determined by the potential thermal effect of the stations on one another.

Deidre Herbst advised that Eskom have run baseline air quality studies for Matimba A, and that air quality assessment with the mine have been undertaken. An implementation plan is being put in place by Eskom for the existing identified impacts. • Tsakani Khosa (Department of Land Affairs) enquired if the properties identified for possible development are state-owned or privately-owned properties.

Karen Kück advised that three properties are owned by Kumba Resources, one by Eskom Holdings, and the remainder are privately-owned. None of the properties are state-owned.

 Gerhard Engelbrecht (Department of Agriculture) advised that there are discussions regarding the inclusion of the farm Peerboom into the town planning scheme, and the extension of Marapong township in this direction. He enquired if this extension was considered in terms of the dominant wind direction and the proposed new substation.

Nigel Volk advised that the eastern side of the existing power station is not considered desirable due to the potential for heat to be generated by the new station, and the possible effects this could have on the existing station, should the new station be down-wind of Matimba A.

Deidre Herbst advised that the cumulative air quality assessments considered Peerboom, and that these studies contributed to the initial selection of sites for Matimba B.

Nigel Volk advised that the dominant wind direction blows approximately 60% of the time from the direction of Marapong.

- Gerhard Engelbrecht (Department of Agriculture) enquired if Eskom would purchase the entire farm, considering the proposed footprint of such a plant. Nigel Volk responded that Eskom would consider the purchase of an entire farm. He advised that the properties under consideration are approximately 1000 ha each, and that the area required for the power station is approximately 700 ha. The development would there fit comfortably on a farm.
- Gerhard Engelbrecht (Department of Agriculture) stated that if the farm/land is zoned for agricultural use that a change in land use would be required to be applied for in terms of legislation. He advised that this area would not wish to lose high potential agricultural land for non-agricultural use. Should any subdivision take place, the remaining extent would be required to remain viable. In this area, between 700 – 800 ha is considered a viable portion.

Tony Stott advised that Eskom lease portions of land not utilised by Eskom, but owned by Eskom, for grazing purposes.

• Tehagala Ngoasheng (DWAF) enquired if studies are being undertaken regarding water resources, and if Eskom would be applying for a water use licence for Matimba B.

Karen Kück advised that the environmental impact assessment includes potential impacts on quality and quantity of water resources. She also advised that Eskom are a strategic water user. Eskom would be required to apply for a water use licence, but that that would an action outside of the EIA process.

- Tehagala Ngoasheng (DWAF) enquired if Eskom would consider Matimba A and Matimba B as a "complex", and therefore apply for a single licence for both together. He advised that DWAF would prefer a single licence application from Eskom for their water use.
- Tsunduka Hatlane (Limpopo DEDET) enquired if there is a memorandum of understanding between Eskom and Kumba Resources in order for in-pit ashing to be an option.

Nigel Volk advised that activities within the Kumba pit would be viewed as a mining issue, and would require Kumba to take it further.

Deidre Herbst acknowledged that licenses would be required from various departments in order to take the proposal further.

- Tsunduka Hatlane (Limpopo DEDET) enquired if there are sufficient coal reserves at Grootegeluk to support two power stations.
   Nigel Volk advised that Kumba Resources have researched the availability of the resource, and have assured at least 35 years of coal for supply to Eskom.
- Tsunduka Hatlane (Limpopo DEDET) enquired what the distance between the mine and the sites are for the movement of coal.
   Nigel Volk advised that Eenzaamheid would be the greatest distance away from the mine, but that that an average conveyor distance of approximately 4-6 km could be expected.
- Gerhard Engelbrecht (Department of Agriculture) enquired if Eskom would source their required water supply from Mokol Dam. He enquired if it would then be required to augment supply to Mokol Dam. He stated that two power stations relying on one source would not be considered ideal. From his perspective, he would prefer to see dual sources of water supply. He enquired what the Irrigation Board's concerns are regarding the proposed project.

Tehagala Ngoasheng (DWAF) advised that DWAF are currently undertaking studies on the Mokol Dam and the need for the supply to the dam to be augmented.

 Tsunduka Hatlane (Limpopo DEDET) enquired how the waste generated at the site during the construction and operation phases will be dealt with.
 Karen Kück advised that waste management issues will be considered through the EIA and EMP. Deidre Herbst advised that Eskom would utilise existing permitted landfill sites for disposal.

- Tsunduka Hatlane (Limpopo DEDET) advised that a letter of consent from the municipality may be required in terms of use of their landfill site
- Donald Lithole (SAHRA) advised that SAHRA often experience problems that the description of the heritage of the area is often poorly addressed, and that this then delays their process of review. He advised that the heritage studies are often considered at a broad level, and the finding then reflect that there is nothing of significance. This results in SAHRA becoming suspicious, and they then complete their own investigations in order to verify the results. This can delay the process. He requested that the heritage assessment provide a clear description of sites. He stated that heritage preservation is of national importance, and that they rely on objective consultants to provide SAHRA will all the information they require in order to make an informed decision. He requested that the heritage consultant provide as much detail as possible, as SAHRA would prefer to be able to send a team to rescue items of interest before they are lost through development. He advised that a heritage consultant (Dr Gistle) has undertaken a general survey of the Waterberg area, and that he could be consulted for information.
- Tsunduka Hatlane (Limpopo DEDET) advised that he was aware the National DEAT had viewed the sites. He enquired when the Provincial authorities could visit the sites, and requested DWAF to attend the site inspection with DEDET. Karen Kück advised that the provincial representatives had to unfortunately turn down the invitation to attend the site inspection with National DEAT as there was a provincial department meeting on during that week. A second site meting would be arranged for the relevant provincial Departments to attend.
- Donald Lithole (SAHRA) advised that water bodies are often used for spiritual or religious actions, and that this should be considered by the HIA consultant.

### 6. WAY FORWARD

All were thanked for the contributions at the meeting. The minutes of the meeting would be distributed to those that attended the meeting.

The meeting was closed at 11:30.

**APPENDIX A** 

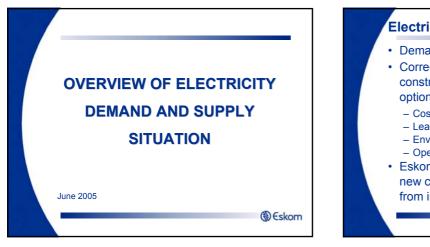
ATTENDANCE REGISTER

#### Attendance Register EIA for the Proposed Established of a new Coal-fired Power Station in the Lephalale Area Limpopo Province Authorities Meeting held at the Offices of the Limpopo Treasury, Polokwane 28 June 2005 at 10:00

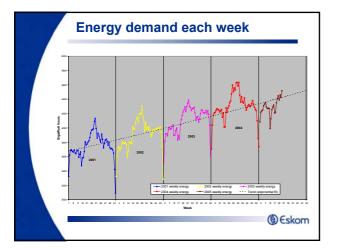
				-	26 June 2005 a		Postal				
Title	First Name	Surname	Institution / Company	Position	Address 1	Address 2		Telephone	Cellphone	Fax	email
Mr	Gerhard	Engelbrecht	Nat. Dept of Agirculture	Land Use and Soil Manager	Box 3620	Polokwane	0700	015 295 4175	083 277 8745	015 291 1936	
Mrs	Violet	Baloyi	Nat. Dept of Agirculture	Land Use and Soil Management	Box 3620	Polokwane	0700	015 295 4175/6	083 492 8422	015 291 1936	
Mr	Donald	Lithole	SAHRA	Acting Manager	Box 1371	Polokwane	0700	015 291 1804	073 149 1628	015 291 1819	sahranp3@mweb.co.za
Ms	Tsakani	Khosa	Dept. of Land Affairs	Lephalale District Project Officer	P/Bag X9312	Polokwane	0700	015 297 3539	082 827 6205	015 297 1815	tekhosa@dla.gov.za
			Dept. of Economic								
Mr	Tsunduka	Hatlane	Development and Tourism	Dept. ManagerEIM Dierector	Box 217	Polokwane	0700	015 295 9300		015 295 5015	hatlanetn@ledet.gov.za
			Dept. of Roads and Public								
Mrs	Bonnie	Bailey	Transport	Professional Services	P/Bag X9491	Polokwane	0700	015 293 1132	083 626 6376	015 293 1730	baileyb@worptb.norprov.gov.za
				Assistant Director Water Quality							
Mr	T E Magala	Ngoasheng	DWAF	Management	P/Bag X9506	Polokwane	0700	015 290 1267	083 690 5582		ngoashengt@dwaf.gov.za
				Principal Water Pollution Control							
Mrs	Patience	Makgoka	DWAF	officer:Water Quality Management	P/Bag X9506	Polokwane	0700	015 290 1310	083 640 5583	015 295 3249	makgokap@dwaf.gov.za
				Water Pollution Control Officer							
Miss	Margaret	Ledwaba	DWAF	(Lephalale Catchment)	P/Bag 9506	Polokwane	0700	015 290 1259	082 903 4588	015 295 3249	ledwabam@dwaf.gov.za
Mr	Tony	Stott	Eskom Generation	Senior Manager Stakeholder							
Mr	Nigel	Volk	Eskom Generation	Project Manager							
Ms	Deidre	Herbst	Eskom Generation	Environmental Manager							
Ms	Karen	Kuck	Bohlweki Environmental	EIA Project Manager							

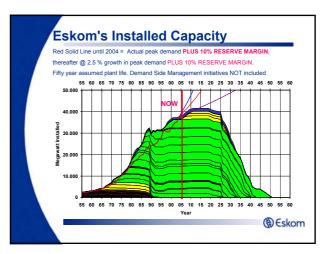
**APPENDIX B** 

# PRESENTATIONS







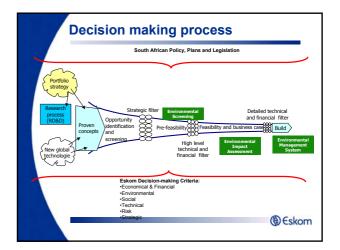


### Planning

- The Integrated Energy Plan is developed and published under the auspices of the Government: Department of Mineral Affairs and Energy (DME)
- The National Integrated Resource Plan (NIRP) is developed and published under the auspices of the National Electricity Regulator (NER)

( Eskom

 The Eskom study of electricity demand and supply is called the Integrated Strategic Electricity Plan (ISEP)

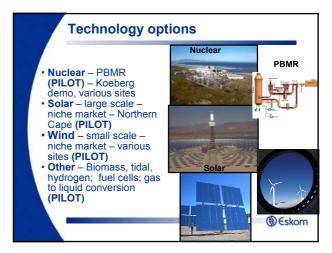


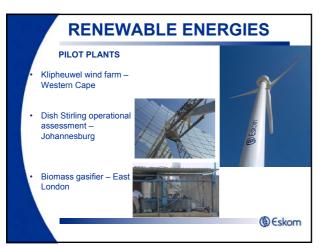
### Demand side management

- Industrial Process improvements, Efficient equipment (eg. motors), Load control systems in conjunction with dynamic pricing signals
- Residential Efficient lighting initiative, Residential hot water load control, Insulation of houses, Time-of-Use Tariff
- Commercial Energy efficiency and load management, Efficient lighting, air conditioning and water heating
- NER policy sets target at 152 MW savings per annum and in 2004 DSM achieved 197 MW savings (anticipated to be approximately 300,000T CO<sub>2</sub>)
   Demand Market Participation



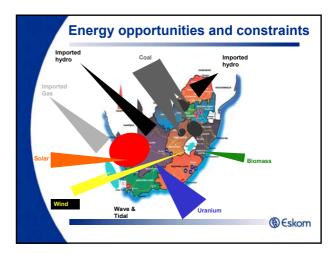
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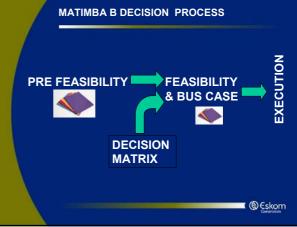


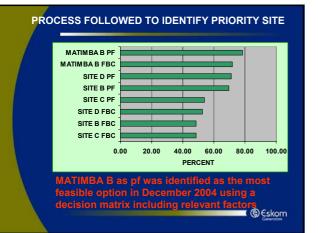
#### Energy Resources in South Africa Resource SA Reserves (x10<sup>9</sup> Megajoules) 1 298 000 Coal 3.6MJ =1kilowatt hour Uranium 157 853 1 standard bulb @ 10 hours Crude Oil 1 920 Domestic Natural gas 1 4 1 8 (does not include new un-quantified finds off South African west coast) 3 500 Coal Bed Methane Hydro 20 per vear Renewables Unscheduled, dilute but substantial energy Wind Solar sources. Assessment of South African resources being researched Ocean Biomass 270 per year Waste 54 per year Source: Energy Research Institute, UCT ( Eskom













#### Identified:

Cost of production is lowest of all options for base load Coal price is competitive Land available in vicinity of mine No fatal flaws identified during Environmental screening Potential to ash back into the mine pit Potential to use synergies with Matimba in certain cases Coal properties well known due to Matimba experience

#### MAJOR ACTIVITIES INVOLVED IN FEASIBILITY STUDY

- Environmental Process (Site and Transmission)
- Establish exhaustive User Requirement Specifications
- Develop Function Specs
- · Finalise site selection
- · Macro economic studies
- Water issues finalised
- · Coal supply negotiated

#### MAJOR ASSUMPTIONS

- 2100 MW PF (potential expansion to a maximum of 4800 MW at later stage)
- Dry Cooled
- ZLED
- · Supply of coal local to station
- · Separate site to Matimba
- 50 year life
- Install only proven technologies
- · Site not in line with critical wind directions of Matimba

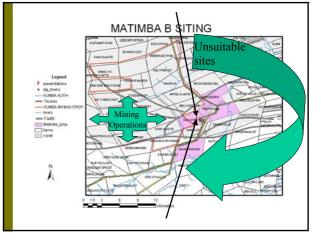
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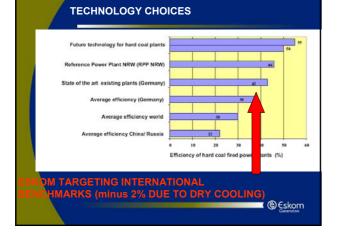
#### MAJOR DECISIONS IN THE SHORT TERM

- Identified 4 possible sites for potential new power station
- Identified 4 possible sites for ashing site if not possible to ash to mine pit
- Identified at least two different technologies for cooling – both "dry" systems

(B) Eskom

Shared resources with Matimba to be determined by economics







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#### SIZE OF THE POWER STATION

- Currently studying feasibility of 3 x 700 MW PF machines for phase 1
- Phase 2 could be an extra 3 x 700 MW PF sets or alternatively 6 x 350 MW FBC (Fluidised Bed Combustion) machines.
- Transmission System requirements will influence decision wrt unit size

- Electricity load growth will determine timing
- Actual technology used for phase 2 will be influenced strongly by economics as well as environmental and technical issues.

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#### SCHEDULE

· Feasibility: Evaluated during 2005. Includes

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Site selection

AND TECHNICAL

BENEFITS

- Fuel and water evaluations
- EIA
- Engineering
- Decision: Early 2006 if possible
- First activity on site: Early 2007
- First machine in production: 2010

#### EXPENDITURE

### Phase 1 Expenditure:

Feasibility studies approximately R100 M
 Cost of construction approx. R20 000 M

Phase 2 Expenditure:

 Cost of construction approx. R20 000 M
 Note: All costs in 2005 Rands

A large percentage of the expenditure will go toward the purchase of sophisticated equipment from international suppliers. However significant opportunities exist for local suppliers in areas of civil, electrical and ancilliary equipment

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#### BENEFITS TO LIMPOPO PROVINCE AND LEPHALALE

- Long term employment at power station (250 500 staff members)
- · Long term employment at the mine
- Significant employment in the project phase (several thousand jobs in the immediate area (and Gauteng) in the short term, probably peaking in 2010)
- · Supply contracts to the power station

Ceskom

### CONCLUSION

- Construction of new power station could start by 2007 to supply power to the grid by 2010
- Potential economic benefits to the area should be significant
- Water consumption will be limited to a minimum by use of "dry cooling"
- Latest technology utilised in the power station should ensure optimised environmental impact and minimum cost to the consumer

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Ceskom



# CONDUCT OF THE MEETING

- Language of choice
- Work through the facilitator
- Focus on issues
- Equal participation
- Identify yourselves

## AGENDA

- Welcome & Apologies
- Eskom's Integrated Strategic Electricity Planning (ISEP) process
- Brief overview of the new power station project
- Outline of EIA and Public Participation Process
- Discussion Session

# PURPOSE OF TODAY'S MEETING

- Provide I&APs with information regarding the proposed Matimba B Project
- Provide a brief overview of the Environmental Impact Assessment (EIA) & public participation process for the proposed project
- Provide an opportunity for I&APs to seek clarity on the project
- ▶ To record issues, comments & concerns raised
- For interaction with the project team



## ENVIRONMENTAL STUDY REQUIREMENTS

- Listed activity in terms of the EIA Regulations
  - Item 1 (a) the construction of facilities for commercial electricity generation with an output of at least 10 megawatts and infrastructure for bulk supply, and
  - Item 2 a change in land use.
- ECA and NEMA

# WHY ARE ENVIRONMENTAL STUDIES NEEDED?

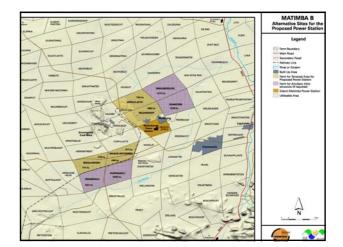
- Identify and assess potential environmental impacts (biophysical & social)
- Propose mitigation & management measures
- Authorisation from National & Provincial DEAT
- Inform project planning process

# EIA PROCESS FOR THE PROJECT

- Phase 1: Environmental Scoping Study (ESS)
- Phase 2: Environmental Impact Assessment (EIA)
- Environmental Management Plan (EMP)
- Public participation process ongoing

# KEY PROJECT INFORMATION

- A new coal-fired Power Station is proposed maximum capacity of ~ 4 800 MW
- Second power station not an extension of Matimba Power Station
- Footprint is approximately 700 ha for the power plant
- Approximately 500 1000 ha required for the ancillary infrastructure such as ash dump (if required).
- EIA will assist in determining the range of technologies pertaining to cooling, combustion and pollution abatement to be used



## ALTERNATE SITES FOR INVESTIGATION

- Farm Appelvlakte: Kumba Resources
- Farm Nelsonskop: Kumba Resources
- Farm Eenzaamheid: Privately owned
- Farm Naauwontkomen: Kumba Resources
- Farm **Droogeheuwe**l: Privately owned
- Remainder of the farm Zongezien: Eskom Holdings
- Portion 1 and remainder of the farm Kuipersbult: Privately owned
- Farm Kromdraai: Privately owned

# AIMS OF THE ENVIRONMENTAL SCOPING STUDY

- Identify & evaluate potential benefits & negative environmental impacts
- Evaluation of site alternatives
- Public Participation (informed of the project and opportunity to raise concerns about the project)
- Nomination of a preferred site for further investigation within an EIA (taking the economic and technical issues into account)
- Make recommendations regarding studies required within the detailed EIA

# EIA PROCESS

- Environmental Impact Assessment
  - Assess impacts of significance
  - Detailed Specialist Studies
  - Detail mitigation & management measures
  - Public Involvement (issues recorded)
- Draft Environmental Management Plan

### SPECIALIST STUDIES

- Surface & groundwater: GCS
- Ecology & flora:
- Terrestrial fauna:
- Soils & agriculture:
- Heritage:
- Air guality:

Bathusi Environmental

- Bathusi Environmental
- ARC: Institute for Soil, Climate and Water
- National Cultural History Museum

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# SPECIALIST STUDIES

- Noise Impacts:
- Land Use:

Social impact:

- Tourism:
- Visual:

Transport:

SiVEST MetroGIS Goba

Plan Practice

Afrosearch

Jongens Keet and Assoc.

### PUBLIC PARTICIPATION PROCESS: OBJECTIVES

- Inform I&APs of the project
- Promote an understanding of the project
- Promote transparency
- Structure for liaison & communication
- Opportunity for input regarding environmental (biophysical & social) impacts

   highlight issues of concern

### PUBLIC PARTICIPATION PROCESS

- Undertaken in terms of EIA Regulations
- Process includes:
  - Advertising the EIA process
  - Registration of I&APs
  - Consultation with I&APs focus groups, public meetings, key stakeholder workshops, individual discussions etc.
  - Record issues within an Issues Trail inform studies & included in the Scoping Report
  - Public review of Scoping Report

## RESPONSIBILITIES OF I&APS IN EIA PROCESS

- Register on project database
- Provide input and comments during the process
  - Identify issues
  - Review & comment on draft Scoping Report
  - Review & comment on the draft EIA report
- Provide input and comment within specific timeframes

# THE WAY FORWARD

- Compilation of draft Scoping Report
- Draft Scoping Report available in public places for review (30-day period)
- Inclusion of I&AP comments in Final Scoping Report
- Submission of Final Scoping report to National & Provincial DEATs
- Authority review
- Comments and approval to undertake EIA

# CONTACT DETAILS

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