



Presentation: Establishing an IPP in South Africa- EcoEmfuleni Cogen IPP SAPP Conference - June 2006

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Presentation Outline

- Introduction
- History
- Purpose
- Benefits
- Basic Project Details:
 - Technical
 - Location
 - Owners
 - Developer
 - Structure
 - Funding & Off-Take
 - Status & Timetable
- Remaining Challenges





Introduction

- After decades of surplus generation capacity South Africa need to build new power stations.
- Faster than expected economic growth means that new power stations with a relatively short lead time are preferred.
- Tighter environmental legislation and regulation created the need for companies to review the way they treat their waste gas.
- The above all serve as key drivers for the establishment of a waste-gas-to-electricity-plant at Mittal's steel plant near Vanderbijlpark South Africa





History

- The idea to use waste-gases for electricity production was mooted about five years ago
- Mittal Steel at the time initiated a study to determine the viability of such a power plant.
- Due to mainly the relatively low cost of electricity the project was considered unfeasible.
- In December 2003, Eco-Electrica assisted by its EPC contractor Bateman Africa approached Mittal Steel to revive interest in this venture.
- In addition Eco-Electrica applied for and was granted a conditional license for this project by the National Electricity Regulator (NER).





Purpose

- The Mittal steel plant in Vanderbijlpark produces three streams of waste gas:
 - Blast furnace gas
 - Coke oven gas
 - Basic oxygen furnace gas
- The purpose of the project is to stop wasteful flaring of the gas and to rather harness the gas energy content for the production of electricity.





Benefits

- New generation capacity and energy when it is needed
- Lower fuel price volatility if compared to other fossil fuel plant (coal, gas, diesel, oil, etc.)
- Lower overall cost if compared to new plant
- Reduced environmental impact
- Production of clean power with no incremental fuel emissions or greenhouse gases
- Generation of emission credits.
- Improved quality of supplier



Project Details: Technical

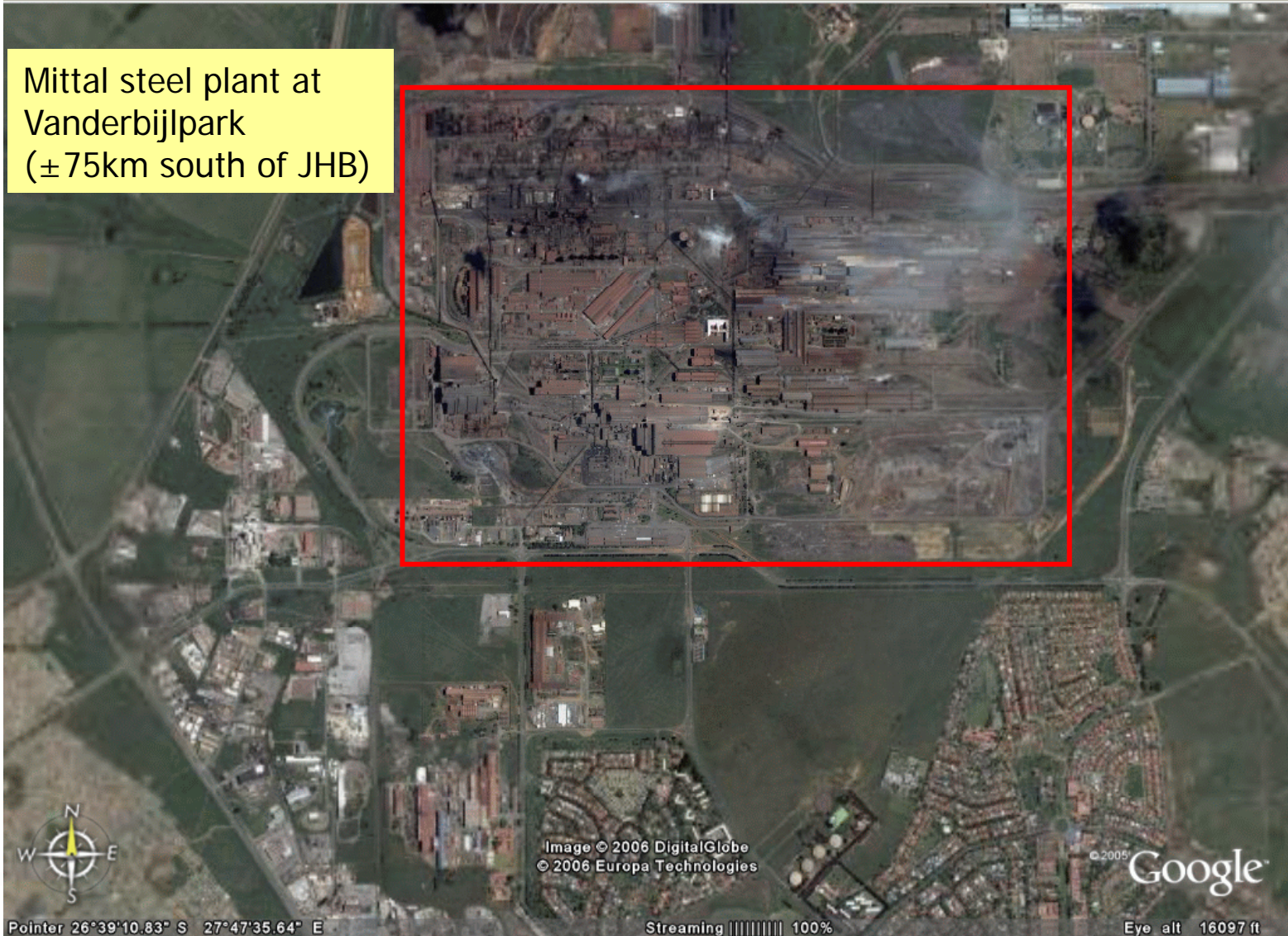
- Size: 115 MW (approximate)
- Fuel: Waste gas from steel plant
 - Currently some of the gas is burned in a 23 MW boiler while the rest is flared
 - The existing boiler will be de-commissioned
- Technology: Conventional steam boiler
- Operation: Plant to operate in base load mode
- Site: Next to Mittal's steel plant in Vanderbijlpark, South Africa
- Connection: Plant will be coupled to Eskom's substation near the steel plant



Project Details: Location

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Mittal steel plant at
Vanderbijlpark
(± 75km south of JHB)



June 2006

Pointer 26°39'10.83" S 27°47'35.64" E

Image © 2006 DigitalGlobe
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Project Details: Owners

- The project will be majority owned by Eco-Electrica
 - Eco-Electrica is a black female owned company dedicated to the development and establishment of energy projects.
- Bateman South Africa will hold the remaining shares
 - Bateman Projects Limited is an Engineering, Procurement and Construction company



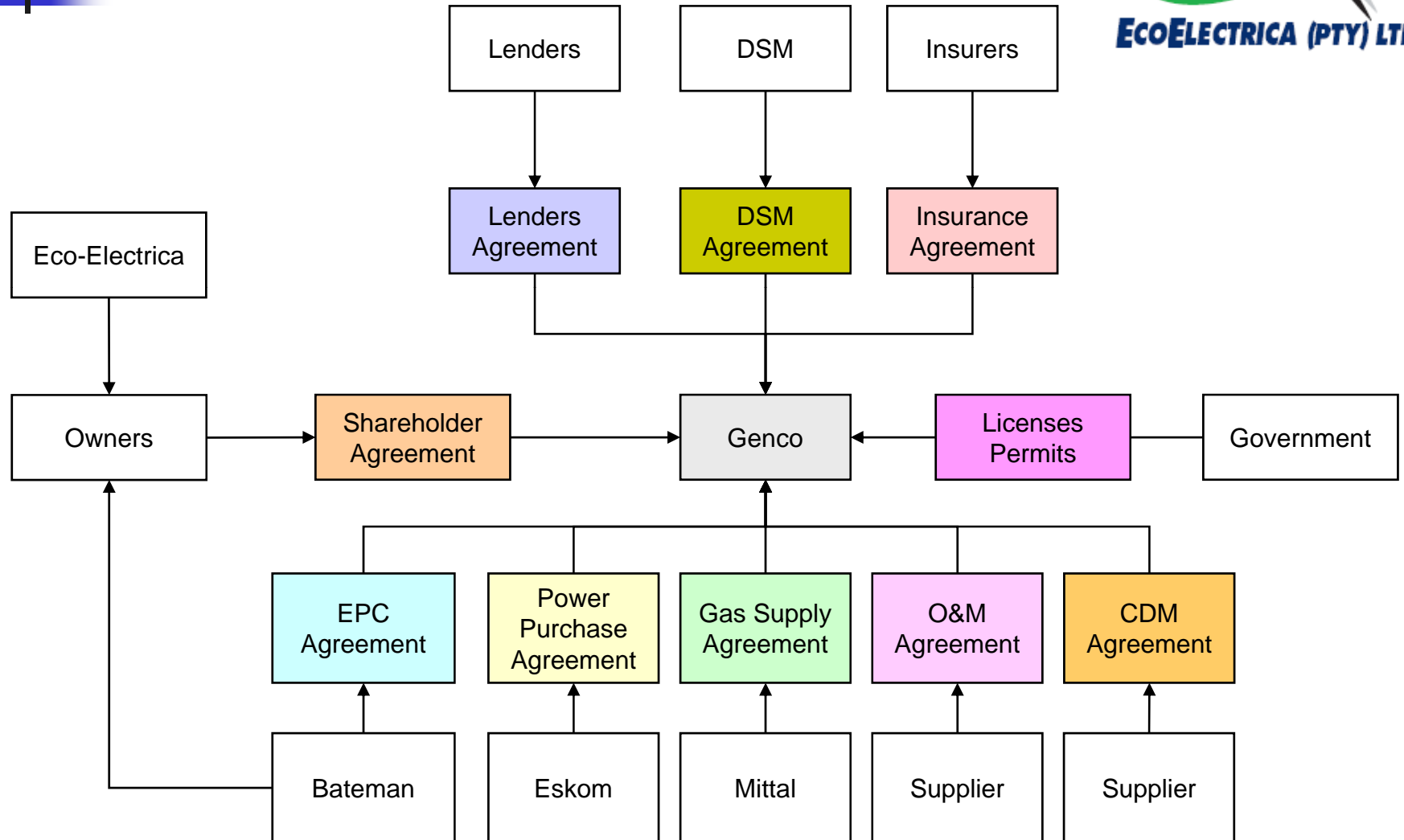


Project Details: Developer

- The project developer is Eco-Emfuleni (Pty) Ltd, a Special Project Vehicle of Eco-Electrica (Pty) Ltd.
- The company will operate as an Independent Power Producer on the Mittal Steel site in terms of an agreement between Eco-Electrica and Mittal Steel.



Project Details: Structure





Project Details: Funding & Off-Take

- Financial Institutions
 - IDC and Nedbank are the joint arrangers

- Off-Taker
 - Eskom will be the sole buyer of all the electricity through a PPA between Eco-Emfuleni and Eskom





Project Details: Status & Timetable

- Virtually all agreements are currently under negotiation with the aim to achieve closure before year-end.
- Assuming project closure during 2006, the project will produce its first electricity at the end of 2009.



Challenges in Establishing an IPP

POLICY AND REGULATORY

- The absence of firm policy and regulatory framework in the Cogen This is the first new Cogen IPP. It requires new policies and procedures. This adds to the project development time and cost.
- There are many “paradigms” that must first be removed before serious discussions can take place:
 - BEE
 - Black woman in the electricity sector
 - Extremely conservative engineering and financial approaches
 - Acceptance of different but competent suppliers





Challenges in Establishing an IPP

TECHNICAL

- Quality and reliability of Gas supply noting that the feedstock is the bi-product of someone else's business.
- Contain project cost escalations
- Meet the expected timeframes subject to lead time on equipment suppliers





Challenges in Establishing an IPP

COMMERCIAL

- DSM credits in order to ensure overall project bank-ability.
- Securing a robust PPA
- Early fixing of gas sale price and commercial terms.
- Clear delineation of benefits between Project Developer and Vendor of the Gas
- Maximizing benefits of Carbon credits





Challenges in Establishing an IPP

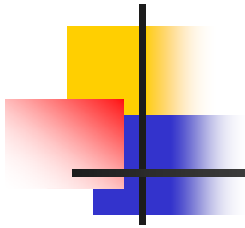


CONSTRUCTION

- Long lead times of key equipment as a result of significant global demand
- Definitive pricing is difficult to secure in a global market because of significant demand inflation
- Persuading lenders and lenders advisors to consider alternative equipment suppliers

OPERATIONAL

- With a huge demand for operational skills in SA, long lead times are necessary to secure the appropriate operating capabilities



Thank You

