Public & Stakeholder Meetings: 24 & 25 January 2008

WIND ENERGY FACILITY IN THE WESTERN CAPE

An Eskom Initiative

DRAFT AGENDA

- Welcome, introduction & apologies
- Purpose of the meeting
- Technical Aspects of the Project
- EIA process & feedback of the findings of the EIA Phase
- Background to Clean Development Mechanism (CDM)
- Question & Answer session
- The Way Forward & Closure

CONDUCT OF THE MEETING

- Work through the facilitator
- Language of choice
- Keep your questions for Question & Answers Session
- Identify yourselves
- Equal participation

WIND ENERGY DEVELOPMENT IN THE WESTERN CAPE

- Commercial wind energy facility - up to 100 turbines
- Construction to be phased – first phase ~50 turbines
- Constructed over an area of <20km^2 (site ~37km^2)
- Off-set at a distance of 2km from the coastline
- Siting alternative accepted through the regional assessment process
- Site includes:
  - Portion 5 of the farm Gravewaterkop 158 (Skaapvlei)
  - A portion of Portion 620 of the farm Olifants River Settlement (Skilpadvlei)
  - A portion of Portion 617 of the farm Olifants River Settlement (Nooitgedacht)

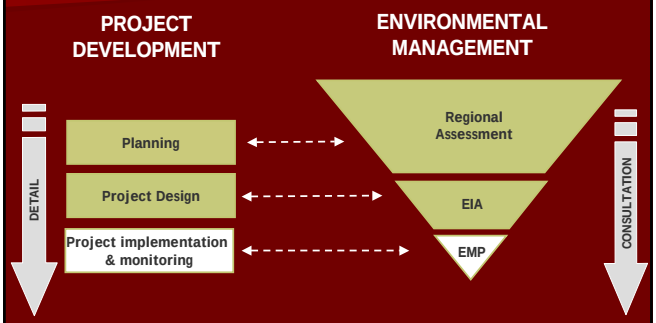
PRIMARY PROJECT COMPONENTS

- **Wind Energy Facility** including associated infrastructure
- Overhead **power line** (132 kV) from the wind farm substation feeding into the electricity grid at Juno substation (near Vredendal).
- Improvement of the existing DR2225 (known as Skaapvlei road) to provide **access to the site** (i.e. act as a haul road during the construction phase) from the R363 main tarred road at Koekenaap.

EIA PROCESS & PUBLIC INVOLVEMENT

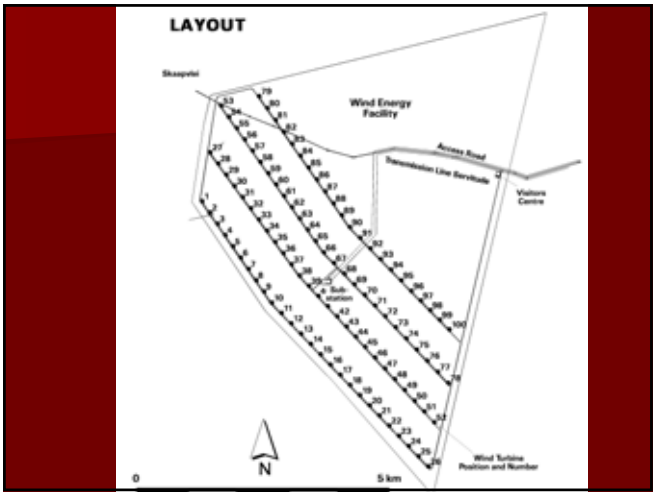
PHASE 1 Notification of commencement of EIA process	PHASE 2 Environmental Scoping Process	PHASE 3 Environmental Impact Assessment	PHASE 4 Decision-making
• Advertise in printed media • Notification to identified I&APs, stakeholders, & Organs of State in writing • Distribution of BID • Consultation	• Consultation with stakeholders & I&APs to identify issues. • Focus Group Meetings • Draft Scoping Report available for review • Public meeting	• On-going consultation with stakeholders & I&APs • Focus Group Meetings • Draft EIA Report & EMP available for review • Public meeting	• Final EIA Report submitted to DEAT & DEA&DP for review & decision-making - includes stakeholder & I&AP comments received during process. • Registered stakeholders & I&APs informed in writing of DEAT's decision.

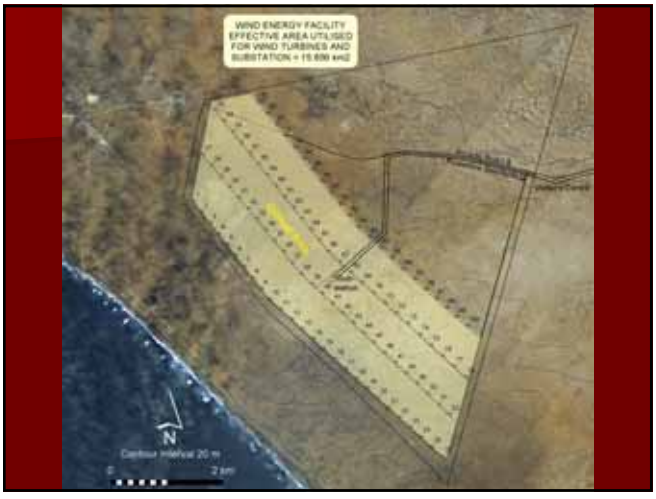
EIA PROCESS & PROJECT DEVELOPMENT

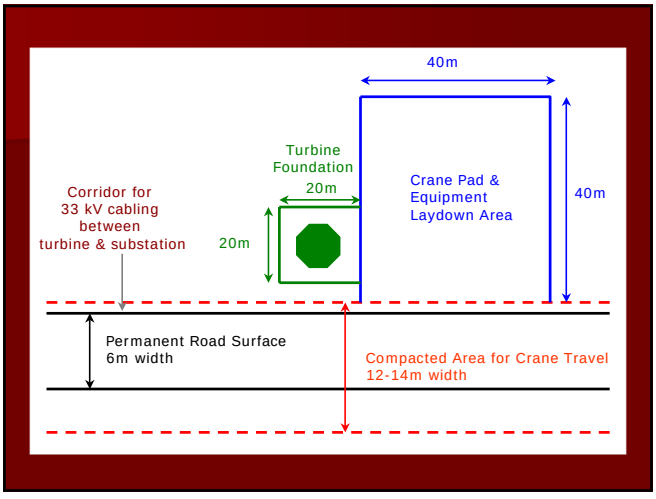


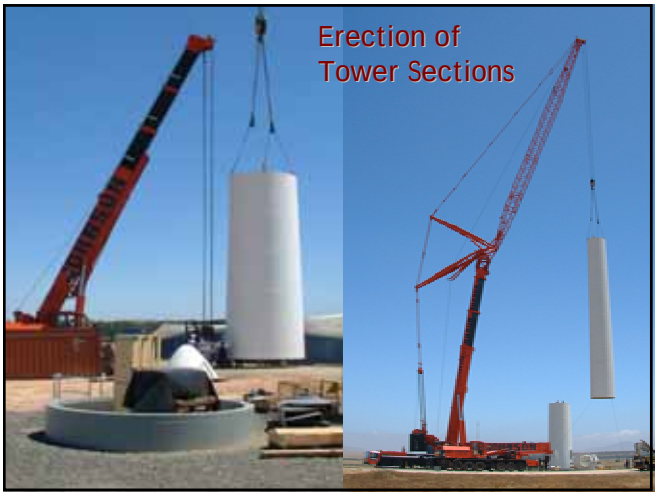
PROJECT-SPECIFIC DETAILS

- 100 turbines
- 80m towers with nacelle
- Three 45m blades
- 15m x 15m foundation
- Internal access roads (~6m width)
- Underground electrical cabling between turbines & substation
- Substation (~80m x 80m)
- Visitors centre









PROJECT-SPECIFIC DETAILS: Photo Simulation of Layout

PROJECT-SPECIFIC DETAILS: Construction

- Access/haul road establishment
- Site preparation & clearing
- Transport of components & equipment to site
- Establish foundations and laydown areas
- Erection of turbines
- Construction of substation & powerline
- Commissioning
- Site remediation & erosion control

PRIMARY ENVIRONMENTAL IMPACTS

- **Visual impacts** on the natural scenic resources of the region imposed by the components of the facility
- **Local site-specific impacts** as a result of physical disturbance/modification to the site with the establishment of the facility
- Impacts associated with the overhead **power line** between Juno & the facility substation
- Impacts associated with the **transportation** of components to the site during the construction phase
- Impacts on the **social environment**

VISUAL IMPACTS

- Uninterrupted exposure in 0 – 10 km zone
- Within a 10 – 25 km radius – impacts medium to low, obstructed views from residences & access roads
- Visibility from coastline low due to drop-off in topography
- Ability to mitigate visibility of turbines is low
- Mitigation of secondary impacts – construction activities, lighting etc.

LOCAL SITE-SPECIFIC IMPACTS

- Construction of facility does not result in whole-scale disturbance to the site
- Permanent disturbance associated with permanent components of facility:

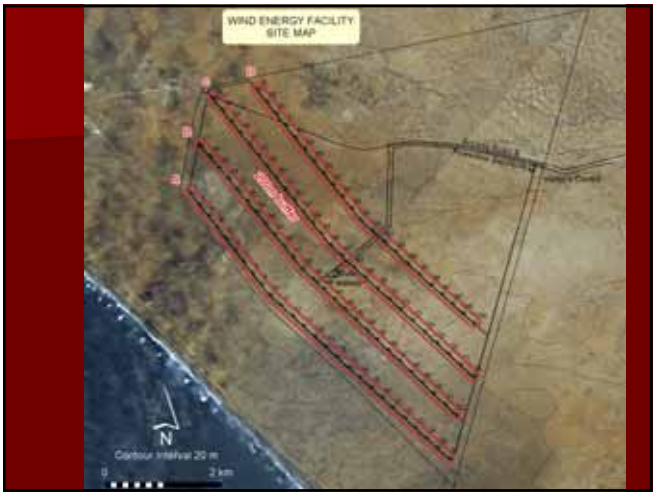
Facility component - permanent	Area (m^2)
100 turbine footprints (each 15m x 15m)	40 000
Permanent access roads (~35km of 6m width)	210 000
Substation footprint (80m x 80m)	6 400
Visitors centre building and parking areas	1 000
TOTAL	**257 400** (of 37 km^2 total area) = 0.7% of site

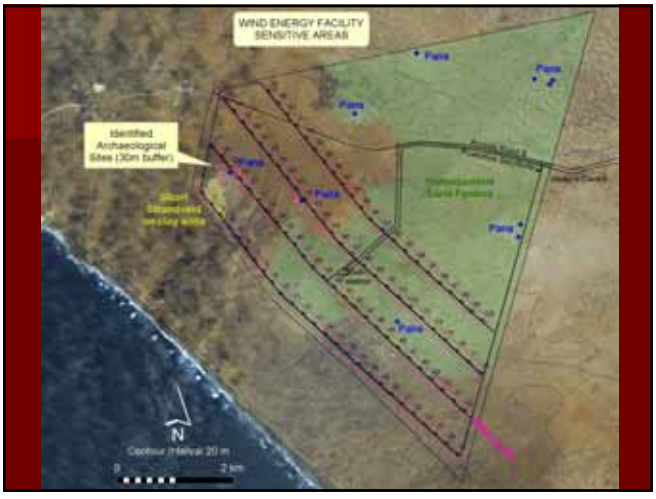
LOCAL SITE-SPECIFIC IMPACTS

- Temporary disturbance associated with construction phase of facility:

Facility component - temporary	Area (m^2)
100 turbine laydown areas (40m x 40m)	160 000
Temporary crane travel (8m) track adjacent to permanent access road PLUS trench for 33kV cabling	280 000
TOTAL	**440 000** (of 37 km^2 total area) = 1.2% of site

- Total area of 697 400 m^2 (i.e. almost 70 ha) to be disturbed to some extent during the construction of the facility - less than 2% of the total 3 700 ha area

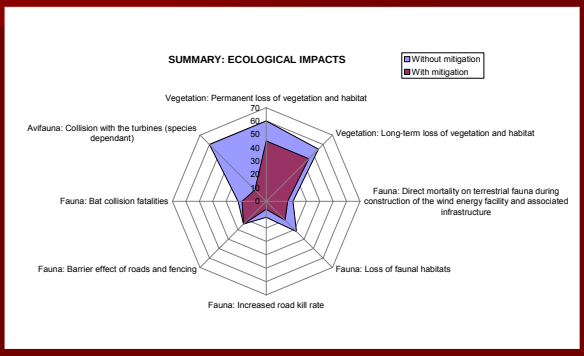




LOCAL SITE-SPECIFIC IMPACTS – Ecological impacts

- Ecological impacts - low to moderate significance without mitigation, and reduced with implementation of recommended mitigation measures
- Limited negative impacts on the avifauna in the surrounding area - unlikely to result in significant numbers of avian casualties through collision; or cause undue loss of habitat or disturbance to any locally, regionally or nationally important bird populations
- Monitoring of the interaction of the various species with the wind energy facility will provide further insight

LOCAL SITE-SPECIFIC IMPACTS



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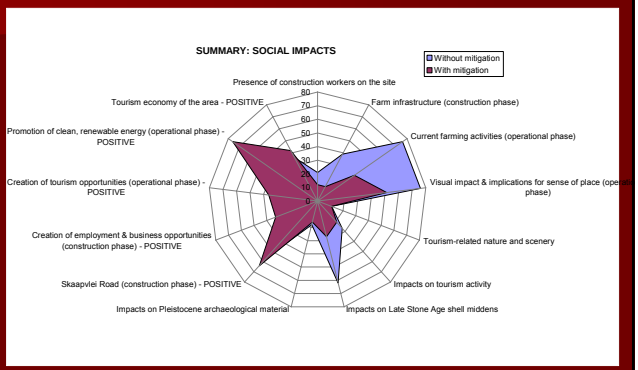
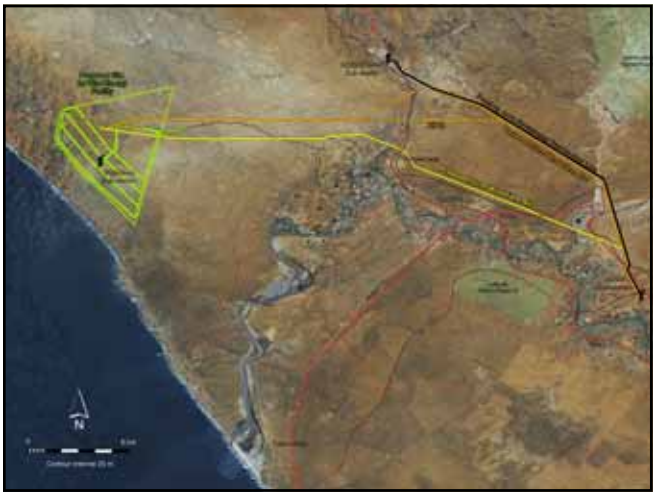


POWER LINE IMPACTS

- Monopole 132kV powerline – connect to Juno Substation, distance approx 40 km
- 30m wide servitude; towers 24m high
- Two alternative servitudes for powerline routing



IMPACTS ASSOCIATED WITH COMPONENT TRANSPORTATION

- Relates to internal roads, Skaapvlei road as well as surfaced roads (R363 and N7)
- Construct new roads/improve to support abnormal loads
- Pavement design of Skaapvlei road being considered for necessary improvements; intersection with R363 to be reconstructed
- Input from District Roads Engineering teams
- Haul route study & permits required for transport of all abnormal loads

IMPACTS ON SOCIAL ENVIRONMENT

- Impacts on local and regional scale for both construction & operation phases
  - Construction activities & traffic (noise & dust)
  - Impact on current & future agricultural activities
  - Visual impacts
  - Impacts/benefits to local tourism industry
- Construction force limited
- No impact impact of outdoor noise during operation of facility; low frequency noise impact of low significance at Skaapvlei houses

OVERALL CONCLUSIONS

- No areas of regionally high sensitivity on site
- Footprints of disturbance for facility & power line are localised; small-scale disturbance which can be managed – facility footprint <2% of total site
- Impacts of moderate to high significance can be mitigated
- 10 turbine sites which may require micro-siting relocation
- Road surfaces – to support 15t/axle loads; improvements to Skaapvlei road in consultation with Provincial authorities

OVERALL RECOMMENDATIONS

- Shift infrastructure within impact corridor to avoid identified sites of sensitivity
- Power line Alt 1 with sub-alt 1A – minimise impacts of high significance on vegetation; and avoid impacts associated with Alt 2
- Skaapvlei road – improve driving surface to ensure a durable haul road for construction phase & ensure condition post-construction
- Implementation of EMP – achieve appropriate environmental management standards
- Eskom to obtain all required permits

WAY FORWARD

- Draft EIA Report (with Draft EMP) available for review from 7 January to 7 February 2008
- Public invited to submit comments
- Feedback meetings: Lutzville & Cape Town
- Final EIA Report to be submitted to DEAT (& DEA&DP) for decision-making

WHO TO CONTACT?

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Background and South African mandate for the CDM

- South Africa ratified the United Nations Framework Convention on Climate Change (UNFCCC) in August 1997 and acceded to the Kyoto Protocol, the enabling mechanism for the convention, in August 2002.
- The Kyoto Protocol provides for flexibility mechanisms including the Clean Development Mechanism (CDM).
- The CDM is a project-based instrument that allows public or private entities to invest in Green House Gas (GHG) mitigating activities in developing countries and earn abatement credits called certified emissions reductions (CERs).
- These CERs can be traded on an open market.
- The CDM is the only mechanism through which SA could participate in the international carbon market.
- The mechanism is important to developing countries as it provides a sweetener for attracting foreign investment in projects that are sustainable.
- It is also important for providing additional incremental financing for projects of this nature.

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1

CDM Requirements and Project details

- Requirements defined by the international process include:
  - Projects must result in real, measurable and long-term emission reductions, as certified by a third party agency.
  - Emission reductions must be additional to any that would occur without the project.
  - Projects must be in line with sustainable development objectives, as defined by the national government. In SA this is the DME which is the designated national authority (DNA) for the CDM.
- The Wind Facility project qualifies as a CDM project as it meets all these international requirements.
- Importantly the project also meets the South African sustainable development criteria as defined by the DNA.
- The Wind Facility will potentially reduce 225 800 tons of CO_2 per annum compared to what would have occurred without the project.
- Current market estimations for CERs are anywhere from 5 to 13 Euro per ton of CO_2.

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2