

Wind and Solar Energy Generation SEA: A South African Perspective

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Presentation structure

- Background information – Setting the scene
- Question 1: Why? – What is the problem
- Question 2: How? – How the problem will be addressed
- Question 3: So what? – Lessons learned
- Questions



Background

- SA White Paper on Renewable Energy: 11 400 GWh to be generated from renewable over next 10 years
- Represents 42% of total new build generation for the next 20 years
- 30% of this contribution is to be produced by independent power producers (non-government entities)
- Sparked massive interest from private sector and subsequently overwhelmed government's environmental management and planning functions
- Aim of the SEA is to identify Renewable Energy Development Zones (REDZs) that are most suitable for the rollout of wind energy projects and the supporting grid network
- RE projects proposed 'n these areas will be exempt from formal EIA process
- Primarily a GIS driven study verified by field work



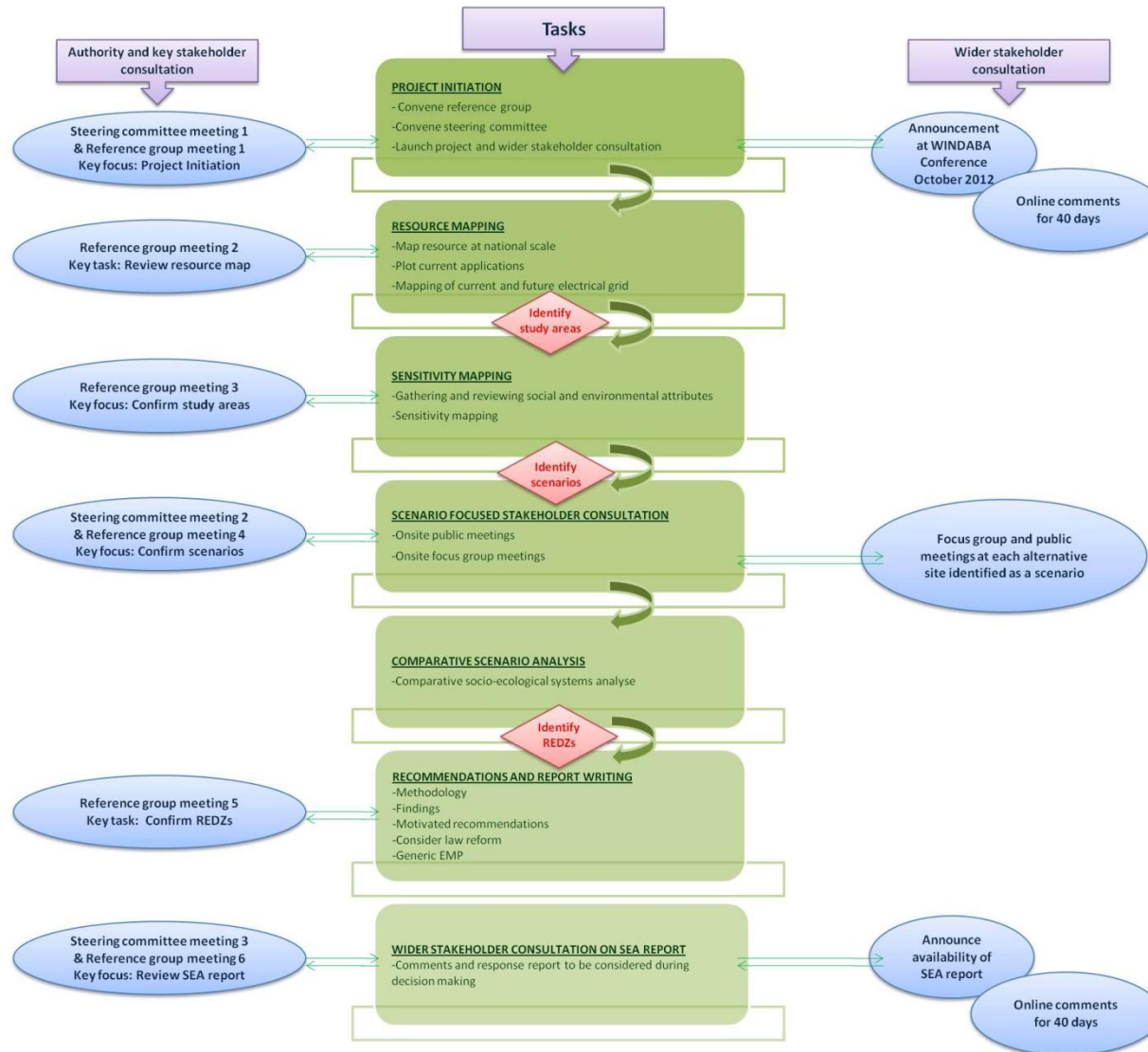
Question 1: Why?

- Significant over-supply of projects
- Significant resources are being spent on EIA's
- Participatory fatigue
- Appeals leads to increase in expenditure
- The rollout of the energy grid requires separate authorisation
- Assessment of cumulative impacts is not considered
- Siting of large projects has not been informed by strategic policies



Question 2: How?

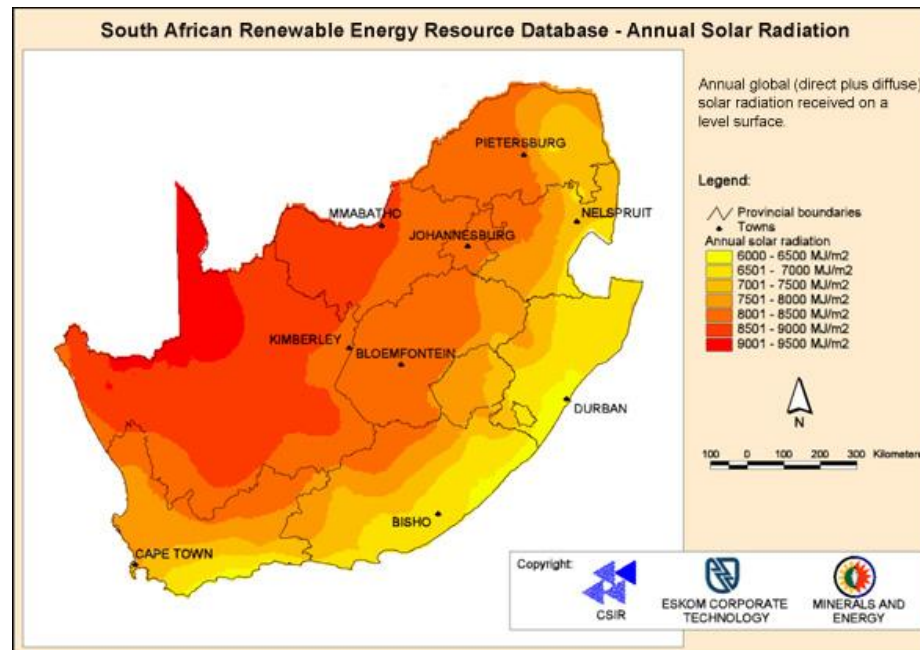
- Resource mapping
- Sensitivity mapping
- Scenario focused stakeholder consultation
- Comparative scenario analysis (Sustainability analysis)
- Recommendations
- Wider stakeholder engagement on SEA

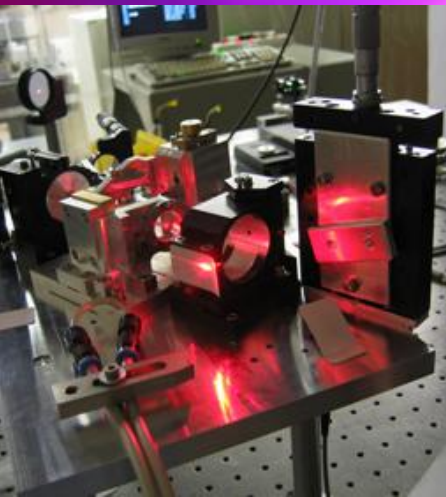




Resource mapping

- Solar resource mapping in collaboration with University of Stellenbosch
- Mapping solar resource applications received by DEA
- Mapping current and future electrical grid
- Identify general study areas





Sensitivity mapping

- Gathering & reviewing socio-environmental GIS-based data
- Sensitivity mapping
- Identify scenarios/ site alternatives

• Topography
• Geology
• Hydrology features
• Fauna and flora (including red data species and threatened and protected species)
• Wetlands
• Heritage resources
• Tourist destinations
• Protected and conservation areas and possible expansion plans for the surrounding area
• Avifaunal activity and migratory paths
• Agricultural potential
• Mineral potential
• Operating mines
• Mining rights
• Land claims
• Ownerless and derelict mines
• Government land
• Karoo Central Astronomy Advantage Areas
• Current land use
• Current zoning
• Current infrastructure including roads and rail
• Aviation routes related to the study area
• Local government integrated development plans



Scenario focused stakeholder engagement

- Gauging public acceptance and detecting any additional issues not previously identified and considered for each scenario/site alternative





Question 3: So what?

- SA process done wrong way around: Green economy planning cannot be market driven
- Government buy-in is crucial: Vital information is held by government and not generally available to public and consultants
- Policy integration can be a potential show stopper: A collective vision for the green economy & strong political will is vitally important
- The realities of transmission & distribution should not be underestimated due to its linear & space intensive nature
- Flexible legislation: A “flexible” clause in NEMA made this SEA possible; without it investment in renewables might be stifled

Questions



Thank you.

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