



ENVIRONMENTAL AFFAIRS & DEVELOPMENT PLANNING

Provincial Government of the Western Cape

Regional Environmental Assessment for the placement of wind farms

November 2010

B.Moiloa



Slide Summary

- The Vision in 2003
- Strategic Initiative (2005)
- Development of the methodology
- Key criteria for wind energy development
- Methodology model
- Example REA maps
- Conclusion
- Contacts and Questions

The Vision in 2003

- To develop a **Strategic initiative to introduce commercial wind energy developments to the Western Cape.**
- To facilitate the implementation of this technology in a manner that meets the principles the White Paper on **Energy Policy** for the Republic of South Africa;
- To introduce wind energy developments to the Western Cape in a coordinated manner that meets all requirements of **sustainability** as reflected in the **National Environmental Management Act**, 1998 (Act 107 of 1998), and is based on international best practice;
- To encourage **responsible and rational wind energy developments**, which are beneficial not only to developers, but communities at large;
- To facilitate the EIA process and legal requirements to consider **alternatives**. Incorporate areas designated for wind farms into **local and regional SDF's**;
- To **discourage the investment of time and money in potentially unsuitable sites**, thereby significantly reducing delays in the EIA process. One could consider it an initial land suitability screening which would eliminate where wind turbines either cannot or should not be installed; and
- To introduce the **wind energy industry to the public** and thereby increase support for and interest in alternative energy sources.

Strategic Initiative (2005)

a) Determination of a study area

- Informed by interest shown by wind energy developers

b) Establishment of Reference Group

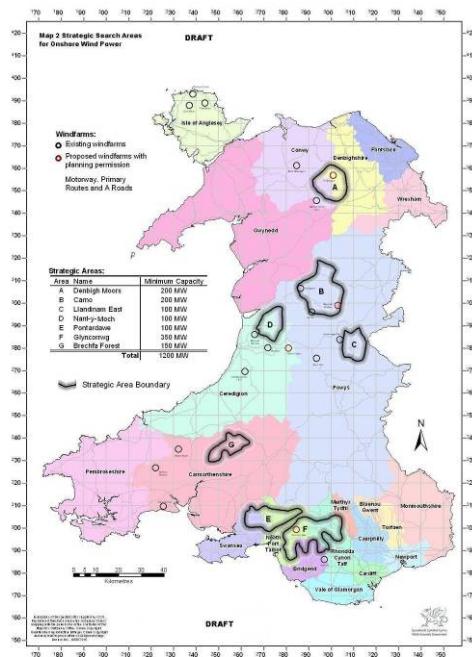
- SA wind energy association, DME, members of biosphere reserve, wind energy sector, dept trade and industry, wesgro, transport and public works, SAHRA, SA National Parks, Department of Agriculture, Local, District and provincial government, telkom, eskom, earthlife africa, academia



Development of the methodology

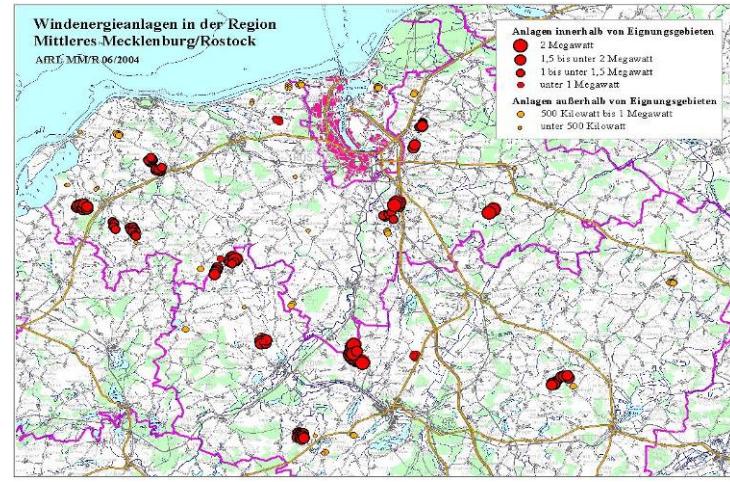
c) Desk top study

- Documentation of international best practice
- Technical and non-technical criteria
- Positive and negative criteria



Norway

Scotland



Rostock, Germany

Methodology continued...

d) Study Tour

- Study tour to Germany, Denmark, Wales and United Kingdom.
- 18 organisations, 11 meetings
- Outcome: in-principle support for the initiative, recognizing in hindsight the value of **proactive planning vs ad hoc approvals of wind energy developments** particularly in the preservation of landscapes
- Appointment of consultants and the drafting of the Wind Energy Landscape Assessment Study



Key criteria for wind energy development

I. Environmental considerations

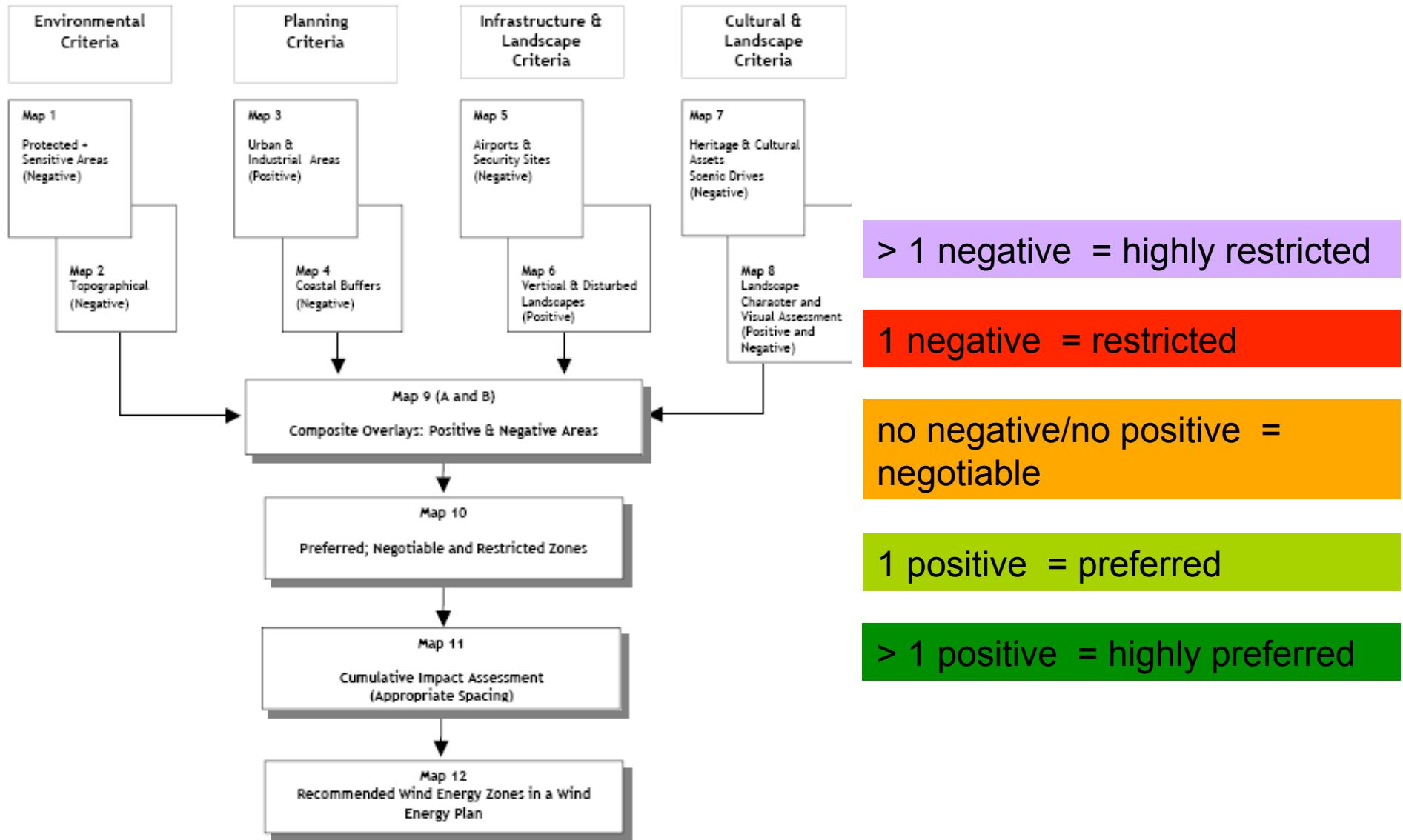
- Visual Aspect
- Proximity to dwellings
- Ecology
- Archaeological/historical heritage
- Recreational uses (of surrounding land)
- Telecommunications
- Civil and military airports
- Restricted areas

II. Technical considerations

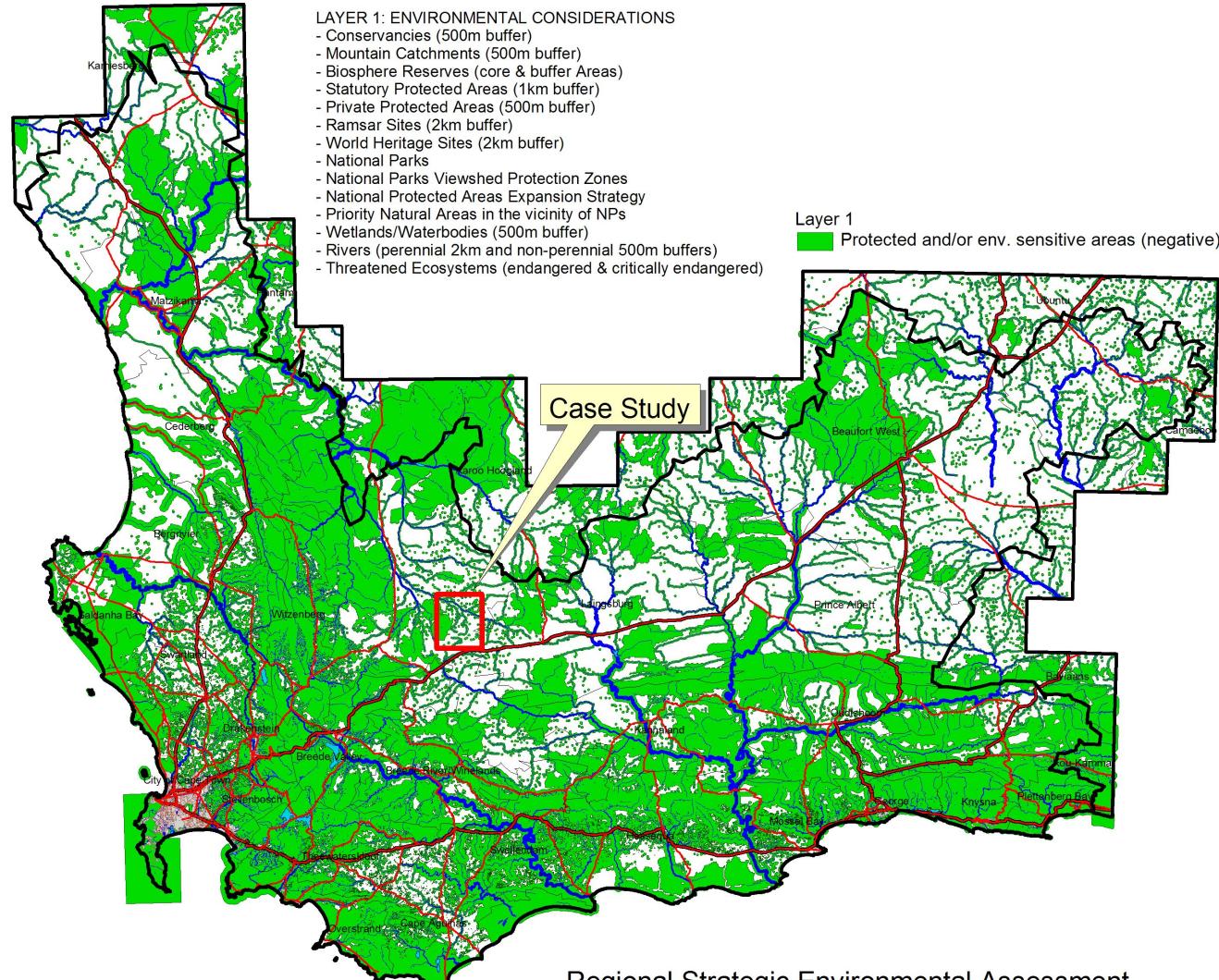
- Wind resource
- Existing land uses
- Ground conditions
- Site access
- Electrical connection
- Draft project design including scale, layout and turbine size (EWEA, 2002)



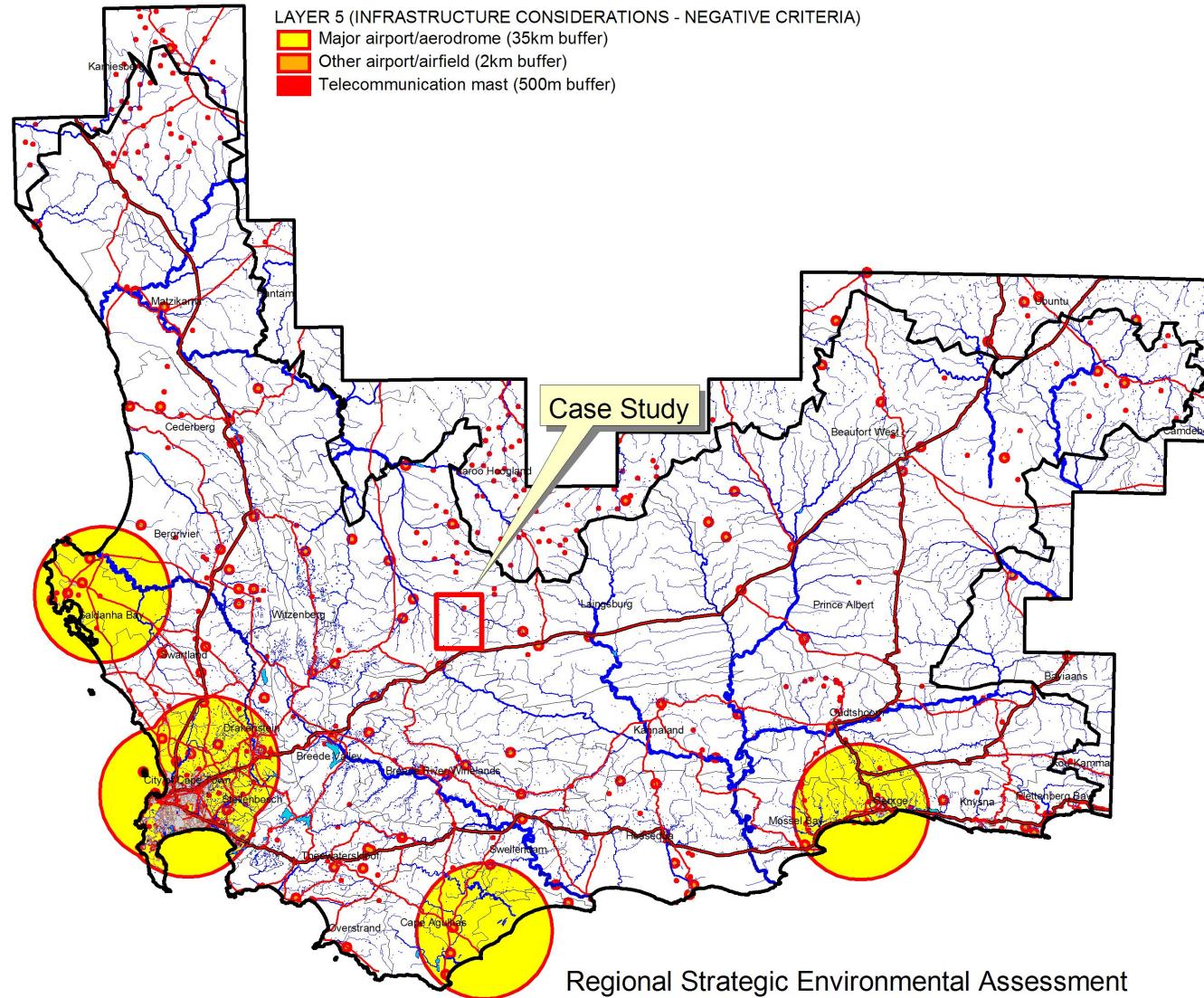
Composite map of criteria



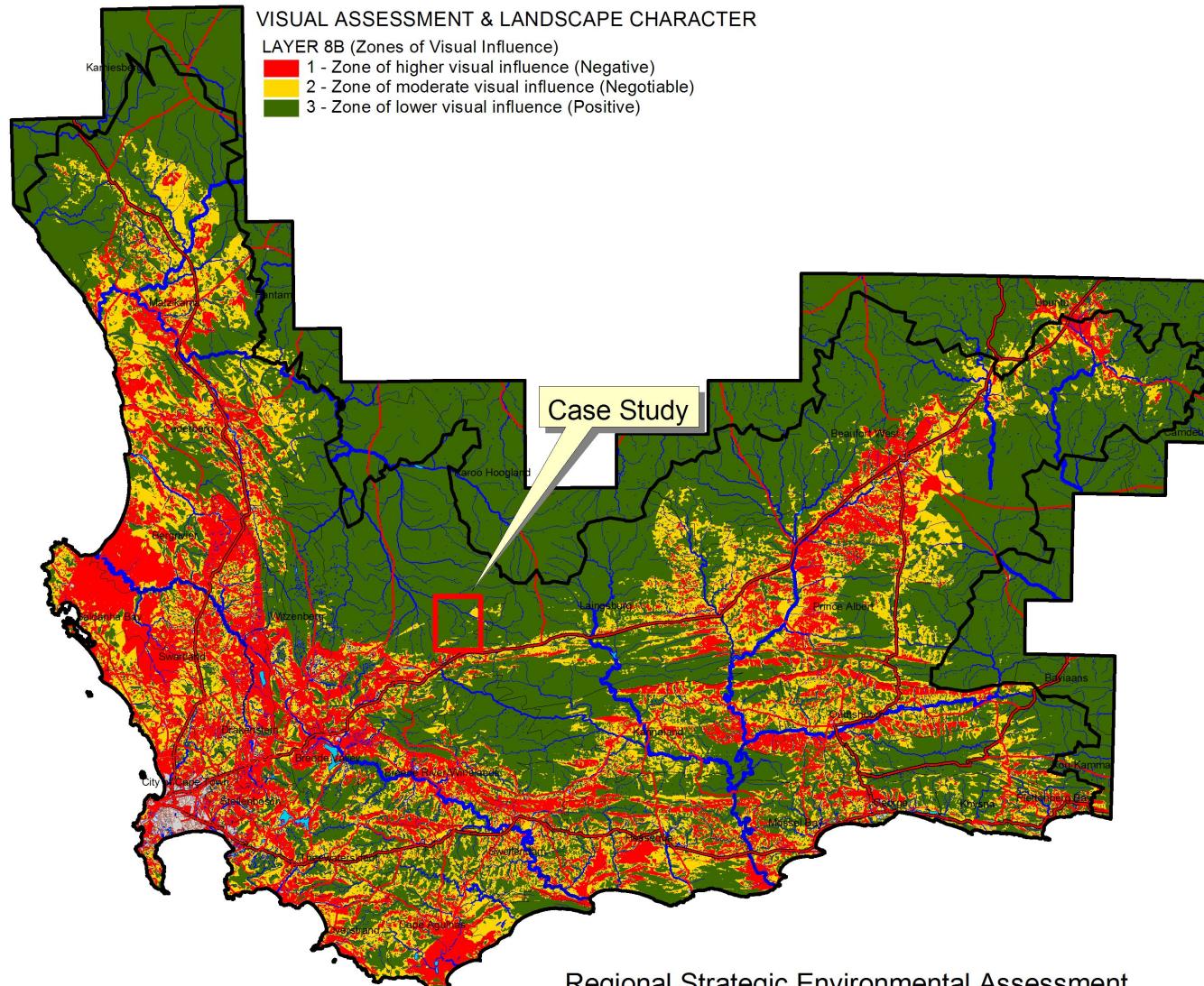
Example map: Environmental considerations



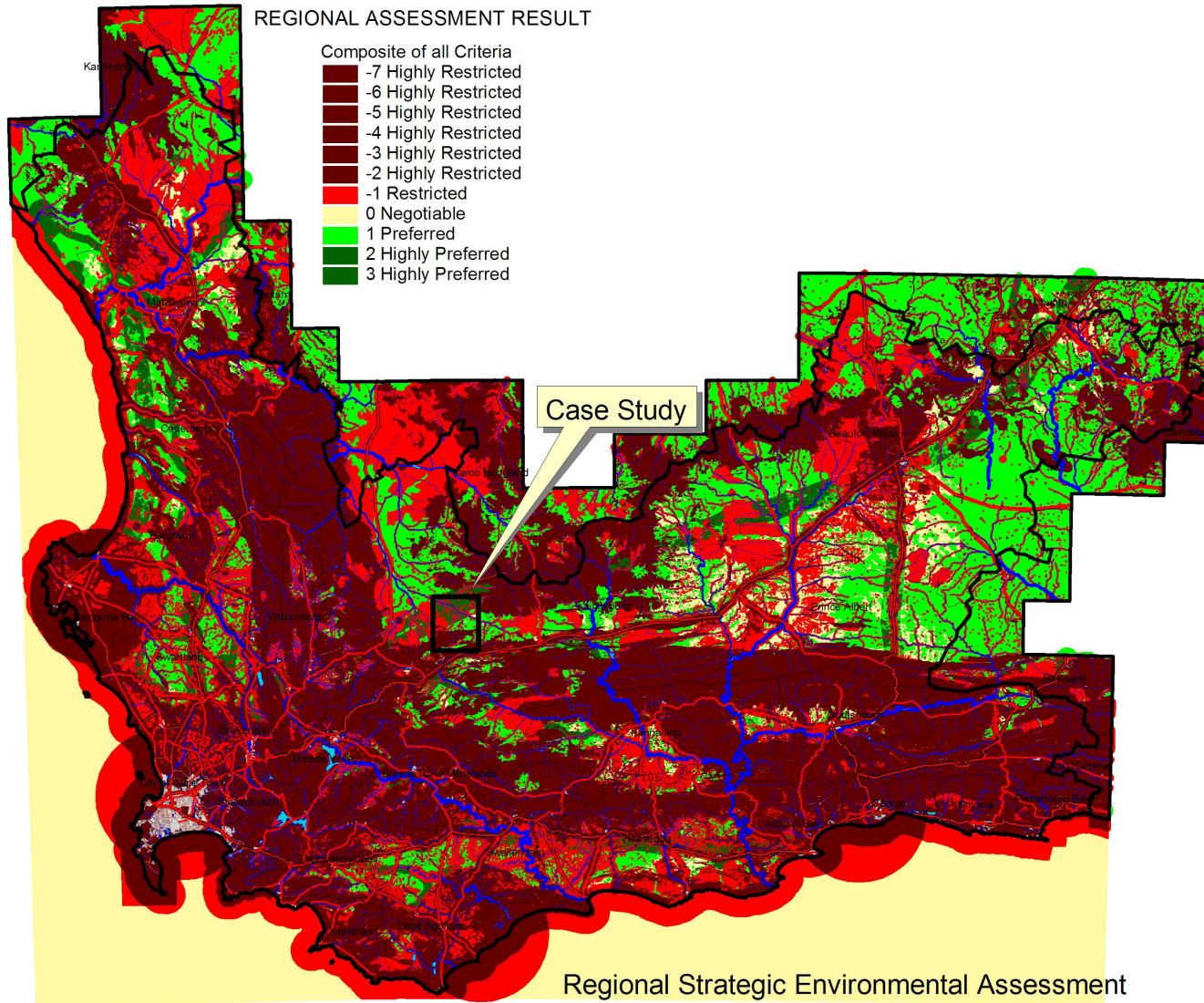
Example map: Infrastructure considerations



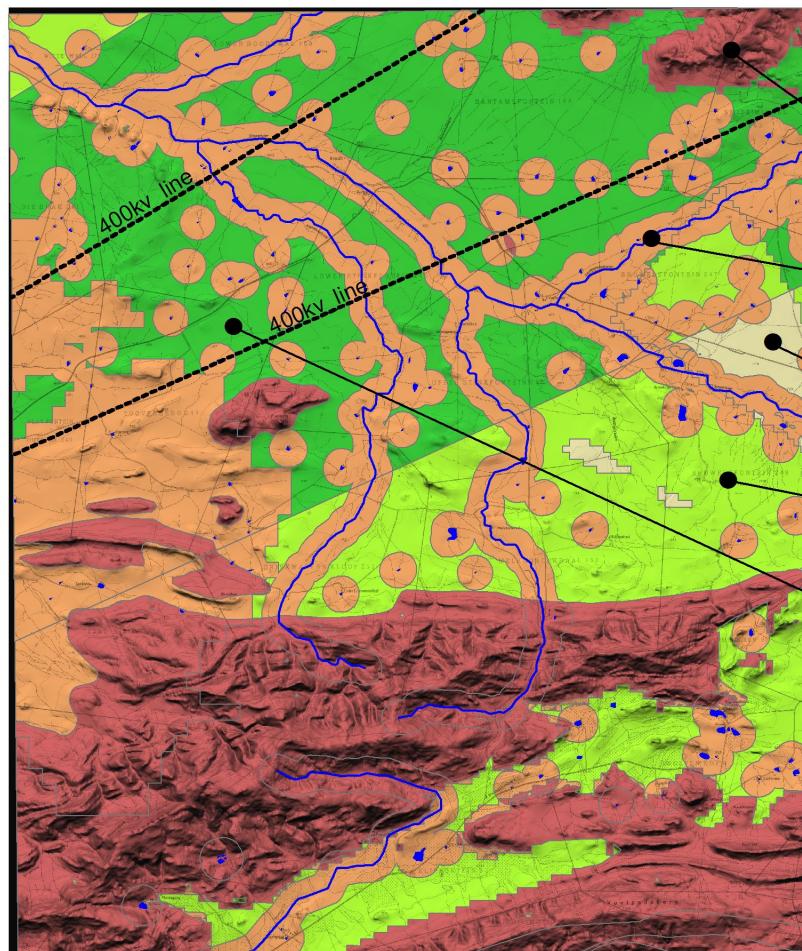
Example map: ZVI



Example map: Composite



Case study area



REGIONAL ASSESSMENT RESULT
COMPOSITE OF ALL CRITERIA

Preferred/Restricted Areas for Wind
Energy Developments

Highly restricted
(two or more restrictions)

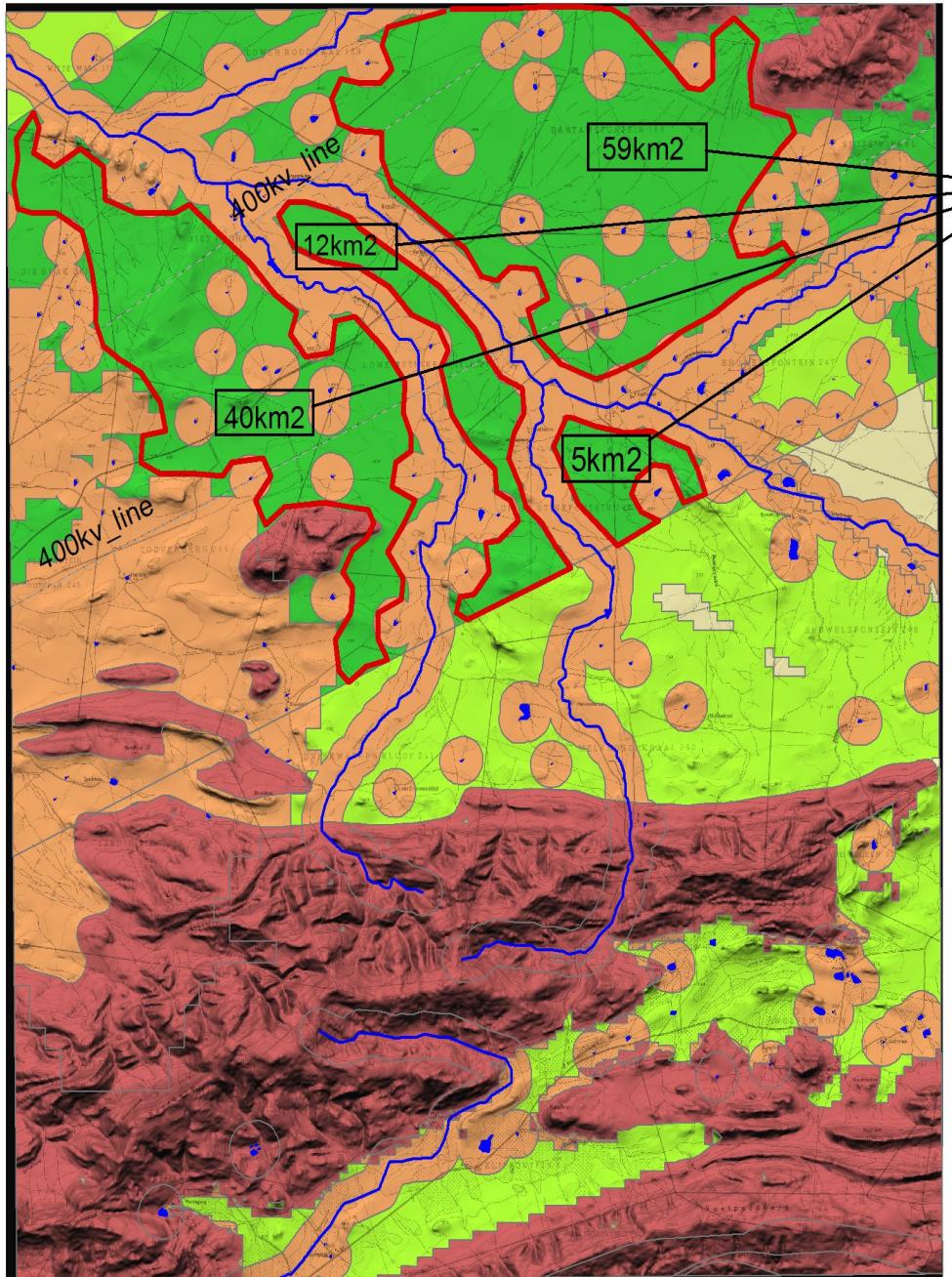
Restricted
(at least one restriction)

Negotiable (Neutral)
(no positive or negative criteria)

Preferred
(at least one positive and no negative
criteria)

Highly preferred
(more than one positive and no
negative criteria)

Regional Strategic Environmental Assessment
Case Study: Map 3320AA Brewelsfontein



REGIONAL ASSESSMENT RESULT COMPOSITE OF ALL CRITERIA

Possible Wind Energy Development
areas

Note: the indicated surface area excludes
restricted areas

Regional Strategic Environmental Assessment
Case Study: Map 3320AA Brewelsfontein

Conclusion

- Impacts are mainly landscape and visual
- NB to promote sustainable wind energy development and avoid NIMBY
- Proactive approach needed
- Maps based on environ criteria only, wind resource and other technical data can be added as additional layers for further assessments
- We don't have the luxury of wisdom with hindsight but we do have the opportunity to learn from others and be proactive in planning.
- Maps to provide information as part of a decision making support tool.

Contacts

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Thank You