

**Environmental Impact Assessment for the
proposed Banna Ba Pifhu Wind Energy Project
near Humansdorp, Eastern Cape:
Final Environmental Impact Assessment Report**

APPENDICES

- Appendix A: Curriculum vitae and declaration of independence of the project team members
- Appendix B: DEA's acceptance letter for the Final Scoping Report and Plan of Study for EIA and the DEA letter of acknowledgement of Draft EIA Report
- Appendix C: Database of Interested and Affected Parties
- Appendix D: Letter to stakeholders following the release of the Final Scoping Report and the Draft EIA Report
- Appendix E: Comments from Interested and Affected Parties before and following the release of the Draft Environmental Impact Assessment Report
- Appendix F: Comments and Responses Trail
- Appendix G: Acceptance letter from the South African Civil Aviation Authority
- Appendix H: Newspaper advertisements placed for the review of the DRAFT EIA
- Appendix I: Notes of Public meeting on 8 May 2012 following the release of the Draft EIA
- Appendix J: Public meeting Registration forms





**Environmental Impact Assessment for the
proposed Banna Ba Pifhu Wind Energy Project
near Humansdorp, Eastern Cape:
Final Environmental Impact Assessment Report**

APPENDIX A

**Curriculum vitae and
declaration of independence
of the project team members**

Curriculum Vitae

Paul Lochner	6
Minnelise Levendal	16
Jamie Pote	19
Chris van Rooyen	26
Kate MacEwan	28
Henry Holland	31
Brett Williams	34
Hugo van Zyl	37
Johan Binneman	45
John Almond	47
Brian Colloty	48
Johann Lanz	50
Sandy Wren	52

Project Proponent Declaration (WKN Windcurrent SA Pty Ltd)

4. DECLARATIONS

4.1 The Applicant, Wind Energy (Pty) Ltd

I, **Mr Alan Wolfromm**, declare that I -


- am, or represent³, the applicant in this application;
- have appointed / ~~will appoint~~ (delete that which is not applicable) an environmental assessment practitioner to act as the independent environmental assessment practitioner for this application ~~will obtain exemption from the requirement to obtain an environmental assessment practitioner⁴~~;
- will provide the environmental assessment practitioner and the competent authority with access all information at my disposal that is relevant to the application;
- will be responsible for the costs incurred in complying with the Environmental Impact Assessment Regulations, 2010, including but not limited to –
 - costs incurred in connection with the appointment of the environmental assessment practitioner or any person contracted by the environmental assessment practitioner;
 - costs incurred in respect of the undertaking of any process required in terms of the Regulations;
 - costs in respect of any fee prescribed by the Minister or MEC in respect of the Regulations;
 - costs in respect of specialist reviews, if the competent authority decides to recover costs; and
 - the provision of security to ensure compliance with conditions attached to an environmental authorisation, should it be required by the competent authority;
- will ensure that the environmental assessment practitioner is competent to comply with the requirements of these Regulations and will take reasonable steps to verify whether the EA complies with the Regulations;
- will inform all registered interested and affected parties of any suspension of the application as well as of any decisions taken by the competent authority in this regard;
- am responsible for complying with the conditions of any environmental authorisation issued by the competent authority;
- hereby indemnify the Government of the Republic, the competent authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action which the applicant or environmental assessment practitioner is responsible for in terms of these Regulations;
- will not hold the competent authority responsible for any costs that may be incurred by the applicant in proceeding with an activity prior to obtaining an environmental authorisation or prior to an appeal being decided in terms of these Regulations;
- will perform all other obligations as expected from an applicant in terms of the Regulations;
- all the particulars furnished by me in this form are true and correct; and

³ If this is signed on behalf of the applicant, proof of such authority from the applicant must be attached.

⁴ If exemption is obtained from appointing an EAP, the responsibilities of an EAP will automatically apply to the person conducting the environmental impact assessment in terms of the Regulations.

Appendix A, Curriculum vitae of project team members

- I realise that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act.



Signature of the applicant⁴/ Signature on behalf of the applicant:

WKN-WINDCURRENT SA (PTY) LTD

Name of company (if applicable):

24/5/2011

Date:

⁴ If the applicant is a juristic person, a signature on behalf of the applicant is required as well as proof of such authority. An EAP may not sign on behalf of an applicant.

CSIR PROJECT DIRECTOR – PAUL LOCHNER

Curriculum Vitae

Paul Lochner

CSIR
Jan Cilliers Street
PO Box 320
Stellenbosch 7600
South Africa

Phone: +27 21 888 2400
Fax: +27 21 888 2693
Email: plochner@csir.co.za



Name of firm	CSIR
Name of staff	Paul Andrew Lochner
Profession	Environmental Assessment and Management
Position in firm	Project Director in Environmental Assessment & Management
Date of birth	13 June 1969
Years with firm	20 years
Nationality	South African

Biographical sketch Paul Lochner commenced work at CSIR in 1992, after completing a degree in Civil Engineering and a Masters in Environmental Science, both at the University of Cape Town. His initial work at CSIR focused on sediment dynamics and soft engineering applications in the coastal zone, in particular, beach and dune management. He conducted several shoreline erosion analyses and prepared coastal zone management plans for beaches. He also prepared wetland management plans.

As the market for environmental assessment work grew, he led Environmental Impact Assessments (EIAs), in particular for coastal resort developments and large-scale industrial developments located on the coast; and Environmental Management Plans (EMPs), in particular for wetlands, estuaries and coastal developments. He has also been involved in researching and applying higher-level approaches to environmental assessment and management, such as Strategic Environmental Assessment (SEA). In 1998 and 1999, he coordinated the SEA research programme within the CSIR, and was a lead author of the Guideline Document for SEA in South Africa, published jointly by CSIR and the national Department of Environmental Affairs and Tourism in February

2000.

In 1999 and 2000, he was the project manager for the legal, institutional, policy, financial and socio-economic component of the Cape Action Plan for the Environment (“CAPE”), a large-scale multi-disciplinary study to ensure the sustainable conservation of the Cape Floral Kingdom. This was funded by the Global Environmental Fund (GEF) and prepared for WWF-South Africa. The study required extensive stakeholder interaction, in particular with government institutions, leading to the development of a Strategy and Action Plan for regional conservation.

In July 2003, he was certified as an Environmental Assessment Practitioner by the Interim Certification Board for Environmental Assessment Practitioners of South Africa. In 2004 he was lead author of the *Overview of IEM* document in the updated Integrated Environmental Management (IEM) Information Series published by national Department of Environmental Affairs and Tourism (DEAT). In 2004-2005 he was project manager for an Environmental and Social Impact Assessment (ESIA) conducted for a bauxite mine and alumina refinery in the Komi Republic (Russia), prepared in accordance with World Bank and EU policies, guidelines and standards.

In 2004-2005, he was part of the CSIR team that coordinated the preparation of the series of *Guidelines for involving specialists in EIA processes* prepared for the Western Cape Department of Environmental Affairs and Development Planning (DEADP); and authored the *Guideline for Environmental Management Plans* published by the Western Cape government in 2005.

In 2009, he led the EIA for a desalination plant in Namibia, as well as several EIAs for wind energy facilities in South Africa.

Over the past 14 years has been closely involved with several environmental studies for industrial and port-related projects in Coega Industrial Development Zone (IDZ), near Port Elizabeth. This included the SEA for the establishment of the Coega IDZ in 1996/7, an EIA and EMP for a proposed aluminium smelter in 2002/3, and assistance with environmental permit applications for air, water and waste. At the Coega IDZ and port, he has also conducted environmental assessments for port development, LNG storage and a combined cycle gas turbine power plant, manganese export, rail development, and wind energy projects.

Education	1990	B.Sc. Civil Engineering (awarded with Honours)	University of Cape Town
	1992	M. Phil. Environmental Science	University of Cape Town

Employment record *January 1992 to June 1992:* Completed Masters thesis, working in conjunction with the Environmental Evaluation Unit at the University of Cape Town. The thesis investigated the potential future ecological and socio-economic impacts resulting from the closure of a large diamond mining operation, and developed actions to mitigate these impacts.

October 1992 to present: Employed by the CSIR in Stellenbosch. Involved in coastal engineering studies; and various forms of environmental assessment and management studies. (A track record of experience is listed below).

PROFESSIONAL INVOLVEMENT IN COMMITTEES:

1996/97:	Committee Member of the Western Cape Branch of the International Association for Impact Assessment (IAIA)
1997/98:	Chairperson of the Western Cape Branch of IAIA and member of the national IAIA committee
1998/99:	Committee Member of the Western Cape Branch of IAIA
1996 to present:	Chairperson of the Blouville Environmental Committee at Century City, Cape Town (This committee is tasked with overseeing the restoration and management of a wetland in the midst of a new mixed-use urban development)

Experience record The following table presents an abridged list of projects that Paul Lochner has been involved in, indicating his role in each project:

Completion Date	Project description	Role	Client
2011 - 2012	EIA for the 100 MW solar photovoltaic project proposed by Mainstream Renewable Power at Blocuso, near Keimoes in the Northern Cape	Project director	Mainstream Renewable Power
2011 – 2012	EIA for the 100 MW solar photovoltaic project proposed by Mainstream Renewable Power at Roode Kop Farm, near Douglas, in the Northern Cape	Project director	Mainstream Renewable Power
2011 – 2012	EIA for the 75 MW solar photovoltaic project proposed by Solaire Direct at GlenThorne , near Bloemfontein in the Free State	Project director	Solaire Direct
2011 – 2012	EIA for the 75 MW solar photovoltaic project proposed by SolaireDirect at Valleydora , near Springfontein in the Free State	Project director	Solaire Direct
2012 (in progress)	EIA for the 80 MW solar photovoltaic project by CAMAC on Farm O'Poort near postmasburg.	Project director	CAMAC International
2010-2011	More than 10 Basic Assessments (BAs) for solar photovoltaic projects in the western cape, Northern Cape, Eastern Cape and Free State	Project director	Various clients including Dutch, German, French and South African companies
2010/2011 (in progress)	EIA for the Langerfontein wind project near Darling, Western Cape.	Project director	Mr Herman Oelsner, Khwe Khoa

Appendix A, Curriculum vitae of project team members

Completion Date	Project description	Role	Client
2010/2011 (final report completed)	EIA for a 100 MW wind project at Zuurbron and a 50 MW wind project Broadlands in the Eastern Cape	Project director	WindCurrent SA (German-based company)
2010/2011 (final report completed)	EIA for the proposed 143 MW Biotherm wind energy project near Swellendam , Western Cape, South Africa	Project director	Biotherm South Africa (Pty) Ltd
2010/2011 (final report completed)	EIA for the proposed InnoWind wind energy projects near Swellendam, Heidelberg, Albertinia and Mossel Bay (totalling approx 210 MW) , Western Cape, South Africa	Project director	InnoWind South Africa (Pty) Ltd
2009/2010 (authorisation granted by DEA in Aug 2011)	EIA for the proposed Electrawinds wind energy facility of 45-75 MW capacity in the Coega IDZ, Eastern Cape	Project director	Electrawinds N.V. (Belgium)
2009/2010 (authorisation granted by DEA in April 2011)	EIA for proposed 180 MW Jeffreys Bay wind energy project , Eastern Cape	Project Director and co-author	Mainstream Renewable Power South Africa
2009/2010 (authorisation granted by DEA)	Basic Assessment for the national wind Atlas for South Africa	Project director	SANERI and SA Wind Energy Programme, Dept of Energy
2009/2010 (on hold)	EIA for the proposed Gecko soda plant , Otjivalunda and Arandis, Namibia	Project director	Gecko, Namibia
2009	EIA for the proposed desalination plant at Swakopmund, Namibia	Project director	NamWater, Namibia
2009	EMP for the Operational Phase of the Berg River Dam , Franschoek, South Africa	Project director and report co-author	TCTA, South Africa
2009/2010 (in progress)	EIA for the proposed crude oil refinery at Coega, South Africa	Project director and lead author	PetroSA, South Africa
2008	Environmental Risk Review for proposed LNG/CNG import to Mossel Bay, South Africa	Project director and lead author	PetroSA, South Africa
2008	Review of the Business Plan for catchment management for the Berg Water Dam Project, Franschoek, South Africa	Project reviewer and co-author	TCTA, South Africa
2007 – 2010 (in progress)	EIA for proposed Jacobsbaai Tortoise Reserve eco-development , Saldanha, Western Cape	Project Director and co-author	Jacobsbaai Tortoise Reserve (Pty) Ltd
2007 – 2010 (in progress)	Independent reviewer for the EIA proposed Amanzi lifestyle development, Port Elizabeth	Independent reviewer appointed to advise EAP	Public Process Consultants and Pam Golding
2007 – 2008	EIA for proposed 18 MW Kouga wind energy project , Eastern Cape	Project Director and co-author	Genesis Eco-Energy (Approved by DEDEA in March 2009)
2007	Review of EIA for the proposed Hanglip Eco-Development , Plettenberg Bay, Western Cape	Co-author of review of EIA, undertaken on behalf of DEADP	Dept of Environmental Affairs & Development Planning, Western Cape
2006-2007	Scoping phase for the EIA for the proposed Coega LNG-to-Power Project at the Port of Ngqura, Coega IDZ	Project Director and co-author	Eskom and iGas
2006-2007	Guideline for Scoping, Environmental Impact Assessment and Environmental Management Plans for mining in South	Project director and co-author	Dept of Minerals and Energy (DME), South Africa

Appendix A, Curriculum vitae of project team members

Completion Date	Project description	Role	Client
	Africa		
2006	Environmental Impact Assessment (EIA) for the extension of the Port of Ngqura, Eastern Cape	Project Director and co-author	Transnet
2006	Integrating Sustainability Into Strategy: Handbook (Version 1)	Project Director and co-author	CSIR (STEP research report)
2005	Technology Review for the proposed aluminium smelter at Coega, South Africa	Project Director and lead author	Alcan, Canada
2005	Environmental and Social Impact Assessment (ESIA) report for the proposed alumina refinery near Sosnogorsk, Komi Republic, Russia	Project manager and co-author	Komi Aluminium, Russia, IFC, EBRD
2005	Guideline for Environmental Management Plans (EMPs) for the Western Cape province, including conducting a training course for provincial government	Author	Dept of Environmental Affairs & Development Planning, Western Cape
2005	Guideline for the review of specialist studies undertaken as part of environmental assessments	Member of Steering Committee and project facilitator	Dept of Environmental Affairs & Development Planning, Western Cape
2004	Review of Strategic Management Plan for Table Mountain National Park (2001-2004)	Reviewer and co-author	South African National Parks
2004	Strategic Needs Assessment Process for mainstreaming sustainable development into business operations	Researcher and co-author	CSIR (internal research)
2004	Environmental Monitoring Committees booklet in the IEM Information Series for DEAT	Contributing author	Department of Environmental Affairs and Tourism (DEAT)
2004	Overview of Integrated Environmental Management (IEM) booklet in the IEM Information Series	Lead author and researcher	DEAT
2003	Environmental Screening Study for gas power station, South Africa	Project Manager and lead author	Eskom, iGas and Shell
2003	Environmental Management Programme (EMP) Framework for the proposed Coega Aluminium Smelter; and assistance with preparing permit and licence applications	Project Manager and lead author	Pechiney, France
2003	Environmental Management Plan for the Operational Phase of the wetlands and canals at Century City, Cape Town	Project director and lead author	Century City Property Owners' Association
2002	Environmental Impact Assessment for the proposed Pechiney aluminium smelter at Coega, South Africa	Project Manager and lead author	Pechiney, France
2002 - 2003	Research project: Ecological impact of large-scale groundwater abstraction on the Table Mountain Group aquifer	Project Manager	Water Research Commission
2002	Environmental Management Plan for the Eskom Wind Energy Demonstration Facility in the Western Cape	Co-author	Eskom
2001-2002	Environmental Impact Assessment for the Eskom Wind Energy Demonstration Facility in the Western Cape	Quality control & co-author	Eskom
2001	Environmental Due Diligence study of	Project manager and co-	SFF Association

Appendix A, Curriculum vitae of project team members

Completion Date	Project description	Role	Client
	four strategic oil storage facilities in South Africa	author	
2000	Cape Action Plan for the Environment: a biodiversity Strategy and Action Plan for the Cape Floral Kingdom - legal, institutional, policy, financial and socio-economic component	Project manager and contributing writer	World Wide Fund for Nature (WWF): South Africa
1999	Environmental Management Plan for the establishment phase of the wetlands and canals at Century City, Cape Town	Project manager and lead author	Monex Development Company
1999	Environmental Management Programme for the Thesen Islands development, Knysna	Process design and Co-author	Chris Mulder Associates Inc; Thesen and Co.
1999	Management Plan for the coastal zone between the Eerste and Lourens River, False Bay, South Africa	Project manager and lead author	Heartland Properties and Somchem (a Division of Denel)
1998	Environmental Assessment of the Mozal Matola Terminal Development proposed for the Port of Matola, Maputo, Mozambique	Project manager and author.	SNC-Lavalin-EMS
1998	Strategic Environmental Assessment (SEA) for the Somchem industrial complex at Krantzkop, South Africa	Project manager and co-author	Somchem, a Division of Denel
1997	Strategic Environmental Assessment (SEA) for the proposed Industrial Development Zone and Harbour at Coega, Port Elizabeth, South Africa	SEA project manager and report writer	Coega IDZ Initiative Section 21 Company
1996	Environmental Impact Assessment of Development Scenarios for Thesen Island, Knysna, South Africa	Project manager and report writer	Thesen and Co.
1996	Environmental Impact Assessment of the Management Options for the Blouville wetlands, Cape Town	Project manager and report writer	Ilco Homes Ltd (now Monex Ltd)
1995	Environmental Impact Assessment for the Saldanha Steel Project, South Africa	Report writing and management of specialist studies	Saldanha Steel Project
1994	Environmental Impact Assessment for the upgrading of resort facilities on Frégate Island, Seychelles	Member of the project management team, co-author, process facilitator	Schneid Israelite and Partners
1994	Environmental Impact Assessment for exploration drilling in offshore Area 2815, Namibia	Project manager and co-author	Chevron Overseas (Namibia) Limited
1994	Management Plan for the Rietvlei Wetland Reserve, Cape Town	Project manager and lead author	Southern African Nature Foundation (now WWF-SA)
1993	Beach management plan for Stilbaai beachfront and dunes, South Africa	Project manager and lead author	Stilbaai Municipality
1993	Beach and dune management plan for Sedgfield for the beach east of the mouth of the Swartvlei estuary	Project manager and lead author	Nel and De Kock Planners, George
1993	Coastal Stability analysis and beach management plan for the Table View coastline north of Blaauwberg Road, Cape Town	Project manager and lead author	Milnerton Municipality

Publication record	<p>A comprehensive list of publications, book chapters and contract reports is available upon request, with a summary provided below.</p> <p><i>Publications in journals, peer reviewed conference proceedings and CSIR internal research reports:</i></p> <p>Weaver A, Pope J, Morrison-Saunders A & Lochner P, 2009, Contributing to sustainability as an environmental impact assessment practitioner, <i>Impact Assessment and Project Appraisal (IAPA)</i>, 26:2, 91-98. (This paper received the IAPA best paper award for 2009).</p> <p>Lochner P, 2009: Case study - The role of environmental and social screening in informing the conceptual design and planning of large-scale projects in the pre-feasibility phase, <i>in</i> DBSA, 2009, <i>What works for us – a South African Country report for tactics, Tools and Methods for Integrating Environment and Development (A South African Case study in partnership with the IIED)</i>, pp 37-38, Midrand, South Africa.</p> <p>Lochner P, Munster F and Burns M, 2006. Integrating Sustainability into Strategy (ISIS): a process to inform sustainability strategies and frameworks, <i>In: IAIA South Africa Annual Conference proceedings</i>, South Africa.</p> <p>Rossouw N and Lochner P, 2006. Environmental Monitoring Committees (EMCs): purpose, function and structure. <i>In: IAIA South Africa Annual Conference proceedings</i>, South Africa.</p> <p>Munster F and Lochner P, 2006, Integrating Sustainability Into Strategy: Handbook (Version 1) – describing a process to inform sustainability strategies, frameworks and reports, <i>CSIR Report ENV-S-I 2005-001</i>, ISBN 0-7988-5560-6, Stellenbosch.</p> <p>Van Zyl H, de Wit M, Munster F, Lochner P, Gerber G, 2005. Economics in Environmental Impact Assessment: demystifying the theory and practice, <i>In: Conference Proceedings of the IAIA South Africa 2005 Annual National Conference</i>. South Africa.</p> <p>Lochner P, Weaver A, Gelderblom C, Peart R, Sandwith T and Fowkes S, 2003. Aligning the diverse: the development of a biodiversity conservation strategy for the Cape Floristic Region. <i>Biological Conservation Vol. 112, ISSN: 0006-3207</i>.</p> <p>Lochner P, Münster F, Msutu M, Wren S, 2003. The role of stakeholder engagement in the EIA for the Coega Aluminium Smelter. <i>In: Conference Proceedings of the IAIA South Africa 2003 Annual National Conference</i>. ISBN 1-919891-04-8. South Africa.</p> <p>Lochner P, Brooks W, Pesch P & Münster M. 2003, Stakeholder engagement process in the EIA of an aluminium smelter, Published in <i>Light Metals 2003</i> (Ed. Paul Crepeau), Published by TMS (the Minerals, Metals & Materials Society), ISBN Number 0-87339-531-X, USA.</p> <p>Rossouw N, Audouin M, Lochner P, Heather-Clark S and Wiseman K, 2000. Development of strategic environmental assessment in South Africa. <i>Impact Assessment and Project Appraisal</i>. Vol 18, no. 3, pp 217-223. United Kingdom.</p> <p>Lochner P and Fowkes S, 2000. Building partnerships for the conservation of the biodiversity of the Cape Floral Kingdom: experiences and lessons learnt from the Cape Action Plan for the Environment. <i>In: IAIA-SA Conference Proceedings 2000</i>. South Africa.</p> <p>Lochner P and Rossouw N, 1997. The development of an Environmental Management Plan for incorporating a wetland into a large mixed use development: the Century City example. <i>In: IAIA-SA Conference Proceedings 1997</i>. South Africa.</p>
--------------------	---

Declaration of Independence (Paul Lochner)



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF EAP AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	12/12/20/
NEAS Reference Number:	DEAT/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

PROJECT TITLE

Windcurrent EIA and Environmental Management Plan for a proposed 50 MW wind energy project near Humansdorp in the Eastern Cape.

Environmental Assessment Practitioner (EAP): ¹	Paul Lochner		
Contact person:	Paul Lochner		
Postal address:	CSIR, P.O. Box 320, Stellenbosch		
Postal code:	7599	Cell:	084 442 3646
Telephone:	021 888 2661/2486	Fax:	021 888 2693
E-mail:	plochner@csir.co.za		
Professional affiliation(s) (if any)	IAIA-SA Certified Environmental Assessment Practitioner – SA (since July 2003)		
Project Consultant:	Windcurrent SA (Pty) Ltd		
Contact person:	Alan Wolfromm		
Postal address:	PO Box 762, Wilderness		
Postal code:	6560	Cell:	0844423646
Telephone:	044-877 0564	Fax:	011-367 4601
E-mail:	mrwolf@mweb.co.za		

4.2 The Environmental Assessment Practitioner

I, PAUL LOCHNER, declare that –

General declaration:

- I act as the independent environmental practitioner in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act.

Appendix A, Curriculum vitae of project team members

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2010;
- ~~I have a vested interest in the proposed activity proceeding, such vested interest being:~~

~~_____~~
~~_____~~
~~_____~~
~~_____~~



Signature of the environmental assessment practitioner:

CSIR

Name of company:

7 June 2011

Date:

CSIR PROJECT MANAGER– MINNELISE LEVENDAL

Curriculum Vitae

Minnelise Levendal

Abbreviated Curriculum Vitae

CSIR
Jan Cilliers Street
PO Box 320
Stellenbosch 7600
South Africa

Phone: +27 21 888 2400
Fax: +27 21 888 2693
Email: mlevendal@csir.co.za



CONTACT DETAILS:

Postal Address: P O Box 320, Stellenbosch, 7599
Telephone Number: 021-888 2495/2661
Cell: 0833098159
Fax: 0865051341
e-mail: mlevendal@csir.co.za

EDUCATION

- | | | |
|--------------------------|--------------------------------|------|
| ▪ M.Sc. (Botany) | Stellenbosch University | 1998 |
| ▪ B.Sc. (Hons.) (Botany) | University of the Western Cape | 1994 |
| ▪ B.Sc. (Education) | University of the Western Cape | 1993 |

MEMBERSHIPS:

- International Association for Impact Assessment (IAIA), Western Cape (member of their steering committee from 2001-2003)
- IUCN Commission on Education and Communication (CEC); World Conservation Learning Network (WCLN)
- American Association for the Advancement of Science (AAAS)
- Society of Conservation Biology (SCB)

EMPLOYMENT RECORD:

- **1995:** Peninsula Technicon. Lecturer in the Horticulture Department.
- **1996:** University of the Western Cape. Lecturer in the Botany Department.
- **1999:** University of Stellenbosch. Research assistant in the Botany Department

Appendix A, Curriculum vitae of project team members

- (3 months)
- **1999:** Ben Gurion University (Israel). Research assistant (Working in the Arava valley, Negev – Israel; 2 months). Research undertaken was published (see first publication in publication list)
- **1999-2004:** Assistant Director at the Department of Environmental Affairs and Development Planning (DEA&DP). Work involved assessing Environmental Impact Assessments and Environmental Management Plans; promoting environmental management and sustainable development.
- **2004 to present:** Employed by the CSIR in Stellenbosch:
 - September 2004 – May 2008: Biodiversity and Ecosystems Services Group
 - May 2008 to present: Environmental Management Services Group (EMS)

PROJECT EXPERIENCE RECORD:

The following table presents a list of projects undertaken at the CSIR as well as the role played in each project:

Completion Date	Project description	Role	Client
2012 (in progress)	EIA for the proposed Swartberg and Withoogte wind energy project near Moorreesburg, Western Cape	Project Manager	Electrawinds
2012 (in progress)	BA for a solar PV project near Humansdorp, Eastern Cape	Project Manager	WKN Windcurrent SA (Pty) Ltd
2012 (in progress)	EIA for the proposed Banna ba pifhu wind energy project, Eastern Cape	Project Manager	WKN Windcurrent SA (Pty) Ltd
2012 (in progress)	BA for wetland crossings near Swellendam	Project Manager	BioTherm Energy (Pty) Ltd
2012 (complete)	EIA for the proposed Ubuntu wind energy project, Eastern Cape, South Africa	Project Manager	WKN Windcurrent SA (Pty) Ltd
2011 (complete)	EIA for the proposed Excelsior wind farm near Swellendam in the Western Cape	Project Manager	BioTherm Energy (Pty) Ltd
2010 (complete)	Basic Assessment for the erection of two wind monitoring masts near Swellendam and Bredasdorp in the Western Cape	Project Manager	BioTherm Energy (Pty) Ltd
2010 (complete)	EIA for the erection of two wind monitoring masts near Jeffrey's Bay in the Eastern Cape	Project Manager	Windcurrent (Pty) Ltd
2010 (complete)	Basic Assessment Process for the proposed erection of 10 wind monitoring masts as part of the national wind atlas project	Project Manager	Department of Energy and SANERI
2010 (complete)	South Africa's Second National Communication under the United Nations Framework Convention on Climate Change	Project Manager	SANBI
2009 (complete)	Environmental screening study for two wind farms near Humansdorp and Jeffrey's Bay in the Eastern Cape	Project Manager	WKN Windcurrent SA (Pty) Ltd
2009 (complete)	Basic Assessment Report for a proposed boundary wall at the Port of Port Elizabeth, Eastern Cape	Project Manager	Transnet Ltd
2008	Developing an Invasive Alien Plant Strategy for the Wild Coast, Eastern Cape,	Co-author	Eastern Cape Parks Board

Appendix A, Curriculum vitae of project team members

Completion Date	Project description	Role	Client
2006-2008	Monitoring and Evaluation of aspects of Biodiversity	Project Leader	Internal project awarded through the Young Researchers Fund
2006	Integrated veldfire management in South Africa. An assessment of current conditions and future approaches.	Co- author	Working on Fire
2004-2005	Biodiversity Strategy and Action Plan Wild Coast, Eastern Cape, SA	Co-author	Wilderness Foundation
2005	Western Cape State of the Environment Report: Biodiversity section. (Year One).	Co- author and Project Manager	Department of Environmental Affairs and Development Planning

PUBLICATIONS:

Bowie, M. (née Levendal) and Ward, D. (2004). Water status of the mistletoe *Plicosepalus acaciae* parasitic on isolated Negev Desert populations of *Acacia raddiana* differing in level of mortality. *Journal of Arid Environments* 56: 487-508.

Wand, S.J.E., Esler, K.J. and **Bowie, M.R** (2001). Seasonal photosynthetic temperature responses and changes in ^{13}C under varying temperature regimes in leaf-succulent and drought-deciduous shrubs from the Succulent Karoo, South Africa. *South African Journal of Botany* 67:235-243.

Bowie, M.R., Wand, S.J.E. and Esler, K.J. (2000). Seasonal gas exchange responses under three different temperature treatments in a leaf-succulent and a drought-deciduous shrub from the Succulent Karoo. *South African Journal of Botany* 66:118-123.

Declaration of Independence

I, Minnelise Levendal, declare that I am an independent CSIR project manager and have no business, financial, personal or other interest in the proposed WKN Windcurrent SA (Pty) Ltd Wind Energy Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed on behalf of CSIR in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Minnelise Levendal
(CSIR Project Manager)

Curriculum Vitae

Jamie Pote

Professional Profile: Mr. Jamie Pote

26 January 2012

BIOGRAPHY

Date of Birth: 15 May 1974, Age: 36

ID Number: 740515 5152 089; Passport Number: 469 8150 12

Current Occupation: Freelance Botanical, Environmental and GIS Specialist Consultant

Jamie Pote has wide experience (4 years part and 5 years full-time) in botanical specialist studies, biophysical site assessments, environmental impact specialist reports (botanical specialist reports), Environmental Management Plans and rehabilitation in South Africa (Eastern Cape, Western Cape & Northern Cape), Namibia, Mozambique and Democratic Republic of Congo. He has broad experience in all Eastern Cape vegetation types, particularly Fynbos, Subtropical Thicket, Forest, Grassland, Karroid, Riparian and Coastal Dune systems.

FIELDS OF COMPETENCE

- Biophysical and ecological site assessment;
- Botanical field surveys and vegetation description;
- Environmental Impact Report specialist botanical studies;
- Restoration and rehabilitation ecology;
- Alien Invasive Plant ecology (terrestrial);
- Riparian Vegetation Index and assessment;
- Environmental Management Plans;
- Environmental Control/Site Officer (ECO/ESO);
- Geographical Information Systems mapping and analysis;
- Basic Carbon credit assessments;



SERVICES OFFERED

Terrestrial Vegetation Assessments

- Overview and implications of regional planning models (VegSA, STEP and CAPE, etc), describing the dominant vegetation units that would naturally occur on the site. Implications of regional planning frameworks to addresses the requirements of the National Environmental Management: Biodiversity Act (No 10 of 2004);
- Site visit to map the on-site vegetation (including state of degradation/transformation, level of alien invasion and overall sensitivity);
- Compile comprehensive species list, including list of Species of Special Concern (SSC) - both declared Alien Invasive Plant species (according to the Conservation of Agricultural Resources Act 43 of 1983 (CARA) and the Conservation of Agricultural Resources Regulations) as well as endemic, threatened and protected plant species (as per National Forests Act 84 of 1998 (NFA); Western Cape Nature Conservation Laws Amendment Act (3 Of 2000); Provincial Nature Conservation Ordinance (PNCO) of 1974 and IUCN threatened species programme;
- Sensitivity assessment (criteria including relative conservation and ecological importance of the vegetation communities, presence of indigenous species of special concern (SSC's) and extent of invasion, as well as the degree to which successful rehabilitation can take place and any other relevant indicators);
- Assessment of any potential impacts and mitigation measures for EIA requirements;
- Recommendations regarding Open Space management, rehabilitation requirements and plans.

Page 1 of 7

Professional Profile: Mr. Jamie Pote

26 January 2012

Biophysical Site Assessments

- Combine own Terrestrial Vegetation Assessments with outsourced additional studies available from network of independent biophysical specialists;
- Compilation of a single biophysical report, inclusive of above terrestrial assessment in addition to the incorporation of additional specialist studies undertaken by network of specialists (includes faunal - avifauna, amphibians, reptiles and mammals; wetlands and rivers; geological; visual; hydrogeology; estuarine and saltmarsh; aquatic invertebrates; Ichthyofauna; Agricultural potential, etc.
- Heritage; paleontological and archaeological assessments

Riparian Vegetation Assessments

- Riparian Vegetation is assessed using Riparian Vegetation Response Assessment Index (VEGRAI).

Environmental Management Plans

- General EMP's (CEMP & OEMP);
- Vegetation management plans;
- Invasive alien vegetation clearing plans;
- Rehabilitation and landscaping plans;
- Fire management plans;
- Stormwater management plans;
- Faunal management plans;
- Flora Relocation plans;



GIS Mapping

- Aerial Photographs (dependant on availability);
- Digital Elevation Models (DEM's);
- Topographical/Geological Maps;
- Overlay of CAD (Engineering/Architectural) data;
- On-site vegetation community and sensitivity mapping;
- Regional Vegetation Planning Maps (VegSA, STEP, CAPE, etc);

Site screenings and Risk Assessments

- Identification and assessment of Environmental Risks associated with potential development sites (farm portions & erven);
- Recommendations regarding potential specialist input requirements (i.e. wetlands, rivers, archaeological, etc);

Rehabilitation/Revegetation Plans

- Post invasive alien vegetation clearing revegetation plans;
- Post construction rehabilitation plans;
- Open Space rehabilitation plans for developments

Professional Profile: Mr. Jamie Pote

26 January 2012

Alien vegetation clearing and rehabilitation plans

- Assessment and mapping of alien invaded areas;
- Assessment of alternative land-uses;
- Alien clearing plans and investigation of cost-effective alternatives;
- Post clearing rehabilitation plans;

Environmental Control/Site Officer (ECO/ESO) and Audit Services

- Environmental Control or Site Officer (ECO/ESO) for all types of developments (Eco-Estates, Golf Estates, Housing Estates, Residential);
- Flora relocation plans and permit applications;
- Site audits can be conducted to meet RoD obligations for any types of development;

TARGET CLIENTS

- Independent Environmental Practitioners;
- Private Sector - Property developers, Communication masts;
- Government/Municipal Sector - roads, power-lines, water pipelines, wind-farms;
- NGO's - agriculture, botanical related projects;
- Game farms, Agriculture Projects, Nurseries;
- Lifestyle Developments - Eco Estates, Golf Estates, Agri-Estates;
- Mining companies - Mining applications, rehabilitation plans, EMP's;

ACADEMIC QUALIFICATIONS

- BSc Rhodes University (Majors: Botany and Environmental Science): 2001
- BSc (Hons.) Rhodes University (Botany): 2002

PROFESSIONAL SKILLS

- Botanical specialist in Field Ecology; Vegetation Site Assessment; Restoration and Rehabilitation Ecology, Invasive Alien Plant Ecology, Carbon trading and vegetation mapping.
- Software proficiency: Microsoft Vista/7, Linux OS, Microsoft Office 2007/2010; Manifold GIS; Arc GIS; Statistica; Community Analysis Package (CAP and ECOM); Photoshop and CorelDraw.

RESEARCH EXPERIENCE

- Resource assessment of bark stripped trees in indigenous forests in Weza/Kokstad area (June 2000; Dr. C. Geldenhuis & Mr. M. Kaplin)
- Working for Water research project for indigenous trees for woodlots (December 2000/January 2001; Prof R.A. Lubke)
- Project co-ordinator and leader of the REFYN project - A BP conservation gold award: Conservation and Restoration of Grassy-Fynbos. A multidisciplinary project focussing on management, restoration and public awareness/education (2001 - 2002)
- Conservation Project Management Training Workshops: Royal Geographical Society, London 2001 - Fieldwork Techniques, Habitat Assessment, Biological Surveys, Project Planning, Public Relations and Communications, Risk Assessment, Conservation Education

Page 3 of 7

Professional Profile: Mr. Jamie Pote

26 January 2012

- Selection and availability of wood in Crossroads village, Eastern Cape, South Africa. Honours Research Project 2002. Supervisors: Prof. R.A. Lubke & Prof. C. Shackleton
- Floral Morphology, Pollination and Reproduction in *Cyphia* (LOBELIACEAE). Honours Research Project 2002. Supervisor: P. Phillipson
- Forestry resource assessment of bark-stripped species in Amatola District (December 2002; Prof R.A. Lubke)

SUMMARY OF KEY PROJECTS TO DATE

- **Powerlines/Pipelines:** Eskom Grassridge-Dedisa powerline (2006-2007; Savannah Environmental, Jo-Anne Thomas; 2006-2007, Dr P. Illgner; Ms. S. Boast, Eyethu Engineers, Durban); Albany-Kowie powerline (BESC, Terratest); Elandsriver to Port Elizabeth pipeline, Erasmuskloof pipeline and Motherwell pipeline upgrades, Port Elizabeth, Steytlerville (2006 - 2008, Anton Bok & Associates).
- **Mining:** various small to medium scale mining projects in the wider eastern Cape region (GES, 2005-2007, Mr M. Rynhoud); Kalukundi (Democratic Republic of Congo) Copper Cobalt Vegetation Assessment for ESIA (Envirovolution, 2008, Ms N. Khandhela); Elitheni Coal Mine Scoping and EIA Botanical Assessment, Indwe (Savannah Environmental, Ms K. Jodas), Baghana gold mining - EMP and general environmental management, Ghana (Baghana mining, 2011, Mr. D. Underwood & Mr. M. Gillie).
- **Wind Farms:** Mainstream SA Windfarm - Jeffreys Bay (2009-2010, CSIR, Mr P. Lochner); Elektrawinds Windfarm, Coega IDZ (2010, CSIR, Mr P. Lochner), Red Cap Investments Wind Farm, Kouga municipality (Arcus Gibb, Mr. N. Klages), INcA Windfarm - Vredendal, Burgersdorp & Queenstown (CSIR, 2011); Universal Wind windfarm, Coega IDZ (CSIR, 2011).
- **Riparian:** Riparian vegetation index for gauging weirs along the Vaal and Orange rivers, South Africa and Namibia (Bolhweki, 2005); Erasmuskloof pipeline (Anton Bok Aquatic Consultants, 2011).
- **Agriculture:** Congo Agriculture, Malola Farm, Dolise, Republic of Congo. GIS mapping and general environmental planning services (Mr Andre Bothe, Congo Agriculture)
- **Coega IDZ:** various botanical surveys, EMP's and vegetation assessments for the Coega Industrial Development Zone including Eskom Grassridge-Dedisa powerline (2006-2007; Savannah Environmental, Ms J. Thomas; 2006-2007, Dr P. Illgner; Sharon Boast, Eyethu Engineers, Durban); PetroSA Botanical Assessment (CSIR, Mr P. Lochner); Coega Colchester N2 road upgrade specialist study (2009, SRK Consulting, Mr R. Gardiner);
- **Port Elizabeth:** Madiba Bay Leisure Park - Botanical Assessment (2005-2007, CES; Ms. M. Griffiths); Arlington race course (2005; Dr P. Illgner); Colchester/Sundays River housing development (GES, 2005, Mr M. Rynhoud); Winterhoek Park Extension housing development, Uitenhage (Ms Sandy Wren, Public Process Consultants); PE Airport Extension (2006, CES, Dr. B. Coloty); Seaview Eco-estate (2006, Mr M. Rynhoud, GES); Motherwell Pipeline (2007, Anton Bok and Associates); Amanzi Ecoestate (2007 - 2008, Public Process Consultants); 2010 road upgrades (2007; Mazizi Msutu & Associates) and Bay West City Precinct (Mazizi Msutu and Associates & Impact Consulting); Chelsea-Redhouse Walker Drive extension road (Terratest
- **Plettenberg Bay and Garden Route:** Various housing and eco-estate developments (2006 - 2007; Wendy Floyd and Associates; Indigenous Gardens, Mr D. Underwood and Eco-Route Environmental Consultancy, Dr C. Ebersohn).

Page 4 of 7

Professional Profile: Mr. Jamie Pote

26 January 2012

- East London: Vegetation assessments at Glengarrif, Gonubie, Nahoon, Winterstrand Kidds Beach and Rockcliff for housing developments (BESC, 2005 - 2007, Dr M. Logie); East London Golf Course expansions; Woodlands, Rockcliff and Kidds Beach Golf estates (BESC, 2006-present, Dr M. Logie)
- Port Alfred: Municipal pipeline (2004, CES, Ms. M. Griffiths); Development on Cheese farm (2004; Dr. A. Wood); Trailees housing development (2005; CES, Prof. R.A. Lubke); Rosehill farm development (2005, CES, Prof. R.A. Lubke); Peninsular farm development, Kleinemonde (2005, CES, Prof. R.A. Lubke); Carpe Diem Eco-estate, Fish River Mouth (2005-2007, Dr P. Illgner & Chand Environmental);
- Eastern Cape Interior: *Eskom Powerline*, Steynsburg to Teebus (2004; CES, Mr. L. Bosman); Resolution game Farm (Fort Beaufort); Roydon Game farm Eco-estate, Queenstown (2006, Dr M. Logie, BESC); Vegetation Assessment for low cost housing, Humansdorp, Patensie & Hankey (Thibane Strydom & Assoc)
- Wild Coast and Montane: Tyalara - Wilo *Eskom powerline* (2006, CES, Mr L. Ngcosini); Port St Johns Road upgrade (2009, Flux Development Scientists) Tiffendell Ski Resort Detailed Botanical Assessment (2006 - 2007; Savannah Environmental).
- Environmental Management Plans and ECO: Seaview Gardens Eco-Estate EMP compilation and ECO (2009/2010, Mr J. Shamley); Sinati Golf Estate - East London; Impact Consulting, Mr M. Msutu); Bay West City (2008-2010, Impact Consulting, Mr M. Msutu); NMBM Cluster road and stormwater upgrades (2010, Public Process Consultants, Ms. S. Wren).
- General: Field assistant for vegetation assessment for Corridor Sands titanium mine powerline (January 2001) and mine haul road (January 2002, Mozambique) (CES; Prof. R.A. Lubke); Desktop study: Ecology of Alien Invasive plants research assessment for Working for Water (June 2002; Prof. C. Fabricius, Rhodes University); Chris Hani District Municipality State of the Environment Report (SoER) - Botanical Specialist Report (2003; CES, Dr. P. Illgner); State of the Environment report (Botanical Specialist Report, Forest rehabilitation and Carbon credit trading) for the Amahlati municipality (2006-2007, CES, Ms. M. Griffiths); Umthathi Africulture centre - Botanical specialist in planning and implementation of indigenous nursery and training centre (2004-2005, Umthathi, Grahamstown).

*client and year indicated in brackets

KEY CLIENTS TO DATE

Company/Consultant	Principle Contact
Anton Bok & Associates	Dr A. Bok
Biotechnology and Environmental Specialist Consultants (BESC)	Dr M. Logie
BKS (Port Elizabeth)	Mr K. Blignaut
Bluepebble (Plettenberg Bay)	Mr J. Kingwell
CEN (Port Elizabeth)	Dr M. Cohen
Chand Environmental (Cape Town)	Ms. E. Herschell
Clean Stream Environmental	Ms. A. Erasmus
Coastal and Environmental Services (CES)	Ms. M. Griffiths, Prof. R. Lubke
CSIR (Stellenbosch)	Mr P. Lochner
Doug Jeffries Consulting	Ms L. van Zyl

Professional Profile: Mr. Jamie Pote

26 January 2012

Company/Consultant	Principle Contact
Flux Development Scientists (East London)	Ms. N. Ntunzi
Geological and Environmental Services	Mr M. Rynhoud
Masande Consulting	Mr L. Ngcosini
Public Process Consulting (Port Elizabeth)	Ms. S. Wren
SRK Consulting (Port Elizabeth)	Dr R. Gardiner
SEC, Tokai	Ms C. McCreadie
Terratest (Port Elizabeth)	Mr D. Bokveldt
Thibane Strydom & Assoc.	Mr B. Thibane, Mr A. Strydom
Wendy Floyd & Associates (Plettenberg Bay)	Ms W. Floyd
Baghana mining (Ghana)	Mr. D. Underwood; Mr M. Gillie

CONFERENCES AND PUBLICATIONS

- Pote, J., Shackleton, C.M., Cocks, M. & Lubke, R. 2006. Fuelwood harvesting and selection in Valley Thicket, South Africa. *Journal of Arid Environments*, 67: 270-287.
- Pote, J., Cocks, M., Dold, T., Lubke, R.A. and Shackleton, C. 2004. The homegarden cultivation of indigenous medicinal plants in the Eastern Cape. *Indigenous Plant Use Forum*, 5 - 8 July 2004, Augsburg Agricultural School, Clanwilliam, Western Cape.
- Pote, J. & Lubke, R.A. 2003. The selection of indigenous species suitable for use as fuelwood and building materials as a replacement of invasive species that are currently used by the under-privileged in the Grahamstown commonage. Working for Water Inaugural Research Symposium 19 - 21 August 2003, Kirstenbosch. Poster presentation
- Pote, J. & Lubke, R.A. 2003. The screening of indigenous pioneer species for use as a substitute cover crop for rehabilitation after removal of woody alien species by WfW in the grassy fynbos biome in the Eastern Cape. Working for Water Inaugural Research Symposium 19 - 21 August 2003, Kirstenbosch, South Africa
- Pote, J. & Lubke, R.A. 2002. The screening of pioneer species for restoration of degraded forest and grassy fynbos (heath) following removal of invasive woody aliens, in the Eastern Cape South Africa. *South African Association of Botanists Conference, Grahamstown.*

CONTACT DETAILS

Phone: Cell: (+27) 083 743 9353, Fax: (+27) 0866 503 506;

Email: jamiépote@aerosat.co.za or jamiépote@gmail.com

Physical: 7 La Monate, Longwy Ave, Lorraine, Port Elizabeth, 6070

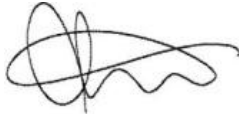
Postal: Postnet Suite 177; P. Bag X0002; The Fig Tree, Port Elizabeth, 6033; South Africa

LANGUAGES

Language	Speaking	Reading	Writing
English	Proficient	Proficient	Proficient
Afrikaans	Good	Proficient	Good

Declaration of Independence

I, Jamie Pote, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed WKN Windcurrent SA (Pty) Ltd Wind Energy Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Mr Jamie Pote

Curriculum Vitae

Chris van Rooyen

DATE OF BIRTH: 30 April 1964

QUALIFICATIONS: BA Law (Rand Afrikaans University)
LLB (Rand Afrikaans University)

SPECIALIST FIELD Avifauna

RELEVANT WORK EXPERIENCE

- **1991-1995:** Volunteer for the Endangered Wildlife Trust's Raptor Conservation Group and Vulture Study Group.
- **1996-2007:** Specialist Consultant with the Endangered Wildlife Trust. Duties entailed the overall co-ordination and management of the Endangered Wildlife Trust's national programme to eliminate negative wildlife interactions with electrical utility structures in southern Africa
- **November 2007 to present:** Consultant specialising in the impacts of industrial developments on avifauna.

CLIENTS

Industry

- Eskom Distribution Division
- Eskom Transmission Division
- Eskom Research (Resources and Strategy)
- Eskom Generation Division
- Botswana Power Company
- NamPower (Namibia)
- Debswana (Botswana)
- SAPPI
- Texas Utility Company (USA)
- TransPower (New Zealand)
- South African Roads Agency

Lead Consultants

- Bohlweki Environmental
- Strategic Environmental Focus
- Tswelopele Environmental
- Digby Wells Associates
- Iliso Consulting
- Savannah Environmental
- PBA International
- Arcus GIBB
- Landscape Dynamics
- BKS
- Naledzi Environmental
- Eyethu Engineers
- Ninham Shand

Appendix A, Curriculum vitae of project team members

- WSP Environmental
- Enviro Dynamics (Namibia)
- Eco Assessments
- Loci Environmental (Botswana)
- SRK
- Zitholele Consulting
- EcoPlan (Namibia)
- Groundwater Consultant Services – SA
- Synergestics
- Urgeneg

ENVIRONMENTAL IMPACT ASSESSMENT STUDIES, CONFERENCE PRESENTATIONS AND RESEARCH

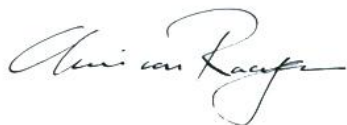
• New power lines:	109
• Power stations:	2
• Wind-powered generation facilities:	20
• Existing electricity infrastructure:	18
• Other industrial developments	22
• Papers and Conference Presentations:	16
• Research Reports:	9

AWARDS

- The Eskom-EWT Strategic Partnership won the Edison Electric Institute Common Goals Award in the USA for outstanding electric utility customer and community relations programmes in 1997, from a field of 61 international entries from 49 countries.
- The Eskom-EWT Strategic Partnership was a finalist in the 1998 and 2000 Green Trust Awards.
- Eskom Manager's Award in 1997 for the management of animal interactions.
- Eskom Manager's Award in 1999 for environmental management.
- Highly Commended Award in 2001 for Business Efficiency from Eskom Transmission Group.
- Nominated for Eskom Chairman's Award in 2001 in Environmental Category
- Runner-up: Eskom Resources and Strategy manager's award 2003
- Listed in Marqui's Who's Who in the World 2007 edition
- Northern Cape Raptor Conservationist of the Year: 2004

Declaration of Independence

I, Chris van Rooyen, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed WKN Windcurrent SA (Pty) Ltd Wind Energy Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Mr Chris van Rooyen (Chris van Rooyen Consultants)

Curriculum Vitae

Kate MacEwan

Name: KATE LOUISE MacEWAN

Name of Firm: Natural Scientific Services CC

Position: Senior Environmental Scientist (Member)

Date of Birth: 28 April 1975

Nationality: United States of America (South Africa is Place of Birth and Permanent Residence)

Languages: English (mother tongue), Afrikaans

EDUCATIONAL QUALIFICATIONS

- ✚ M Sc (Zoology – Bat Conservation Biology) University of the Witwatersrand, Johannesburg (in progress)
- ✚ B Sc Hons (Zoology) University of the Witwatersrand, Johannesburg (1998)
- ✚ B Sc University of the Witwatersrand, Johannesburg (1997)

KEY EXPERIENCE

✚ Courses Completed:

- **2005 renewed in 2008:** SASS5 Accreditation with the National Department of Water Affairs and Forestry (DWAF)
- **2002:** University of the Witwatersrand Masters Courses successfully completed: Savannah Ecology, Environmental Management, and Biogeochemistry.
- **2001:** Foundation course in Environmental Auditing - IEMA approved

✚ Legal Environmental Processes:

Compiled numerous Scoping Reports, Environmental Impact Assessments, Basic Assessments, Environmental Management Programme Reports and Water Use Licence Applications as required by the Environment Conservation Act (Act 73 of 1989), National Environmental Management Act (Act 107 of 1998) EIA Regulation (April, 2006), Mineral and Petroleum Resources Development Act (Act No. 28 of 2002) and National Water Act (Act 36 of 1998).

✚ Specialist Assessments:

- Kate has over 13 years experience as a practicing zoologist in the conservation and consulting industries Numerous faunal assessments within the Gauteng, North West, Limpopo and Mpumalanga Provinces of South Africa, with the study of Mammals and Bats (Chiroptera) being a key speciality.
- Specialist Bat Assessments for various projects, e.g.
 - Bat impact assessment for the development of an automobile production factory near Bon Accord, Pretoria,

Appendix A, Curriculum vitae of project team members

- Bat assessment for the development of a Management and Action Plan for a cave on a Driefontein Gold Mine,
- Bat impact assessments for the development of 7 different Wind Farms in the Northern and Western Cape – under ERM.
- Bat impact assessments for the development of a Wind Farm in Namaqualand, Western Cape – under DJ Environmental Consultants
- Bat impact assessment for the mining through of old mine adits containing bats at Pilanesburg Platinum Mine, North West Province.
- Current long-term pre-construction monitoring at 13 Wind Farm sites in South Africa
- She is Fall Arrest certified to climb heights over 3m.
- She has served on the Gauteng & Northern Regions Bat Interest Group (GNorBIG) executive committee for over 10 years. Her duties have included bat scientific research and educational talks to the public.
- She is currently completing a Masters of Science degree with Wits University in Bat Conservation Biology.
- She has hand-reared over 25 individual bats over her career.
- She was also involved with EWT on bat conservation related projects


 **Environmental Educational:**

Has been actively involved in Environmental Education projects for organisations such as Delta Environmental Centre, Wits University, St Stithians College and Johannesburg Zoo

EMPLOYMENT EXPERIENCE

 **Member: Natural Scientific Services, Johannesburg (October 2003-Present)**

- Project management and fieldwork for numerous terrestrial and aquatic ecological assessments
- Specialist Bat Assessments for various projects
- Project management for various Environmental Impact Assessments, Environmental Programme Reports and Water Use Licence applications for the Conservation, Mining, Waste and Industrial sectors.
- Remediation audits within the industrial sector
- Tender and proposal compilation
- Administration
- Marketing
- Liaison with clients and government officials
- Environmental Education

 **Environmental Scientist: Jones & Wagener Civil Engineers (March 2000-September 2003)**

- Project management for various Environmental Impact Assessments, Environmental Programme Reports and Water Use Licence applications for the Mining, Waste and Industrial sectors
- Fieldwork for surface water quality and ecological assessments
- Tender and proposal compilation
- Liaison with clients and government officials

- ✚ **Area Manager (contract post): Working for Water – Kruger National Park (October 2000-January 2001)**
 - Management of Alien Plant Clearing operations
 - Project / Financial administration
 - People management

- ✚ **Zoo Keeper: Johannesburg Zoological Gardens (September 1998-March 2000)**
 - Husbandry of carnivores, pachyderms and ungulates.
 - Rearing of injured or orphaned animals of all kinds.
 - Environmental Education
 - Waste Management
 - People Management – employees and public

MEMBERSHIPS IN PROFESSIONAL SOCIETY

- ✚ Accredited with the Department of Water and Environmental Affairs (DWEA) for SASS5 aquatic assessments.
- ✚ South African Council for Natural Scientific Professions (PrSciNat) – Zoology and Environmental Science
- ✚ International Association for Impact Assessment (IAIA)
- ✚ Endangered Wildlife Trust (EWT)
- ✚ Gauteng & Northern Regions Bat Interest Group (GNorBIG) Research Committee Member
- ✚ Bat Conservation International (BCI)
- ✚ Free Me Wildlife Rehabilitation Centre

Declaration of Independence

BOX 7.1: DECLARATION OF INDEPENDENCE FOR BATS IMPACT ASSESSMENT

I Kate MacEwan declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed Banna Ba Pifhu Wind Energy Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Kate MacEwan

Curriculum Vitae

Henry Holland

Name of organisation:	Mapthis Trust
Profession:	GIS Consultant
Position in Firm:	Owner
Date of Birth:	26 December 1968
Years with Firm:	6

BIOGRAPHICAL SKETCH

Henry has been doing GIS related work since 1992 when he started his M.Sc. in Geology. Since finishing his Masters he worked in Angola establishing a GIS department for a diamond exploration company, after which he worked on a freelance basis for eight years doing GIS related work and computer programming. In 2005 he established the Mapthis Trust which provides geospatial services for a range of environmental and geological companies and projects. Henry has been involved in Visual Impact Assessments (VIAs) since 1997 doing visibility analyses for numerous power line EIA projects, and since 2006 he has completed a number of full VIA reports.

TERTIARY EDUCATION

1996	M. Sc. Geology/GIS	Rhodes University
1986	B.Sc. Hons	UOFS

KEY EXPERIENCE

The table below presents an abridged list of Henry's project experience relevant to this proposal:

Completion Date	Project description	Role	Client
2012	Hluhluwe WEF VIA	Author	CES
2012	Plan8 Grahamstown Wind Farm VIA, Eastern Cape	Author	CES
2012	Kipeto Wind Farm VIA, Kenya	Author	Galetech Energy Developments Ltd.
2011	Coega IDZ Zone 12 Wind Farm	Author	CSIR
2011	Haverfontein Wind Farm, Mpumalanga	Author	CES
2011	Middleton Wind Farm, Cookhouse	Author	CES
2011	Broadlands PV Plant, Humansdorp	Author	CSIR
2011	Ubuntu Wind Farm, Jeffrey's Bay	Author	CSIR
2011	Lushington Park Wind Farm, East	Author	CES

Appendix A, Curriculum vitae of project team members

Completion Date	Project description	Role	Client
	London		
2011	Chaba Wind Farm, Komga	Author	CES
2010	Thomas River Wind Farm and PV Park VIA, Stutterheim	Author	CES
2010	Eskom Power Line VIA, Kouga	Author	CES
2010	Laguna Bay Resort VIA	Author	CES
2010	Kouga Wind Farm VIA	Author	Arcus GIBB
2010	Electrawinds Coega Wind Farm VIA	Author	CSIR
2010	Innowind Coega Wind Farm VIA	Author	CES
2010	Jeffrey's Bay Wind Farm VIA, Jeffrey's Bay	Author	CSIR
2010	Cookhouse Wind Farm VIA, Cookhouse	Author	CES
2009	Waainek Wind Farm VIA, Grahamstown	Author	CES
2009	Coega Wind Turbine BA (Visual Input)	Author	CSIR
2009	Sierra Leone Ethanol Plant VIA	Author	CSIR
2009	NamWater Desalination Plant VIA, Swakopmund, Namibia	Author	CSIR
2009	Nooitgedagt/Coega Water Supply VIA, Motherwell	Author	SRK
2009	CDM Brewery VIA, Nampula, Mozambique	Author	CES
2009	TankaTara Preliminary Visibility Analysis, Addo	Author	CES
2008	Kouga Wind Energy Project VIA, Jeffrey's Bay	Author	CSIR
2008	Aston Bay VIA	Author	CES
2008	NPA Boundary Wall VIA, Port Elizabeth	Author	CSIR
2008	Elitheni Coal Mining VIA, Indwe	Author	Savannah Environmental (Pty) Ltd.
2008	Coegakamma Chicken Broiler Housing VIA	Author	Public Process Consultants
2008	Amanzi Country Lifestyle Estate VIA, Uitenhage	Author	Public Process Consultants
2008	Coegakammaskloof Chicken Broiler Housing VIA	Author	Public Process Consultants
2008	Ngqura Manganese Terminal Pre-Feasibility VIA	Specialist Input	CSIR
2007	Visual Impact Assessment for Stuytlerville Bulk Water Supply, Baviaanskloof	Author	Anton Bok and Associates
2007	Elitheni Coal Mining Scoping VIA	Author	Savannah Environmental (PTY) Ltd.
2007	Kouga Wind Farm and Pump Station VIA	Author	CSIR
2007	Boschfontein Chicken Broiler Housing VIA	Author	Public Process Consultants

Appendix A, Curriculum vitae of project team members

Completion Date	Project description	Role	Client
2006	Telkom Tower Replacement, Elarduspark, VIA	Author	Naledzi Environmental Consultants CC

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe my qualifications, my experience, and me, and that I am available to work on this project.



Date: 07/11/12

[Signature of staff member and authorized representative of the firm]

Day/Month/Year

Full name of staff member: Henry Holland

Declaration of Independence

BOX 8.1: DECLARATION OF INDEPENDENCE FOR VISUAL ASSESSMENT

I **Henry Holland** declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed WKN Windcurrent Banna Ba Pifhu Wind Energy Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



HENRY HOLLAND

Curriculum Vitae

Brett Williams

Name of organisation:	Safetech
Profession:	Occupational Hygienist
Position in Firm:	Owner
Date of Birth:	21/04/1963
Years with Firm:	19
Nationality:	South African

MEMBERSHIP OF PROFESSIONAL BODY

Southern African Institute of Occupational Hygienists
Institute of Safety Management
Mine Ventilation Society
National Clean Air Association
TUV ISO 14001 Auditor

BIOGRAPHICAL SKETCH

Brett Williams has been involved in Health Safety and Environmental Management since 1987, and has been measuring noise related impacts since 1996. Brett is the owner of Safetech who have offices in Pretoria and Port Elizabeth. He has consulted to many different industries including, mining, chemical, automotive, food production etc. He is registered with the Department of Labour and Chamber of Mines to measure environmental stressors, which include chemical monitoring, noise and other physical stresses. He has also been trained by the United States Environmental Protection Agency on air pollution measurement and dispersion modelling. Brett has extensive ISO 14001 auditing experience, having audited for organisations such as Volkswagen South Africa, BMW South Africa, Continental Tyre etc.

DETAILED TASKS ASSIGNED

Brett Williams has been assigned to various projects to assess environmental noise impacts.

KEY QUALIFICATIONS

The table below presents an abridged list of Brett Williams' project experience relevant to this proposal (noise):

The list below presents an abridged list of Brett Williams' project experience relevant to this proposal:

- Arcus Gibb – Kouga Wind Energy Project
- CSIR – Walvis Bay Port Extension
- CSIR – Noise Impact Study of Namwater Desalination Plant
- CSIR - Kouga Wind Turbine Project – Background Noise Measurements
- CSIR - Kouga Wind Turbine Project
- CSIR Wind Current Wind Turbine Project
- CSIR – Coega IDZ Wind Turbine Project
- CES – Coega IDZ Wind Energy Project
- CES – Waainek Wind Energy Project
- CES - Ncora Wind Energy Project
- CES - Qunu Wind Energy Project
- CES - Nqamakwe Wind Energy Project
- Crown Chickens – The independent report review of a noise specialist report conducted as part of an EIA to establish a new broiler farm
- BMW – The evaluation of the impact of the Rosslyn production facilities on the surrounding community.
- Victory Race Track - Specialist noise report conducted as part of an EIA to establish a new stock car racing track.
- Continental Tyre - The evaluation of the impact of production facilities on the surrounding community.
- Media 24 – The measurement portion of an investigation on the impact of a printing press on a local community. The main study was conducted by the University of Stellenbosch.
- Zwarteboosh Quarry - Specialist noise report conducted as part of an EIA to establish a new quarry.
- Milo Granite - Specialist noise report conducted as part of an EIA to establish a new quarry.
- Dunlop Tyres - The evaluation of the impact of production facilities on the surrounding community.
- Sasol Secunda - Independent report review of a noise specialist report conducted to determine the impact of production facilities on the surrounding community.
- Barlow World Coatings - The evaluation of the impact of production facilities on the surrounding community.
- Western Platinum Refinery - The evaluation of the impact of production facilities on the surrounding community.

TERTIARY EDUCATION

- National Diploma Health & Safety Management
- Bachelor of Arts (UPE)

Appendix A, Curriculum vitae of project team members

- United States EPA Pollution Measurement course conducted at the University Of Cincinnati (EPA Training Centre)
- US EPA Air Dispersion Modelling Training Course
- Master of Business Administration (University of Wales) with dissertation on environmental reporting in South Africa.
- PhD - Currently registered at University of Pretoria. The thesis has been submitted for external examination and graduation is possible in 2012.
- Various Health & Safety Courses.
- Environmental Auditor (ISO 14001:2004)

LANGUAGES

Language	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Afrikaans	Good	Good	Fair

Declaration of Independence

BOX 9.1: DECLARATION OF INDEPENDENCE FOR NOISE IMPACT ASSESSMENT

I, Brett Williams, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed Wind Current Banna Ba Pifhu Wind Energy Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Brett Williams (Author)



Andrew Wade (Technical Reviewer)

Curriculum Vitae

Hugo van Zyl

Profession:	Economist
Present Occupation:	Independent researcher and consultant
Citizenship:	South African & Canadian
Born:	03/03/1972
Contact details:	Address: P.O. Box 1015 Green Point 8051, South Africa
	Tel: +27 (21) 4342659
	Fax: +27 866712638
	Mobile: +27 825784148
	E-mail: hugovz@mweb.co.za

Key Qualifications:

Economist with fourteen years experience focusing on the analysis of projects and policies with significant environmental and development implications. Has been involved in over 60 appraisals of infrastructure projects, industrial developments, mining, land use changes, conservation projects and eco-tourism initiatives throughout Southern Africa. Has lead, participated in and co-ordinated research in environmental resource economics, socio-economic impact assessment and project evaluation. Has provided economic inputs and guidance with regard to national water tariff, air pollution, biodiversity conservation, biofuels and climate change policy. Has had broad exposure to options for local economic development and their successful implementation. Maintains particular research interests in project/policy appraisal techniques, environmental resource economics and natural resource management's role in economic development. Clients have included UNEP, WWF, The World Bank, USAID, KPMG, SANParks, the South African Water Research Commission, the City of Cape Town and the CSIR.

Tertiary Education:

BSc. University of Cape Town, South Africa. 1992 – 1994.

Majors: Economics, Environmental and Geographical Science.

BCom. Honours (Economics). University of Cape Town, South Africa. 1995.

Subjects: Macro and Microeconomics, Environmental resource economics, Development economics, Regional economics, Integrated environmental management.

Mcom. (Economics). University of Cape Town, South Africa. 1996 - 1998

Thesis title: "Water Resource Decision Making in the Western Cape Systems Analysis"

PhD. (Economics). University of Cape Town, South Africa. 2005 - 2007

Thesis title: "Property Price Approaches to the Valuation of Urban Wetlands: Theoretical Considerations and Policy Implications"

Other Training

- Teaching Workshop in Environmental Economics held by the Beijer International Institute of Ecological Economics (Sweden) in Cape Town (1996).
- Natural resource economics short-course presented by the United States Bureau of Reclamation in Cape Town (2000).

Employment Record:

- Freelance economic researcher and consultant in Cape Town, South Africa (part time from 1995 to 1997 and full time from Jan. 1998 to Mar. 1999).
- Founder and head researcher of Independent Economic Researchers in Cape Town, South Africa (Apr.1999 – present).
- Resource Economics Co-ordinator for Cape Action for People and the Environment (C.A.P.E) – a World Bank funded biodiversity conservation programme housed at the South African National Biodiversity Institute. Main responsibilities include conceptualising and planning the environmental resource economics programme of work, liaison with donors and partners, drawing up ToRs for consultants and managing their inputs, formulating policy implications (on a contract basis from Apr. 2007 – Dec. 2010).

Consulting Project Experience Details (major projects):

2011

Cost-benefit analysis of Biodiversity Offset options for Transnet's inland fuel terminal near Heidelberg, Gauteng.

Socio-economic assessment of impacts on surrounding farmers associated with mine dewatering at Sishen iron ore mine, Northern Cape.

Business plan and sustainable financing strategy for the Dorob National Park, Namibia.

Economic specialist studies forming part of the environmental impact assessments (EIAs) for the Windcurrent Wind Projects near Jeffrey's Bay, Barinor, Langezandt and Richmond park mixed-use developments.

2010

Economic specialist studies forming part of the environmental impact assessments (EIAs) for the Mainstream Jeffrey's Bay Wind Project, Thupela solar energy project, InnoWind Mossel Bay Wind Farm, Musina Ring Road, De Plaat residential estate and Bloubos local road project.

Lead author of a Strategic Environmental Assessment (SEA) of the potential production of biofuels based on Jatropha in the Kavango and Caprivi regions of Namibia.

2009

Part of team that completed a 'business case' for investment in the natural capital of the City of Cape Town for the City's Environmental Management Department. The study focused on quantifying the economic value of the City's natural capital / ecosystem services and comparison with expenditure on its enhancement and maintenance.

Economic specialist studies forming part of the environmental impact assessments (EIAs) for the Garden Route Dam mixed use development, Dutton's Cove Estate, Burnstone gold mine expansion and N1/N9 intersection upgrade at Colesberg.

2008

Economic specialist studies forming part of the environmental impact assessments (EIAs) for the Garden Route Dam Residential and Mixed Use development, expansion of the PPC facility at Riebeek West, Petroline petrol pipeline between Maputo and Gauteng, Helderberg Solid Waste Transfer Station in Cape Town and the Anandale mixed use development in Cape Town.

Resource Economics specialist study to form part of the Environmental Management Framework for the Albert Luthuli and Msukaligwa municipalities in Mpumalanga.

2007

Economic specialist studies forming part of the environmental impact assessments (EIAs) for the Levendal residential estate and agricultural empowerment initiative (Paarl), the Altona mixed use development (Worcester), and the Muldersvlei water treatment plant and reservoir (Klapmuts). Economic inputs to feasibility study for proposed hotel and casino in Lagos, Nigeria for Southern Sun.

Part of study team that formulated guidelines for the Western Cape Provincial Government on the use of biodiversity offsets.

2006

Economic impact assessment of the proposed Eden Island residential and tourism development in the Seychelles. Project included measuring likely contribution to the local economy and liaison with senior government officials, the IMF Country Assessment team and the Standard&Poors rating team.

Economic specialist studies forming part of the EIAs for the new regional landfill site to service the City of Cape Town, Carpe Diem Eco Estate, the Green Point World Cup Soccer Stadium, Schalkenbosch Golf Estate, Le Grand Golf Estate and Ceres Golf Estate.

2005

Lead author of the Western Cape Provincial Government guidelines on economic specialist inputs into EIAs.

Conducted economic research to inform the Environmental Goods and Services Industry strategy for the National Department of Trade and Industry. Work focused on analysing the size and composition of the industry in South Africa.

Economic specialist studies forming part of the EIAs for the proposed tolling of the R30 between Bloemfontein and Brandfort, the upgrading of the intersection between the R310 and Annandale Road (near Stellenbosch), and the Clanwilliam Golf Estate.

2004

Head researcher on a World Bank commissioned study aimed at determining (1) the current and potential future value of coastal resources in Namibia, (2) current government and donor funding for coastal resource management and (3) potential alternative mechanisms for the financing of coastal management. Also developed outcome indicators to measure the impacts of the World Bank funded Namib Coast Conservation and Management (NACOMA) Project.

Part of a four person research team assessing the environmental economic value and financial spin-offs from the Table Mountain National Park in Cape Town.

2003

Head researcher on a Gauteng Provincial Department of Agriculture, Conservation, Environment and Land Use project to evaluate the implications of the proposed development of a highly conservation worthy site for housing. Responsibilities included comparing indicative environmental values associated with conservation versus development in a cost-benefit framework and investigating the strategic importance of the site in a conserved state.

Part of a four person research team analysing the costs and benefits of air pollution abatement measures in the industrial, household, electricity generation and transport sectors throughout South Africa for the national consultative forum for the government, business and labour sectors. Responsibilities include assisting with structuring the model for the analysis, assessing the availability of data and report writing.

2002

Head researcher on a USAID sponsored project to estimate the value of carbon and non-carbon benefits (mainly ecosystem services such as reduced erosion, improved water flow, improved water quality & increased sustainable harvesting) associated with the rehabilitation of woodlands bordering on the Kruger National Park. Responsibilities included sub contracting and co-ordinating the inputs of four other specialists needed to analyse the biophysical impacts of rehabilitation as well as attaching values to these impacts for inclusion in a cost-benefit analysis.

Economic impact assessments of the extension of the Vissershok landfill site near Cape Town and the proposed tolling of the N1, N2 and R300 roads in the vicinity of Cape Town to form part of environmental impact studies of these projects.

2001

Part of a four person research team that assessed the financial sustainability of various conservation projects forming part of the Cape Action Plan for the Environment (CAPE). The project was done for the Worldwide Fund for Nature South Africa to assist them in their application for World Bank Global Environmental Facility funding. Responsibilities centred around the assessment of the degree of financial self-sufficiency achievable for proposed conservation areas.

Head researcher in a team of three researchers on a Water Research Commission project aimed at the formulation of an economic evaluation framework for the evaluation of water demand management and water conservation measures. Roles included providing strategic direction to the study and co-ordinating the inputs of the other researchers.

Part of a four person research team that investigated the potential for, and institutional constraints to, the sustainable commercialisation of natural products that rely on local biodiversity for the National Department of Environmental Affairs and Tourism (project sponsored by USAID).

2000

Conducted a broad cost benefit analysis of a proposed zinc mine and processing plant at the Gamsberg, Northern Cape for Anglo American, in association with KPMG environmental unit. This project entailed a broad level consideration of the likely externalities associated with the mine and possible impacts on tourism in the area.

Evaluated the socio-economic impacts of Consolidated Municipal Infrastructure Programme funded infrastructure developments for the Western Cape provincial government in association with the Institute for Development Services. The socio-economic impacts of storm water, sewage and road infrastructure projects were evaluated using guidelines agreed on with the provincial government.

1999

Head researcher on two World Wide Fund for Nature studies aimed at estimating the external environmental costs associated with coal mining and water supply and use. These projects involved investigating the environmental impacts associated with the sectors concerned and attaching values to the externalities they generate based on desk top research of the available information.

1998

Head consultant in a team of four consultants commissioned by the Cape Metropolitan Council to conduct a study on economic and social impact assessment methods focusing on their basic workings, strengths, weaknesses, areas of optimal application and the resources needed for their application. Role included providing strategic direction to the study and co-ordinating the inputs of the other researchers.

1997

Associate consultant on an economic impact study of the proposed Coega Industrial Development Zone and harbour in association with KPMG Management Consulting. Conducted a study on possible developmental measures (tendering, human resource development, SMME development, etc.) that could be instituted as part of the Coega development. Assisted KPMG in the compilation of a cost-benefit analysis for the project.

Project Experience Details (other smaller projects):

2004

- Scoping level economic impact assessment of The Lakes Eco and Golf estate in Wilderness.
- Financial and economic review of the Ukuvuka Fire-stop Campaign aimed at preventing unwanted fires in Cape Town.
- Review of the validity of financial arguments in favour of the preferred technological option for the production of low sulphur diesel at the Caltex refinery in Cape Town.
- Economic specialist study forming part of the environmental impact assessment of the proposed development of a multi-use private golf estate on Remainder Farm 681, Stellenbosch.
- Part of University of Cape Town Graduate School of Business study for the Airports Company of South Africa to examine the economic impacts associated with Cape Town International Airport.
- Part of University of Cape Town Graduate School of Business study for the South African National Roads Agency to examine the economic impacts associated with the proposed R30 toll road in the Free State Province

2003

- Part of a CSIR team that conducted environmental economic assessments of the impacts of alternative route alignment of the proposed Gautrain rapid rail link.
- Part of UCT Graduate School of Business study of the economic benefits associated with the Joint Marketing Initiative aimed at the consolidation of the marketing of the City of Cape Town and the Western Cape.
- Head researcher on a macro-economic impact assessment of the proposed Tata Steel ferrochrome smelter in Richards Bay to form part of a CSIR environmental impact study.

2002

- Part of a research team on a Water Research Commission sponsored project aimed at determining the value of the ecosystem services provided by wetlands in the Upper Olifants catchment in Mpumalanga.

2001

- Part of USAID sponsored team that formulated a cost-benefit evaluation framework for the assessment of Working for Water alien vegetation clearing projects.
- Part of a four person research team that estimated the monetary values associated with open spaces/green belts in Cape Town and the implications of these values for land use decision-making for the City of Cape Town. Main responsibilities were study conceptualisation and calculation of the influence of open space on property prices using hedonic analysis.
- Part of research team in a National Department of Environmental Affairs and Tourism projects sponsored by USAID investigating the Clean Development Mechanism and emissions trading as options for meeting climate change goals in South Africa.
- Economic impact assessment of the impacts of changing road configurations on Hospital Bend (Cape Town) on road users and local businesses forming part of a Crowther Campbell and Associates environmental impact assessment.
- Health cost valuation input into investigation of the viability and benefits of substituting conventional coal with low smoke coal for household use conducted by the Energy for Development Research Centre for a National Department of Minerals and Energy.
- Head consultant on an economic impact assessment of the proposed conversion of the Sasol Chemical Industries plant in Sasolburg from a coal based to a natural gas based plant.
- Assessment of the values associated with coastal resources in Cape Town for the CSIR

Appendix A, Curriculum vitae of project team members

2000

- Economic evaluation input on a Cape Metropolitan Council project aimed at developing a decision making framework for the evaluation of mega projects in the Cape Metro area.
- Expert reviewer for the National Department of Water Affairs and Forestry Wastewater Charges Strategy project.
- Researched the costs (mainly in terms of the costs of air pollution as reflected in property values) and benefits of the nearby Mossop Western Leathers tannery on the town of Wellington for Crowther, Campbell & Associates as part of an environmental impact assessment.
- Development of guidelines for the cost-benefit analysis of water projects and policies in the Western Cape for the Palmer Development Group.
- Socio-economic impact assessment of the proposed iron ore terminal expansion at Saldanha Bay forming part of a SRK Consulting Engineers environmental impact assessment.

1999

- Revised the original KPMG Economic Benefits Study results for the second Caledon Casino license bid for The Caledon Casino Bid Co.
- Investigated the financial viability and economic impacts of a proposed eco-tourism and education centre at Reitvlei, Milnerton as part of a CSIR environmental impact assessment.
- Co-author of a chapter on water resource economics in an IUCN/SADC sponsored book dealing with water resource management in southern Africa.

1998

- Conducted the specialist environmental resource economics study forming part of the scoping level environmental impact study of the proposed new toll road section on the N3 over De Beer's Pass for Cave, Klapwijk & Associates.
- Assessed the local economic implications and externalities associated with various future development scenarios for a Somchem explosives plant near Wellington as part of a Council for Scientific and Industrial Research (CSIR) strategic environmental assessment.

1997

- Economic specialist study for the CSIR on the costs, possible sources of funding and impacts on property prices of a proposed coastal conservation zone on Somchem/AECI land near Strand.
- Part of an Applied Fiscal Research Centre review of the national energy white paper.
- Economic impact assessment of the proposed East London Industrial Development Zone, in association with KPMG.

1996

- Assisted African Environmental Solutions with environmental economics input for their work on a sustainability framework for the National Water Tariff Policy Review.
- Economic specialist study for the CSIR on the economic implications of the establishment of an Export Processing Zone at Coega, Port Elizabeth.
- Cost-benefit analysis of two wastewater treatment options for East London forming part of a strategic environmental assessment conducted by the CSIR.
- Assisted KPMG in the compilation of an impact study assessing the economic impacts of moving parliament away from Cape Town.
- Economic impact assessment of the proposed Skuifraam dam near Franschoek for Ninham Shand.
- Assisted the Cape Town Olympic Bid Company with the initial co-ordination of a socio-economic impact assessment of The Games commissioned by The South African Cabinet.
- Compiled a case study analysis for an UNEP Environmental Economics Unit book on the application of environmental & natural resource valuation methodologies in Africa as part of a three person research team.

1995

- Specialist economic input for a UN Conference on Trade and Development project dealing with environmental cost internalisation in the South African coal mining industry.

Publications:

Leiman, A., Standish, B., Boting, A. & van Zyl, H.W. 2007. Reducing the Healthcare Costs of Urban Air Pollution: The South African Experience. *Journal of Environmental Management*, Vol. 84, pg. 27-37.

Standish, B. & van Zyl, H.W. 2007. Assessing the Economic Impact of Roads Passing Through Ecologically Sensitive Areas: A Case Study in Cape Town, South Africa. *Impact Assessment and Project Appraisal*, Vol. 25, number 2.

Leiman, A. & van Zyl, H.W. 2004. A Small-sample Approach to Hedonic Valuation of the Environment: A Case Study at Zandvlei, Cape Town. In: Blignaut, J & de Wit, M. (Eds) *Sustainable Options: Development Lessons from Applied Environmental Economics*. UCT Press, Cape Town.

De Wit, M., van Zyl, H.W. & King, N. 2004. The Cost of Noise Pollution. In: Blignaut, J & de Wit, M (Eds). *Sustainable Options: Development Lessons from Applied Environmental Economics*. UCT Press, Cape Town.

Leiman, A. & van Zyl, H.W. 2004. Economics in Impact Assessment: The role of Environmental and Resource Economics. In: Blignaut, J & de Wit, M (Eds). *Sustainable Options: Development Lessons from Applied Environmental Economics*. UCT Press, Cape Town.

Turpie, J.K. & van Zyl, H.W. 2002. Valuing the Environment in Water Resources Management. Pp 85-110, in: Hirji, R., Johnson, P., Maro, P. & Matiza Chiuta, T. (eds) *Defining and mainstreaming environmental sustainability in water resources management in southern Africa*. SADC, IUCN, SARDC, World Bank: Maseru/Harare/Washington DC.

Van Zyl, H.W. & Leiman, A. 2002. Hedonic Approaches to Estimating the Impacts of Open Spaces: A Case Study in the Cape. *South African Journal of Economics and Management Science*, Vol. 5(2). June.

Van Zyl, H.W., Store, T. & Leiman, A. 2000. Africa Region Case Studies. Chapter In: Rietbergen-McCracken, J. & Abaza, H. (Eds) *Environmental Valuation: A Worldwide Compendium of Case Studies*. Earthscan, London.

Teaching:

- Resource person on two regional capacity building workshops for ministries in the Middle East and Sub-Saharan Africa presented by The Economics of Ecology and Biodiversity (TEEB) in collaboration with the UN Convention on Biodiversity (2012).
- Co-presenter of one week introduction to environmental resource economics course for the Namibian Coastal Conservation and Management Project (2009).
- Presenter on three day Payments for Ecosystem Services (PES), Forests, and Climate Change course presented to USAID staff in Africa and organised by CIFOR, Forest Trends and the Katoomba Group (2009).
- Lecturer for Rhodes University on annual course focused on the application of environmental economics and economic specialist inputs to EIAs (2005, 2006, 2007).
- Presented two day courses on the theory and application of environmental economics for the environment departments of the Gauteng and Western Cape provincial governments (2004).
- Co-presented course on environmental economics and its practical application to National Department of Water Affairs and Forestry staff (2003).

Language Ability:

	<u>speak</u>	<u>write</u>	<u>read</u>
English	excellent	excellent	excellent
Afrikaans (similar to Dutch)	excellent	good	excellent
Danish	basic	basic	basic

References:

Anthony Leiman
Senior Lecturer
School of Economics, University of Cape Town
Private bag, Rondebosch, 7700, South Africa
E-mail: tony.leiman@uct.ac.za, tel: (+27) (21) 650 2723

Dr. Martin de Wit
De Wit Sustainable Options (Pty) Ltd
PO Box 546
Brackenfell
7561, South Africa
E-mail: martin@sustainableoptions.co.za, tel: (+27) (21) 982 7862

Barry Standish
Senior Lecturer
Graduate School of Business, University of Cape Town
Breakwater campus
Waterfront, Cape Town, 8000, South Africa
E-mail: standish@gsb.uct.ac.za, tel: (+27) (21) 406 1095

Declaration of Independence

I, Dr Hugo van Zyl, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed WKN Windcurrent SA (Pty) Ltd Wind Energy Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Dr Hugo van Zyl
(Independent Economic Researchers)

Curriculum Vitae

Johan Binneman

NAME: Johannes Nicolaas Francois Binneman
DATE OF BIRTH: 31 October 1953
NATIONALITY: South African
ID. No.: 531031 5127 08 2

COMPANY ADDRESS: Department of Archaeology, Albany Museum
Somerset Street, Grahamstown, 6139
Tel.: 046 62 22312
Fax.: 046 62 22398
email: J.Binneman@ru.ac.za

COMPANY POSITION: Head of the Department of Archaeology

QUALIFICATIONS: M.A. - Archaeology from the University of Stellenbosch (1982)
D.Phil - Archaeology from the University of the Witwatersrand (1996).

RESEARCH EXPERIENCE: 27 Years of archaeological research in the Eastern Cape. This include the fields of Middle Stone Age, Later Stone Age, Iron Age, Rock Art and Historical Archaeology.

PUBLICATIONS: Include some 50 academic and popular articles.

OTHER: Co editor of the Southern African Field Archaeology (accredited)
Member of Kwa-Zulu Natal Heritage Permit Committee

MEMBER OF: Association of South African Professional Archaeologists
South African Society for Archaeologists
Society for Africanist Archaeologists

CONSULTANCY EXPERIENCE: 25 Years

CONSULTANT PROJECTS - CLIENTS INCLUDE:

Cape Provincial Administration (pre 1994), Atomic Energy Board, South African National Roads Agency, Pretoria Portland Cement, Blue Circle Cement, Eastern Cape Nature Conservation (pre April 2004), Department of Water Affairs, Department of Environmental Affairs, National Parks Board (now SANparks), Wilderness Foundation, Gencor, Portnet, ESKOM, Coega IDZ, Many other small companies and land developers

Declaration of Independence

BOX 11.1: DECLARATION OF INDEPENDENCE FOR ARCHAEOLOGY IMPACT ASSESSMENT

I **Johan Binneman** declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed Banna Ba Pifhu Wind Energy Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Johan Binneman

Curriculum Vitae

John Almond

QUALIFICATIONS & EXPERIENCE OF THE AUTHOR

Dr John Almond has an Honours Degree in Natural Sciences (Zoology) as well as a PhD in Palaeontology from the University of Cambridge, UK. He has been awarded post-doctoral research fellowships at Cambridge University and in Germany, and has carried out palaeontological research in Europe, North America, the Middle East as well as North and South Africa. For eight years he was a scientific officer (palaeontologist) for the Geological Survey / Council for Geoscience in the RSA. His current palaeontological research focuses on fossil record of the Precambrian - Cambrian boundary and the Cape Supergroup of South Africa. He has recently written palaeontological reviews for several 1: 250 000 geological maps published by the Council for Geoscience and has contributed educational material on fossils and evolution for new school textbooks in the RSA.

Since 2002 Dr Almond has also carried out palaeontological impact assessments for developments and conservation areas in the Western, Eastern and Northern Cape under the aegis of his Cape Town-based company *Natura Viva* cc. He is a long-standing member of the Archaeology, Palaeontology and Meteorites Committee for Heritage Western Cape (HWC) and an advisor on palaeontological conservation and management issues for the Palaeontological Society of South Africa (PSSA), HWC and SAHRA. He is currently compiling technical reports on the provincial palaeontological heritage of Western, Northern and Eastern Cape for SAHRA and HWC. Dr Almond is an accredited member of PSSA and APHAP (Association of Professional Heritage Assessment Practitioners – Western Cape).

Declaration of Independence

I, John E. Almond, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed wind energy project, application or appeal in respect of which I was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Curriculum Vitae

Brian Colloty

Profession: Ecologist & Environmental Assessment Practitioner (Pr. Sci. Nat. 400268/07 & EAPSA certified)
Specialisation: Ecology and conservation importance rating of inland habitats, wetlands, rivers & estuaries
Years experience: 16 years

SKILLS BASE AND CORE COMPETENCIES

- 16 years experience in environmental sensitivity and conservation assessment of aquatic and terrestrial systems inclusive of Index of Habitat Integrity (IHI), WET Tools, Riparian Vegetation Response Assessment Index (VEGRAI) and wetland delineation throughout Africa. Experience also includes biodiversity and ecological assessments with regard sensitive terrestrial fauna and flora, within the marine, coastal and inland environments.
- 10 years experience in the coordination and management of multi-disciplinary teams, such as specialist teams for large scale EIAs and environmental monitoring programmes, throughout Africa and inclusive of marine, coastal and inland systems.
- GIS mapping and sensitivity analysis

TERTIARY EDUCATION

- 1994: B Sc Degree (Botany & Zoology) - NMMU
- 1995: B Sc Hon (Zoology) - NMMU
- 1996: M Sc (Botany) - NMMU
- 2000: Ph D (Botany) – NMMU

EMPLOYMENT HISTORY

- 1996 – 2000 Researcher at Nelson Mandela Metropolitan University – SAB institute for Coastal Research & Management.
- 2001 – January 2003 Training development officer AVK SA
- February 2003- June 2005 Project manager & Ecologist for Strategic Environmental Focus
- July 2005 – June 2009 Principal Environmental Consultant Coastal & Environmental Services
- June 2009 – present Member of Scherman Colloty & Associates cc

SELECTED RELEVANT PROJECT EXPERIENCE

- Wetland and riverine assessment for Addax Biofeuls Sierra Leone, Makeni for Coastal & Environmental Services: 2009
- Wetland and riverine assessment for Grown Energy Biofeuls Zambeze, Mozambique for Coastal & Environmental Services: 2008
- Aquatic sensitivity assessment for Savannah Environmental on behalf of Abengoa Solar & Ilangaletu Solar Power for the proposed concentrated solar power stations in Pofadder (1) and Upington (2): 2010 & 2011
- VEGRAI & IHI assessment of 5 river crossings for the Wild Coast Meander near Coffee Bay for Terreco Engineers: 2010
- Developed a terrestrial and aquatic Environmental Management Plan for AURECON Pty Ltd on behalf

Appendix A, Curriculum vitae of project team members

- of Eskom for the Eros (Harding) – Neptune (East London) 400kV transmission line: 2010
- Wetland Impact Assessment for Nu-Way Housing Coega Ridge for SRK Engineers and Scientists: 2010
- Terrestrial and aquatic sensitivity assessment for the Eskom Imbewu – Usundu transmission line from Howick to Empangeni for Aurecon: 2011
- Terrestrial and aquatic sensitivity assessment for the Eskom Kriel Power Station new ash dam facility for Aurecon: 2011
- Terrestrial ecology assessment and EMP for the Fibre Optic Data Cable Project - FIDEC routes (Bloemfontein to East London, Aliwal North to Middelburg, Middelburg to PE, PE to George and Graaff Reinet to Colesburg) for SRK Engineers: 2011
- Lusikisiki waste water reticulation and treatment project, wetland assessment on behalf of the OR Tambo District Municipality for EIMS: 2011
- Various wetland assessment for the Coega Development Corporation on behalf of SRK, CSIR and CES, 1996, 2006, 2009, 2010, 2011 and 2012
- Port Alfred Reverse Osmosis Plant long term marine and estuarine monitoring plan (project manager and scientist) for Ndlambe Water Board (Water service provider for the central Eastern Cape Province).
- Project manager long-term, marine monitoring phase with regards the dredge works required in Luanda bay, Angola. Monitoring includes water quality and biological changes in the bay and offshore disposal 2005 – 2011
- Colluli Potash South Boulder, Eritrea, SEIA marine baseline and hydrodynamic surveys co-ordinator and coastal vegetation specialist (coastal and marine) (on-going).
- Jachtlakke Housing Precinct, NMBM baseline ecological assessment (February, 2012)

Declaration of Independence

I, Dr Brian Colloty, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed WKN Windcurrent SA (Pty) Ltd Wind Energy Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Dr Brian Colloty
Scherman Colloty & Associates

Curriculum Vitae

Johann Lanz

Education

M.Sc. (Environmental Geochemistry)	University of Cape Town	1996 - June 1997
B.Sc. Agriculture (Soil Science, Chemistry)	University of Stellenbosch	1992 - 1995
BA (English, Environmental & Geographical Science)	University of Cape Town	1989 - 1991
Matric Exemption	Wynberg Boy's High School	1983

Professional work experience

I fulfil the requirements for registration as a Professional Natural Scientist and my registration is currently being processed.

Soil Science Consultant Self employed 2002 - present

I run a soil science consulting business, servicing clients in both the environmental and agricultural industries. Typical consulting projects involve:

- Soil specialist study inputs to EIA's, SEA's and EMPR's. These have focused on impact assessments and rehabilitation on agricultural land, rehabilitation and re-vegetation of mining and industrially disturbed and contaminated soils, as well as more general aspects of soil resource management. Recent clients include: CSIR; BioTherm Energy; MBB Consulting Engineers; WKN Windcurrent; Corobrik; Western Cape Provincial *Department of Environmental Affairs* and Development Planning; Alcan aluminium smelter (Coega); Namaqualand Restoration Initiative; AECI; Afrimat; Tiptrans.
- Soil resource evaluations and mapping for agricultural land use planning and management. Recent clients include: Thelema Mountain Vineyards; Delaire Wine estate; Newton-Johnson Wines; Spier Estate; Colors; Kaarsten Boerdery; Amanzi Country Estate (Port Elizabeth); Rudera Wines; Flagstone; Cob Creek Estate (Jeffreys Bay); Solms Delta Wines; Dornier Wines.
- I have conducted several recent research projects focused on conservation farming, soil health and carbon sequestration.

Soil Science Consultant Agricultural Consultants 1998 - end 2001 **International (Tinie du Preez)**

Responsible for providing all aspects of a soil science technical consulting service directly to clients in the wine, fruit and environmental industries all over South Africa, and in Chile, South America.

Contracting Soil Scientist De Beers Namaqualand Mines July 1997 - Jan 1998
Completed a contract to make recommendations on soil rehabilitation and re-vegetation of mined areas.

Publications

- ♣ Lanz, J. in press. Soil: sustaining Stellenbosch's roots. In: M Swilling & B Sebitosi (eds). *Sustainable Stellenbosch 2030*. Stellenbosch: SunMedia.
- ♣ Lanz, J. 2010. Soil health indicators: physical and chemical. *South African Fruit Journal*, April / May 2010 issue.
- ♣ Lanz, J. 2009. Soil health constraints. *South African Fruit Journal*, August / September 2009 issue.
- ♣ Lanz, J. 2009. Soil carbon research. *AgriProbe*, Department of Agriculture.
- ♣ Lanz, J. 2009. Report of the soil carbon research project. Department of Agriculture: LandCare.
- ♣ Lanz, J. 2005. Special Report: Soils and wine quality. *Wineland Magazine*.

Declaration of Independence

I, Johann Lanz, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed WKN Windcurrent SA (Pty) Ltd Wind Energy Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Mr Johann Lanz

Curriculum Vitae

Sandy Wren

Name of Firm:	Public Process Consultants cc.
Name of Staff:	Sandy Jane Wren
Position:	Sole Member (100% ownership)
Profession:	Public Participation Process Specialist and Environmental Impact Assessment Management
Specialisation:	Public participation process design and management for Strategic Environmental Assessments (SEA), Environmental Impact Assessments (EIA's), Policy Development Processes. Client, community liaison and report writing. Environmental Impact Assessment Management.
Languages:	English, excellent speaking, reading, and writing Afrikaans, good speaking, reading and writing

KEY QUALIFICATIONS

- Sandy Wren is a graduate from the University of Port Elizabeth (UPE) majoring in Political Science, Sociology and Industrial and Organisational Psychology.
 - Sandy has an Honours Degree in Development Theory which includes courses in Environmental Management and Impact Assessment for which she obtained distinctions.
 - Project Management for Local Government co-sponsored by the Economic Development Institute of the World Bank.
 - Training and Facilitation through Idasa Eastern Cape
 - Group Dynamics Training
 - Communication Skills and Training
 - Management by Objectives
-

PROFESSIONAL EXPERIENCE

Vehicle Sales, Avis Rent a Car

Responsible for the sale of vehicles to trade and the public as they were retired as rental vehicles

Sales, Pierre's Diamonds, St Thomas, US Virgin Islands, Caribbean

Responsible for the design and sale of precious stones to passing trade.

Regional Coordinator, Idasa Eastern Cape

Appendix A, Curriculum vitae of project team members

Responsible for project planning, budgeting, coordination of conferences, meetings and events. Main focus of activity bringing about non-racial local authorities, first non-racial local authority established in Port Elizabeth. Voter education and training for the first democratic elections and coordination of observers.

1995 Regional Director, Idasa Eastern Cape

As Regional Director of IDASA Sandy gained extensive experience in project management, co-ordination, training and facilitation of various interest groups, levels of government, community organisations, and other structures within civil society. Sandy while at Idasa covered the following projects:

- *Facilitation of the establishment of non-racial local government structures in the Eastern Cape*
- *Administrative co-ordination of the development of a regional economic development plan*
- *Conference co-ordination*
- *Voter Education Training and Co-ordination*
- *Community Courts Conference Co-ordination*
- *Community facilitation for Local Government Structure Plans*
- *Public Participation process design and management*
- *Public participation for Strategic and Environmental Impact Assessments*

May 1997- April 2000 Public Process Consultants

In May 1997 Sandy Wren opened public process consultants, which specialises in Public Participation Processes for EIA's and SEA's. In order to meet the requirements for Black Economic Empowerment Sandy Wren established Sandy and Mazizi Consulting with her former employee Mazizi Msutu. This provided Mr Msutu with a 50% equal share holding in the business. The services formerly provided by Public Process Consultants continued to be provided by Sandy and Mazizi Consulting cc.

May 2000 to June 2004 Sandy & Mazizi Consulting cc.

The main focus of the company continues to be in the area of social involvement in the various stages of development with its majority expertise in public participation in EIA's, SEA's, and policy development processes. During this period Sandy developed experience and expertise in the management of Environmental Impact Assessments.

*July 2004 to **PRESENT** Public Process Consultants*

Sandy Wren continues to provide the professional service she has always provided under the banner of Public Process Consultants. The expertise provided by the company includes the management of Environmental Impact Assessments, Basic Assessments, Strategic Environmental Assessments, Environmental Management Programmes and Environmental Control Office Services. PPC offers specialist expertise in the area of Public Participation for Integrated Environmental Management. Public Process Consultants is a balanced team offering extensive experience in the management of Integrated Environmental Management processes with a sensitivity towards the biophysical environment coupled with the needs of the formerly disadvantaged community in addition to above average report writing, communication and administration skills.

CONSULTING EXPERIENCE

Scoping and EIA Experience

The following provides an overview of Scoping and EIA processes managed by Sandy Wren:

- Service Station at Humeral, Port Elizabeth
- Morton Bay, Humeral, Port Elizabeth, a multi-purpose commercial property development
- Brookes Hill Caravan Park, Humewood Port Elizabeth
- Quarter Mile Oval Racing Track, Schoenmakerskop Sports Centre (stock car racing track)
- Expansion and upgrading of Smart Stone, Victoria Drive, Port Elizabeth
- Construction of a Wedding Venue on the Sardinia Bay Road
- Residential development of Arlington Race Course, Victoria Drive
- Residential development of varying densities, Walmer Heights, Port Elizabeth
- Proposed Amanzi Country Estate (Lifestyle and eco estate) consisting of a golf course, hotel, residential units (approx 900), equestrian facilities, cricket field and various heritage components
- Proposed Coega Ridge Development consisting of low to high density housing as well as light industrial, commercial and retail facilities
- Upgrade of Sewer Pump Station No 1 and construction of a new 1500 meter pipeline, Hankey Extension 3
- Winterhoek Park Ext, Uitenhage (residential development)
- Zeekoei River residential and mixed use development, Humansdorp
- EIA for a new residential development at Goedemoedsfontein, Seaview, Port Elizabeth
- EIA for the upgrading of Matanzima and Mel Brooks Road, Uitenhage
- EIA for a Residential and Mixed Use Development, Fairview Port Elizabeth
- EIA for SA Breweries, Biogas Storage Facility, NMBM
- EIA for a residential development, Willow Tree Country Estate, Sunlands
- EIA for NiRoVe Paint Stripping, Perseverance, NMBM
- EIA for the Weston Waste Water Treatment Works, Weston, Hankey
- EIA for Landdrost, clearing of agricultural land, Kirkwood

Basic Assessment Experience

The following provides an overview of the Basic Assessment Processes managed by Sandy Wren:

- Residential and mixed use development of Erf 1846, Perridgevale
- Borehole, water pipeline and power line, Glenconnor
- Installation of additional Nitrogen tanks at Umicore, Port Elizabeth
- Theesecombe erf 235, new residential development
- the Upgrading of Bulk Stormwater Infrastructure, a Portion of Macon Road Lorraine
- Upgrading of Bulk Stormwater Infrastructure, Summerstrand, NMBM
- Installation of minor stormwater infrastructure, Cluster H, Kwanobuhle, Uitenhage, Cluster B, Kuyga, Cluster A, Wells Estate and Khayamnandi.
- Citrus Packhouse, Blinkwater, Fort Beauford
- Above Ground Fuel Storage Facilities, Rocklands Factory, Uitenhage
- Various Basic Assessments for the establishment of new Broiler House facilities for Rocklands Poultry (Loerie, Nooidgedacht, Kirkwood, Boshfontein, Accurate, Lakeside and Altona)
- Residential Development, Arcadia, Humansdorp, Kouga Municipality
- Residential Development, Weston, Hankey, Kouga Municipality
- Residential Development, Erf 722, Theesecombe
- Residential Development, erf 2377, Theesecombe
- Photovoltaic Solar Energy Project, Graff Reinet
- Installation of Water Supply, Glenconner
- Agricultural Development, Logan Braes, Addo

Public Participation Experience

The following provides an overview of the specialist public participation services managed by Sandy Wren:

- Kouga Wind Energy Project (Mainstream), Jeffreys Bay
- Electrawinds Wind Energy Project, Coega IDZ
- Universal Wind Energy Project, Coega IDZ
- Ubuntu Wind Energy Project, Jeffreys Bay
- Broadlands Photovoltaic Solar Energy Project, Humansdorp
- Expansion of the Addo Elephant National Park
- Wild Coast Biodiversity Strategic Plan
- Establishment of a Marine Protected Area for Addo
- Liquid Natural Gas to Power Project, Coega IDZ
- Coega Aluminium Smelter
- Coega IDZ and Port of Ngqura including Mining of Coega Kop Quarry
- Audit Report for SANParks Resettlement Action Plan
- Establishment of a Marine Pipeline Servitude in the Coega IDZ
- Business Plan for a Desalination Facility for the Nelson Mandela Bay Municipality
- National Coastal Policy for SA (Fish River to Heidelberg)
- Comprehensive Urban Plan for Port Elizabeth
- Integrated Structure Plan for Walmer
- Integrated Waste Management Plan for the Nelson Mandela Metropolitan Municipality
- Algoa Bay Management Plan Review
- Strategic Plan for the development of a Seabird and Marine Animal Rehabilitation Centre
- Identification of Users of Algoa Bay and their needs
- Relocation Policy and Plan Greater Addo Elephant National Park
- Biodiversity Conservation Assessment and Action Plan for the Wild Coast
- Regional General and Hazardous Waste Processing facility for the Nelson Mandela Bay Region

Declaration of Independence

I, Sandy Wren, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed WKN Windcurrent SA (Pty) Ltd Wind Energy Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Ms Sandy Wren
(Public Process Consultants)



**Environmental Impact Assessment for the
proposed Banna Ba Pifhu Wind Energy Project
near Humansdorp, Eastern Cape:
Final Environmental Impact Assessment Report**

APPENDIX B

**DEA's acceptance letter for the Final
Scoping Report and Plan of Study for
EIA and the DEA letter of
acknowledgement of Draft EIA Report**



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X 447 · PRETORIA · 0001 · Fedsure Building · 315 Pretorius Street · PRETORIA
Tel (+ 27 12) 310 3911 · Fax (+ 2712) 322 2682

NEAS Reference: DEA/EIA/0000377/2011

DEA Reference: 12/12/20/2289

Enquiries: Sindiswa Dlomo

Telephone: 012-395-856 Fax: 012-320-7539 E-mail: Sdlomo@environment.gov.za

Mr. Paul Lochner
CSIR
P.O. Box 320
STELLENBOSCH
7599

Telephone: (021) 888-2661

Fax No: (021) 888-2693

E-mail: plochner@csir.co.za

PER FACSIMILE / MAIL

Dear Mr. Lochner

APPLICATION FOR ENVIRONMENTAL AUTHORISATION: PROPOSED 50 MW WIND ENERGY FACILITY ON THE BROADLANDS AND SARAGOSSA FARMS NEAR HUMANSDORP IN THE KOUGA MUNICIPAL AREA, EASTERN CAPE PROVINCE

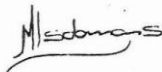
1. The Final Scoping Report (FSR) and the Plan of Study for Environmental Impact Assessment (PoSEIA) dated October 2011 and received by the Department on 07 November 2011 refers.
2. The Department has evaluated the submitted FSR and the PoSEIA dated October 2011 and is satisfied that the documents comply with the minimum requirements of the Environmental Impact Assessment (EIA) Regulations, 2010. The FSR is hereby accepted by the Department in terms of regulation 30(1) (a) of the EIA Regulations, 2010.
3. You may proceed with the environmental impact assessment process in accordance with the tasks contemplated in the Plan of Study for Environmental Impact Assessment as required in terms of the EIA Regulations, 2010. All comments and recommendations made by all stakeholders and Interested and Affected Parties (I&APs) in the Draft Scoping Report and submitted as part of the FSR must be taken into consideration when preparing an environmental impact assessment report in respect of the proposed development.
4. Please ensure that comments from all relevant stakeholders are submitted to the Department with the Final Environmental Impact Report (EIR). This includes but is not limited to the Eastern Cape Provincial Department of Economic Development, Environment and Tourism, the South Africa Heritage Resource Agency (SAHRA), the Department of Agriculture Forestry and Fisheries (DAFF), the Department of Water Affairs (DWA), the South African Civil Aviation Authority (CAA), the Eastern Cape Department of Transport, the South African National Roads Agency Limited (SANRAL), Eskom Holdings SOC Limited, the Kouga Municipality and any other stakeholders which deal with environmental matters within the Province.

5. Proof of correspondence with the various stakeholders must be included in the Final EIR. Should you be unable to obtain comments, proof should be submitted to the Department of the attempts that were made to obtain comments.
6. Please ensure that the Final EIR includes at least one A3 regional map of the area and the site layout plan to illustrate the turbines positions and associated infrastructure. The maps must be of acceptable quality and as a minimum, have the following attributes:
 - Maps are relatable to one another;
 - Cardinal points;
 - Co-ordinates;
 - Legible legends;
 - Indicate alternatives;
 - Latest land cover;
 - Vegetation types of the study area; and
 - A3 size locality map.
7. You are required to submit the final site layout plan together with the Final EIR to the Department. All available biodiversity information must be used in the finalisation of the layout plan. The site layout plan must indicate the following:
 - Turbine positions;
 - Positions of solar facilities;
 - Foundation footprint;
 - Permanent laydown area footprint;
 - Construction period laydown footprint;
 - Internal roads indicating width (construction period width and operation period width) and with numbered sections between the other site elements which they serve (to make commenting on sections possible);
 - Wetlands, drainage lines, rivers, stream and water crossing of roads and cables indicating the type of bridging structures that will be used;
 - The location of Heritage sites;
 - Sub-station(s) and/or transformer(s) sites including their entire footprint;
 - Cable routes and trench dimensions (where they are not along internal roads);
 - Connection routes (including pylon positions) to the distribution/transmission network;
 - Cut and fill areas at turbine sites along roads and at sub-station/transformer sites indicating the expected volume of each cut and fill;
 - Borrow pits;
 - Spoil heaps (temporary for topsoil and subsoil and permanently for excess material);
 - All existing infrastructure on the site, especially roads;
 - Buildings including accommodation;
 - All "no-go" areas; and
 - A map combining the final layout plan must be superimposed (overlain) on the environmental sensitivity map.
8. The Environmental Management Programme (EMPr) submitted as part of the application for environmental authorisation must include the following:
 - 8.1 All recommendations and mitigation measures to be recorded in the Final EIR.
 - 8.2 A plant rescue and protection plan which allows for the maximum transplant of conservation important species from areas to be transformed. This plan must be

- compiled by a vegetation specialist familiar with the site in consultation with the ECO and be implemented prior to commencement of the construction phase.
- 8.3 An open space management plan to be implemented during the construction and operation of the facility.
 - 8.4 A re-vegetation and habitat rehabilitation plan to be implemented during the construction and operation of the facility including timeframes for restoration which must indicate rehabilitation within the shortest possible time after completion of construction activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.
 - 8.5 An alien invasive management plan to be implemented during construction and operation of the facility. The plan must include mitigation measures to reduce the invasion of alien species and ensure that the continuous monitoring and removal of alien species is undertaken.
 - 8.6 A storm water management plan to be implemented during the construction and operation of the facility. The plan must ensure compliance with applicable regulations and prevent off-site migration of contaminated storm water or increased soil erosion. The plan must include the construction of appropriate design measures that allow surface and subsurface movement of water along drainage lines so as not to impede natural surface and subsurface flows. Drainage measures must promote the dissipation of storm water run-off.
 - 8.7 An effective monitoring system to detect any leakage or spillage of all hazardous substances during their transportation, handling, use and storage. This must include precautionary measures to limit the possibility of oil and other toxic liquids from entering the soil or storm water systems.
 - 8.8 An erosion management plan for monitoring and rehabilitating erosion events associated with the facility. Appropriate erosion mitigation must form part of this plan to prevent and reduce the risk of any potential erosion.
 - 8.9 A transportation plan for the transport of turbine components, main assembly cranes and other large pieces of equipment.
 - 8.10 A traffic management plan for the site access roads to ensure that no hazards would result from the increased truck traffic and that traffic flow would not be adversely impacted. This plan must include measures to minimize impacts on local commuters e.g. limiting construction vehicles travelling on public roadways during the morning and late afternoon commute time and avoid using roads through densely populated built-up areas so as not to disturb existing retail and commercial operations.
 - 8.11 An avifauna and bat monitoring programme to document the effect of the operation of the energy facility on avifauna and bats. This must be compiled by a qualified specialist.
 - 8.12 An environmental sensitivity map indicating environmental sensitive areas and features identified during the EIA process.
 - 8.13 Measures to protect hydrological features such as streams, rivers, pans, wetlands, dams and their catchments, and other environmental sensitive areas from construction impacts including the direct or indirect spillage of pollutants.
9. The applicant is hereby reminded to comply with the requirements of regulation 67 with regard to the time period allowed for complying with the requirements of the Regulations, and regulations 56 and 57 with regard to the allowance of a comment period for interested and affected parties on all reports submitted to the competent authority for decision-making. The reports referred to are listed in regulation 56(3a-3h).

10. Further, it must be reiterated that, should an application for Environmental Authorisation be subject to the provisions of Chapter II, Section 38 of the National Heritage Resources Act, Act 25 of 1999, then this Department will not be able to make nor issue a decision in terms of your application for Environmental Authorisation pending a letter from the pertinent heritage authority categorically stating that the application fulfils the requirements of the relevant heritage resources authority as described in Chapter II, Section 38(8) of the National Heritage Resources Act, Act 25 of 1999.
11. You are requested to submit two electronic copies (CD/DVD) and two (2) hard copies of both the Draft and Final EIR to the Department as per regulation 34(1)(b) of the EIA Regulations, 2010.
12. Please also find attached information that should be used in the preparation of the Environmental Impact Report. This will enable the Department to speedily review the EIAR and make a decision on the application.
13. You are hereby reminded of Section 24F of the National Environmental Management Act, Act No 107 of 1998, as amended, that no activity may commence prior to an environmental authorisation being granted by the Department.

Yours sincerely



Mr Ishaam Abader
Deputy Director-General: Environmental Quality and Protection
Department of Environmental Affairs
Letter signed by: Ms Millicent Solomons
Designation: Acting Director: Environmental Impact Evaluation
Date: 22/02/2012

CC	Mr A Wolfrohm	WKN - Windcurrent SA (Pty) Ltd	Tel: 044-877-0564	Fax: 086-610-2779
	Mr. A Struwig	Eastern Cape DEDET	Tel: 014-508-5815	Fax: 041-585-1958
	Ms. K Strydom	Kouga Local Municipality	Tel: 042-293-2517	Fax: 086-523-1710

EIA INFORMATION REQUIRED FOR WIND FARM APPLICATIONS

1. General site information

The following general site information is required:

- Descriptions of all affected farm portions
- 21 digit Surveyor General codes of all affected farm portions
- Copies of deeds of all affected farm portions
- Photos of areas that give a visual perspective of all parts of the site
- Photographs from sensitive visual receptors (tourism routes, tourism facilities, etc.)
- Turbine design specifications including:
 - Nacelle height
 - Blade length
 - Turbine shaft dimensions
 - Foundation dimensions
 - Laydown area dimensions (construction period and thereafter)
 - Blade rotation direction
 - Generation capacity
- Onsite measured wind parameters (speed, variability, etc.)
- Generation capacity of the facility as a whole at delivery points

This information must be indicated on the first page of any Scoping or EIA document. It is also advised that it be double checked as there are too many mistakes in the applications that have been received that take too much time from authorities to correct.

2. Site maps and GIS information

Site maps and GIS information should include at least the following:

- All maps/information layers must also be provided in ESRI Shapefile format
- All affected farm portions must be indicated
- The exact site of the application must be indicated (the areas that will be occupied by the application)
- A status quo map/layer must be provided that includes the following:
 - Current use of land on the site including:
 - Buildings and other structures
 - Agricultural fields
 - Grazing areas
 - Natural vegetation areas (natural veld not cultivated for the preceding 10 years) with an indication of the vegetation quality as well as fine scale mapping in respect of Critical Biodiversity Areas and Ecological Support Areas
 - Critically endangered and endangered vegetation areas that occur on the site
 - Bare areas which may be susceptible to soil erosion
 - Cultural historical sites and elements
 - Rivers, streams and water courses
 - Ridgelines and 20m continuous contours with height references in the GIS database
 - Fountains, boreholes, dams (in-stream as well as off-stream) and reservoirs

- High potential agricultural areas as defined by the Department of Agriculture, Forestry and Fisheries
- Buffer zones (also where it is dictated by elements outside the site):
 - 500m from any irrigated agricultural land
 - 1km from residential areas
- Indicate isolated residential, tourism facilities on or within 1km of the site
- A slope analysis map/layer that include the following slope ranges:
 - Less than 8% slope (preferred areas for turbines and infrastructure)
 - between 8% and 12% slope (potentially sensitive to turbines and infrastructure)
 - between 12% and 14% slope (highly sensitive to turbines and infrastructure)
 - steeper than 18 % slope (unsuitable for turbines and infrastructure)
- A map/layer that indicate locations of birds and bats including roosting and foraging areas (specialist input required)
- A site development proposal map(s)/layer(s) that indicate:
 - Turbine positions
 - Foundation footprint
 - Permanent laydown area footprint
 - Construction period laydown footprint
 - Internal roads indicating width (construction period width and operation period width) and with numbered sections between the other site elements which they serve (to make commenting on sections possible)
 - River, stream and water crossing of roads and cables indicating the type of bridging structures that will be used
 - Substation(s) and/or transformer(s) sites including their entire footprint.
 - Cable routes and trench dimensions (where they are not along internal roads)
 - Connection routes to the distribution/transmission network (the connection must form part of the EIA even if the construction and maintenance thereof will be done by another entity such as Eskom)
 - Cut and fill areas at turbine sites along roads and at substation/transformer sites indicating the expected volume of each cut and fill
 - Borrow pits
 - Spoil heaps (temporary for topsoil and subsoil and permanently for excess material)
 - Buildings including accommodation

With the above information authorities will be able to assess the strategic and site impacts of the application.

3. Regional map and GIS information

The regional map and GIS information should include at least the following:

- All maps/information layers must also be provided in ESRI Shapefile format
- The map/layer must cover an area of 20km around the site
- Indicate the following:
 - roads including their types (tared or gravel) and category (national, provincial, local or private)
 - Railway lines and stations
 - Industrial areas
 - Harbours and airports
 - Electricity transmission and distribution lines and substations
 - Pipelines

- A visibility assessment of the areas from where the facility will be visible
- Critical Biodiversity Areas and Ecological Support Areas
- Critically Endangered and Endangered vegetation areas
- Agricultural fields
- Irrigated areas
- An indication of new road or changes and upgrades that must be done to existing roads in order to get equipment onto the site including cut and fill areas and crossings of rivers and streams.

4. Important stakeholders

Amongst other important stakeholders, comments from the National Department of Agriculture, Forestry and Fisheries must be obtained and submitted to the Department. Request for comment must be submitted to:

Mrs. Anneliza Collett
Directorate: Land Use & Soil Management
Department of Agriculture, Forestry & Fisheries
Tel: 012 - 319 7508
Fax: 012 - 329 5938
e-mail: AnnelizaC@nda.agric.za
www.agis.agric.za

In addition, comments must be requested from Eskom (Mr Kevin Leask or Mr Ronald Marais (011) 8008111) regarding grid connectivity and capacity.

Agricultural study

- Detailed soil assessment of the site in question, incorporating a radius of 50 m surrounding the site, on a scale of 1:10 000 or finer. The soil assessment should include the following:
 - Identification of the soil forms present on site
 - The size of the area where a particular soil form is found
 - GPS readings of soil survey points
 - The depth of the soil at each survey point
 - Soil colour
 - Limiting factors
 - Clay content
 - Slope of the site
 - A detailed map indicating the locality of the soil forms within the specified area,
 - Size of the site
- Exact locality of the site
- Current activities on the site, developments, buildings
- Surrounding developments / land uses and activities in a radius of 500 m of the site
- Access routes and the condition thereof
- Current status of the land (including erosion, vegetation and a degradation assessment)
- Possible land use options for the site
- Water availability, source and quality (if available)
- Detailed descriptions of why agriculture should or should not be the land use of choice
- Impact of the change of land use on the surrounding area
- A shape file containing the soil forms and relevant attribute data as depicted on the map





environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X 447, PRETORIA · 0001 · Fedsure Building · 315 Pretorius Street · PRETORIA
Tel (+ 27 12) 310 3911 · Fax (+ 2712) 322 2682

Reference: 12/12/20/2289
Enquiries: Sindiswa Dlomo
Tel: 012 395 1856 Fax: 012 320 7539 E-mail: sdlomo@environment.gov.za

Minnelise Levendal
CSIR
PO Box 320
STELLENBOSCH
7599

Fax: 021 888 2693

PER FACSIMILE / MAIL

Dear Ms Levendal

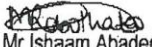
**ACKNOWLEDGEMENT OF RECEIPT OF DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT: FOR
THE PROPOSED BANNA BA PIFHU WIND ENERGY PROJECT, FARMS BROADLANDS AND
SARAGOSSA, HUMANSDORP, KOUGA LOCAL MUNICIPALITY**

The Department confirms having received the draft Environmental Impact Assessment Report dated April 2012 for the above-mentioned project on 07 May 2012.

Please note that the Department will start reviewing once the final Environmental Impact Assessment Report is received.

You are hereby reminded that the activity may not commence prior to an environmental authorisation being granted by the Department.

Yours sincerely


Mr Ishaam Abader
Deputy Director-General: Environmental Quality and Protection
Department of Environmental Affairs
Letter signed by: Ms Mmatlala Rabothata
Designation: PEO: Environmental Impact Evaluation
Date: 14/05/2012



**Environmental Impact Assessment for the
proposed Banna Ba Pifhu Wind Energy Project
near Humansdorp, Eastern Cape:
Final Environmental Impact Assessment Report**

APPENDIX C

Database of Interested and Affected Parties

Title	First Name	Last Name	Organisation	Capacity	I&AP Sector	Town	Let 1: Notice of Scoping	Req to Register	Comment Pre Scoping	Let 2: Draft Scoping	Public Mtg Draft SR	Focus Group Mtg Draft SR	Comment Draft SR	Let 3: Final SR	Comments Pre DEIA	Let 4: Draft EIA	Pub Mtg Draft EIA	Focus Group Mtg DEIA	Comment Draft EIA	Let 5: Final EIA	Let 6: Authorisation	
1. Mr	Coenrad	Agenbach	National Dept of Environmental Affairs		National DEA	Pretoria										x						
2. Ms	Carolyn	Ah Shene-Verdoorn	Birdlife EC	Policy and Advocacy Manager	Environmental NGO	Randburg	x			x				x		x						
3. Mr	Chris	Barratt	St Francis Kromme Trust	Chairperson	Environmental NGO	St Francis Bay	x			x				x		x						
4. Ms	Marisa	Bloem	DWA: Port Elizabeth	Water Use Authorization Section	Water Authority	Port Elizabeth							x	x	x	x						
5. Ms	Yvonne	Bosman	St Francis Bird Club	Chairperson	NGO	St Francis Bay	x	x		x				x		x						
6. M	Brian	Bouwer	Kouga Black Chamber of Commerce	Member	Business	Jeffrey's Bay											x			x		
7. Mr	John	Bouwer	Kouga Black Chamber of Commerce	Member	Business	Jeffrey's Bay											x			x		
8. Ms	Thoko	Buthelezi	Dept of Agriculture Forestry and Fisheries	AgriLand Liaison office	National Dept of Agriculture	Pretoria										x						

Title	First Name	Last Name	Organisation	Capacity	I&AP Sector	Town	Let 1: Notice of Scoping	Req to Register	Comment Pre Scoping	Let 2: Draft Scoping	Public Mtg Draft SR	Focus Group Mtg Draft SR	Comment Draft SR	Let 3: Final SR	Comments Pre DEIA	Let 4: Draft EIA	Pub Mtg Draft EIA	Focus Group Mtg DEIA	Comment Draft EIA	Let 5: Final EIA	Let 6: Authorisation
9. Mr	Stan	Clarke	Woodlands Farm	Adjacent Neighbour	Adjacent Landowner	Humansdorp											x		x		
10. Ms	Yvonne	Craig	St Francis Kromme Trust	Secretary	Environmental NGO	St Francis Bay	x	x	x	x				x		x					
11. Mr	Patrick	Cull	Times Media	Consulttant	Media	Walmer	x			x				x		x					
12. Dr	Daan	Delpport	Daan Delpport Familie Trust	Re/868; Re/869	Adjacent Landowner	Humansdorp	x			x				x		x					
13. Mr	Frans	Delpport	Dieprivier	5, 6, 10, 11/689	Affected Landowner	Humansdorp	x			x				x		x					
14. Mr	Joey	Du Preez	Aasvoel Boerdery C C	RE/803	Adjacent landowner	Durbanville	x			x				x		x					
15. Mr	Kenneth	Du Preez	Kouga Municipality	Engineering & Electrical	Local Authority	Humansdorp	x			x				x		x					
16. Mr/Ms	Gcinile	Dumse	Dept of Agriculture, Forestry Management : Land Use and Soil Management EL	Resource Auditor	Provincial Authority	East London	x			x				x		x					

Title	First Name	Last Name	Organisation	Capacity	I&AP Sector	Town	Let 1: Notice of Scoping	Req to Register	Comment Pre Scoping	Let 2: Draft Scoping	Public Mtg Draft SR	Focus Group Mtg Draft SR	Comment Draft SR	Let 3: Final SR	Comments Pre DEIA	Let 4: Draft EIA	Pub Mtg Draft EIA	Focus Group Mtg DEIA	Comment Draft EIA	Let 5: Final EIA	Let 6: Authorisation	
17. Mr	Chester	Edwards	Kouga Black Chamber of Commerce	Member	Business	Jeffrey's Bay											x					
18. Ms	Bridget	Elton	St Francis Kromme Trust	Member	NGO	St Francis Bay	x			x		x	x	x		x						
19. Ms	Corne	Erasmus	Birdlife EC	Chairperson	Birdlife	Greenacres													x			
20. Mr	Sidney	Fadi	Kouga Local Authority	Acting Municipal Manager	Kouga Local Authority	Jeffrey's Bay								x		x						
21.	Victor	Felton	Kouga Local Authority	Capacity-Director	Kouga Local Authority	Jeffrey's Bay																
22. Ms	Lizna	Fourie	DWAF, East London	Permit officer	National Dept. for NWA, 1998	East London				x				x		x						
23. Dr	Mariagrazia	Galimberti	SA Heritage Resources Agency	CEO Archaeology, Palaeontology & Meteorite Unit	SAHRA	Cape Town	x	x	x	x				x		x			x			
24. Mr	John	Geeringh	Eskom	Transmission IPP	Eskom	Johannesburg										x			x			
25. Ms	Nanna	Gouws	SA National Roads Agency Ltd Southern Region	Statutory Control Officer	National Roads	Greenacres								x		x						

Title	First Name	Last Name	Organisation	Capacity	I&AP Sector	Town	Let 1: Notice of Scoping	Req to Register	Comment Pre Scoping	Let 2: Draft Scoping	Public Mtg Draft SR	Focus Group Mtg Draft SR	Comment Draft SR	Let 3: Final SR	Comments Pre DEIA	Let 4: Draft EIA	Pub Mtg Draft EIA	Focus Group Mtg DEIA	Comment Draft EIA	Let 5: Final EIA	Let 6: Authorisation	
26. Mr	Dayalan	Govender	Department of Economic Development and Environmental Affairs (DEDEA)	Deputy Director	Environmental Authority	Greenacres	x			x				x		x						
27. Mr	Morgan	Griffiths	Wildlife & Environment Society of South Africa, EP Region	Environmental Officer	Environmental NGO	Centrahil	x			x				x		x						
28. Mr	Lex	Gutsche	Woodlands Farm/ Lex Gutsche Inv Trust	25/688	Adjacent landowner	Humansdorp	x			x				x		x						
29. Mr/Mrs	George & Sandra	Hardie	St Francis Conservancy		Environmental NGO	St Francis Bay	x			x				x		x						
30. Mr	Paul	Heyns	Woodlands Farm	Adjacent Neighbour	Adjacent Landowner	Humansdorp											x					
31. Mr	Iqbal	Hoosen	SANRAL - Southern Region	Project Manager	National Roads	Port Elizabeth		x		x				x		x						
32. Mr	Marius	Keyser	District Roads Engineer	EC Dept. of Roads and Transport	Provincial Authority	Algoa Park	x	x	x	x				x		x			x			

Title	First Name	Last Name	Organisation	Capacity	I&AP Sector	Town	Let 1: Notice of Scoping	Req to Register	Comment Pre Scoping	Let 2: Draft Scoping	Public Mtg Draft SR	Focus Group Mtg Draft SR	Comment Draft SR	Let 3: Final SR	Comments Pre DEIA	Let 4: Draft EIA	Pub Mtg Draft EIA	Focus Group Mtg DEIA	Comment Draft EIA	Let 5: Final EIA	Let 6: Authorisation	
33. Mr	Arnold	Koester	COSATU Local	Deputy Chairperson	Civil Society	Humansdorp						x	x	x		x						
34. Mr	Georghiou	Lambrou	Kwalanga Eco-Estate	2/793	Adjacent landowner	Jefferey's Bay	x			x				x		x						
35. Ms	Maggie	Langlands	St Francis Kromme Trust	Renewable Energy Portfolio	Environmental NGO	St Francis Bay		x	x	x		x	x	x		x	x		x			
36. Ms	Minnelise	Levendal	EIA Manager	CSIR	Project Management	Stellenbosch	x			x				x		x						
37. Mr	Paul	Lochner	EIA Project Manager	CSIR	Project Manager	Stellenbosch	x			x				x		x						
38. Mr	Theo	Madatt	Kouga Municipality	Electricity Department	Local Authority	Jeffrey's Bay	x			x				x		x						
39. Mr	Naashied	Mallick	Technospect	RE/793	Adjacent landowner	Pinelands	x			x				x		x						
40. Ms	Mashudu	Marubini	Dept of Agriculture Forestry and Fisheries	Delegate of the Minister Act 70 of 1970	National Dept of Agriculture	Pretoria										x						
41. Mr	David	Masterson	David Masterson Family Trust & Saragossa Farms (Pty) Ltd	Affected Landowner 2/689; 5/689	Affected Landowner	Humansdorp	x			x				x		x	x					

Title	First Name	Last Name	Organisation	Capacity	I&AP Sector	Town	Let 1: Notice of Scoping	Req to Register	Comment Pre Scoping	Let 2: Draft Scoping	Public Mtg Draft SR	Focus Group Mtg Draft SR	Comment Draft SR	Let 3: Final SR	Comments Pre DEIA	Let 4: Draft EIA	Pub Mtg Draft EIA	Focus Group Mtg DEIA	Comment Draft EIA	Let 5: Final EIA	Let 6: Authorisation	
42. Ms	Dot	Masterson	Broadlands FArm	Private	Private	St Francis Bay											x					
43. Mr	Rival	Mnguni	Dept of Agriculture, Forestry and Fisheries	Land Use Advisor	National Dept of Agriculture	Pretoria		x						x		x						
44. Mr	Robert	Montgomery	Rushmere Noach Incorporated	Legal Representative for Lex Gutsche Investment Trust	Legal Representative	Port Elizabeth													x			
45. Ms	Yvonne	Nhlapo	National Energy Regulator	PA	National Authority	Pretoria	x			x				x		x						
46. Ms	Thembi	Nyoka	Dept of Agriculture Forestry and Fisheries		National Dept of Agriculture	Pretoria								x	x	x						
47. Mr	E	Oosthuizen	Kouga Municipality	Acting Director Technical Services	Kouga Municipality	Jeffrey's Bay								x		x						
48. Mr	Russell	Phillips	FAPX - Secretary Airfield Association	Paradise Beach Airfield	Aviation	Walmer	x			x				x		x						

Title	First Name	Last Name	Organisation	Capacity	I&AP Sector	Town	Let 1: Notice of Scoping	Req to Register	Comment Pre Scoping	Let 2: Draft Scoping	Public Mtg Draft SR	Focus Group Mtg Draft SR	Comment Draft SR	Let 3: Final SR	Comments Pre DEIA	Let 4: Draft EIA	Pub Mtg Draft EIA	Focus Group Mtg DEIA	Comment Draft EIA	Let 5: Final EIA	Let 6: Authorisation	
49. Mr	Godfied	Potgieter	St Francis Kromme Trust	Member	Environmental NGO	St Francis Bay						x	x	x		x						
50. Mr	Henri	Pretorius	Alpha Familie Trust	2/803	Adjacent landowner	Humansdorp	x			x				x		x						
51. Mr	Monde	Ralo	COSATU Local	Chairperson	Civil Society	Uitenhage						x	x	x		x						
52. Mr	Danie	Rautenbach	Kouga Development Agency	Planning & Development Manager	Local Authority	Jeffrey's Bay	x			x				x		x						
53. Mr	Peter	Rautenbach	Grasmere	1, 2, 3, 4/912	Adjacent Landowner	Humansdorp	x			x				x		x	x		x			
54. Mr	Kobus	Reichert	Gamkwa First Nation		Heritage NGO	Jeffery's Bay	x			x				x		x						
55. Mr	Pieter	Retief	Dept of Water Affairs and Forestry, Port Elizabeth	Water Pollution Control Officer	Water Affairs and Forestry	Port Elizabeth				x				x		x						
56. Cllr	Ben	Rheeber	Councillor Ward 12	Councillor, Ward 12	Local Authority Councillor	St Francis Bay	x			x				x		x						
57. Ms	Clarissa	Rudd	Jeffrey's Bay Library	Librarian	Library	Jeffrey's Bay		x						x		x						
58. Mr	Albert	Schultz	Birdlife EC	Vice Chairman	Environmental NGO	Port Elizabeth		x					x	x		x						

Title	First Name	Last Name	Organisation	Capacity	I&AP Sector	Town	Let 1: Notice of Scoping	Req to Register	Comment Pre Scoping	Let 2: Draft Scoping	Public Mtg Draft SR	Focus Group Mtg Draft SR	Comment Draft SR	Let 3: Final SR	Comments Pre DEIA	Let 4: Draft EIA	Pub Mtg Draft EIA	Focus Group Mtg DEIA	Comment Draft EIA	Let 5: Final EIA	Let 6: Authorisation	
59. Mr	Tom	Smith	Eskom	Land Development Manager	Eskom	East London										x						
60. Mr	Alan	Southwood	Eastern Cape Economic Development, Environmental Affairs and Tourism	Environmental Officer: Specialised Production	Provincial Authority	Greenacres																x
61. Ms	Lizelle	Stroh	Civil Aviation Authority	Obstacle Specialist	Civil Aviation Authority	Halfway House	x			x				x		x						
62. Mr	Andries	Struwig	Dept of Economic Affairs Environment and Tourism	Deputy Director	Affected Organ of State	Greenacres	x			x				x		x						
63. Ms	Carina	Strydom	Kouga Municipality	LED Manager	Local Authority	Jeffrey's Bay	x			x				x		x						
64. Ms	Henda	Thiart	Jeffrey's Bay Rate Payers Association	Chairperson	Ratepayers Association	Jeffrey's Bay	x			x				x		x						
65. Mr	Hilton	Thorpe	St Francis Bay Residence Association		Civil Society	St Francis Bay	x			x				x		x						
66. Ms	M	Uitthaler	COCATU Local		Civil Society	Humansdorp						x		x		x						

Title	First Name	Last Name	Organisation	Capacity	I&AP Sector	Town	Let 1: Notice of Scoping	Req to Register	Comment Pre Scoping	Let 2: Draft Scoping	Public Mtg Draft SR	Focus Group Mtg Draft SR	Comment Draft SR	Let 3: Final SR	Comments Pre DEIA	Let 4: Draft EIA	Pub Mtg Draft EIA	Focus Group Mtg DEIA	Comment Draft EIA	Let 5: Final EIA	Let 6: Authorisation	
67. Ms	Nicolene	Venter	Sivest	PP Manager	Thyspunt EIA	Rivonia	x			x				x		x						
68. Ms	Deirdre	Watkins		DMR	Coega ELC / DMR	Port Elizabeth																
69. Chief	Michael	Williams	Gamtkwa Khoisan First Nation	Chief	Heritage NGO	Hankey	x			x				x		x						
70. Mr	Alan	Wolfrohm	Windcurrent	Director	Applicant	Wilderness	x			x				x		x						
71. Mr	David	Wolfrohm	Windcurrent	Director	Applicant	Noordhoek										x						
72. Mr	Vuyani	Zana	ANC Sub Region	Civil Society	Civil Society	Hankey						x	x	x		x						
73. Mr	Ross	Zietsman	Birdlife EC	Chairperson	Environmental NGO	Greencres	x			x				x		x						
74. Mr	Fezeka	Zuma	National Department of Agriculture	Land Use and Soil Management	National Dept of Agriculture	Pretoria							x	x	x	x						
75. Ms/Mr	Siphesihle	Zwane	Department of Agriculture	ActingDeputy Director	Provincial Authority	Pretoria	x			x				x		x						
76. Ms	Annette	Stoltz	National Department of Agriculture	Land Use and Soil Management	National Dept of Agriculture	Pretoria																

A decorative graphic consisting of a thick, curved, light blue-to-white gradient bar that starts from the left edge and curves upwards and to the right, ending near the top center of the page.

**Environmental Impact Assessment for the
proposed Banna Ba Pifhu Wind Energy Project
near Humansdorp, Eastern Cape:
Final Environmental Impact Assessment Report**

APPENDIX D

**Letter to stakeholders following the release
of the Final Scoping Report and
the Draft EIA Report**

**Copies of Correspondence sent to I&APs
Letter 3: Notice of the Final Scoping Report**

PO Box 27688 Greenacres 6057
120 Diaz Road Adcockvale, PE 6001
Phone 041 374 8426 Fax 041 373 2002
Email sandy@publicprocess.co.za
Ck 97/32984/23 VAT 44601 68273



9 November 2011

«Title» «First_Name» «Last_Name»
«Organisation»
«Address_1_»
«Address_2_»
«Town»
«Code»

Dear «Title» «Last_Name»

RE: Final Scoping Report, Proposed Banna Ba Pifhu Wind Energy Project, Farms Broadlands and Saragossa, Humansdorp, Kouga Local Municipality DEA Reference Number: 12/12/20/2289

As a registered interested and affected party on the database for the above project you are hereby notified of the submission of the Final Scoping Report to the National Department of Environmental Affairs for decision making. (DEA reference no: 12/12/20/2289). All comments on the Final Scoping report are to be submitted directly to the National Department of Environmental Affairs, as indicated in the table below and a copy provided to the Public Participation Consultant, contact details above, by no later than the **29 November 2011**.

For Attention:	Mr Takalani Maswime
Postal Address	National Department of Environmental Affairs Private Bag X447 Pretoria 0001
Phone	Tel: (012) 310 3780
Fax	Fax: (012) 320 7539
Email	Tmaswime@environment.gov.za
Please ensure that the project reference number is reflected on all correspondence:	
DEA Reference no:	12/12/20/2289

Report Availability

Copies of the Final Scoping Report are available for public viewing at the Humansdorp and Jeffreys Bay Main Library and can be downloaded from the website www.publicprocess.co.za

The next stage in the EIA process will entail the release of the Draft Environmental Impact Assessment and EMPr (Draft EIA and EMPr) for a 40 day review period. As a registered interested and affected party on the database for this project you will receive written notification of the review period and any public meetings scheduled to be held during this period.

We thank you for providing us with your input to date and look forward to your participation in the next stage of the process.

Yours sincerely

SANDY WREN

Letter 4: Notice of the Draft EIA Report Comment Period and Public Meeting

PO Box 27688 Greenacres 6057
120 Diaz Road Adcockvale, PE 6001
Phone 041 374 8426 Fax 041 373 2002
Email sandy@publicprocess.co.za
Ck 97/32984/23 VAT 44601 68273



24 April 2012

«Title» «First_Name» «Last_Name»
«Organisation»
«Address_1_»
«Address_2_»
«Town»
«Code»

Dear «Title» «Last_Name»

RE: Notice of Comment Period, Draft Environmental Impact Assessment and EMP, Proposed Banna ba Pifhu Wind Energy Project, Farms Broadlands and Saragossa, Humansdorp, Kouga Local Municipality DEA Reference Number: 12/12/20/2289

As a registered interested and affected party on the database for the above project you are hereby notified of the release of the Draft Environmental Impact Assessment (EIA) and EMP for a 45 day comment period from 25 April 2012 to 8 June 2012 (DEA reference no: 12/12/20/2289). All comments on the Draft EIA Report and EMP are to be submitted to the public participation consultant, contact details above, by no later than 8 June 2012.

Report Availability

Copies of the Draft EIA Report and EMP are available for public viewing at the Humansdorp and Jeffreys Bay Main Library and can be downloaded from the website www.publicprocess.co.za

Public Meeting

All interested and affected parties, as well as any members of the public, are invited to attend a Public Meeting, details below, where a presentation on the Draft EIA Report will be provided. Representatives from the CSIR, the Environmental Consultants for the Project, as well as, WKN-Windcurrent SA (Pty) Ltd, the Project Applicant, will be present to engage with members of the public.

DATE	TIME	VENUE
Tuesday, 8 May 2012	12 noon	Humansdorp Country Club, Main Hall (Park Street, Humansdorp, entrance opposite Kemp Street)

The purpose of the Public Meeting is to provide you with an overview of the findings of the Draft EIA and obtain your comment and input for consideration in the finalisation of the Report, prior to submission to the National Department of Environmental Affairs for their decision making.

To assist you with the submission of your comments we have included with this correspondence an Executive Summary of the Draft EIA Report as well as a comment form.

Should you have any comments or queries please do not hesitate to contact Sandy Wren or Wandile Junundu at the contact details above. We look forward to your participation in this stage of the process.

Yours sincerely

SANDY WREN

Comment form sent with Letter 4 to I&APs

EIA PHASE:

DRAFT EIA REPORT & EMP COMMENT FORM

**SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT PROCESS
WKN Windcurrent SA (Pty) Ltd (the Applicant)**

WKN-Windcurrent SA Pty Ltd are proposing a 50 MW wind energy facility on the Farms
Broadlands and Saragossa, Humansdorp, Kouga Local Municipality, referred to as Banna Ba Pifhu

DEA Reference Number: 12/12/20/2289

Primary Listed Activity: GN R545 Activity 1.

Return Completed Reply Form to:

Public Process Consultants, PO Box 27688, Greenacres 6057

Phone: 041 – 374 8426 or Fax 041-373 2002 or Email sandy@publicprocess.co.za

Complete all Relevant Sections Below and Return By: 8 June 2012

Please provide your full contact details:

FIRST NAME:	SURNAME:
ORGANISATION:	POSITION:
POSTAL ADDRESS:	
CODE:	
PHONE:	FAX:
CELL:	EMAIL:

**Please clearly state any interest you may have in the project and/or list your issues and
comments or questions you may have (use additional pages if required)**

EXECUTIVE SUMMARY SENT WITH LETTER 4 TO I&APs

Executive Summary

PROJECT OVERVIEW

WKN Windcurrent SA (Pty) Ltd (referred to as "WKN Windcurrent") is proposing the construction of a 50 MW wind energy facility on the Broadlands and Saragossa Farms in the Kouga Municipal Area, approximately 3.5 km south of the town of Humansdorp (Figure S1). The proposed project is referred to as the Banna Ba Pifhu Wind Energy Project. WKN Windcurrent is a joint venture company between Windcurrent SA (Pty) Ltd and WKN AG (referred to as "WKN"). The Banna Ba Pifhu Wind Energy Project will be located on the following farms:

- Remainder of Farm 688;
- Portions 2 and 15 of Farm 689 and
- Portion 1 of Farm 868.

The Banna Ba Pifhu Wind Energy Project will consist of 15 to 27 wind turbines pending the capacity of the turbine to be used, i.e. approximately 1.8 to 3.2 MW each. A new substation will be built on site to connect to the transmission system. It is proposed to connect the wind farm substation to the existing 66 kV Melkhout - St. Francis overhead power line which passes through the site, therefore no additional power lines will need to be constructed. The turbines will be connected via underground cabling.

NEED FOR THE PROJECT

The aim of this project is to generate electricity that will be fed into the national or the provincial grid by erecting a wind farm of 50 MW. In mid-2011, the South African government indicated a change in pricing strategy for renewable energy. Instead of applying a predetermined renewable-energy feed-in tariff (Refit), as previously indicated, the government would conduct a selection process that would involve both price and non-price elements. This requires bidders to propose their price per MWh for the energy output to be generated, along with full or partial inflation indexation. The price indication would be for the first 20 years of operation, or for the duration of the power purchase agreement (PPA). On 3 August 2011, the Department of Energy (DoE) released the qualification and proposal documentation for South Africa's first renewable energy independent power producer (IPP) tender process, and announced that it has allocated a total of 3 725 MW capacity across various renewables technologies, with 1 850 MW set aside for onshore wind. This allocation to wind energy is an increase on the 1 025 MW set out for the first procurement round in the Integrated Resource Plan (IRP) 2010-2030 (Source: Engineering News, 4 & 5 August 2011).

At a national scale, renewable energy (in particular, wind energy) has the potential to play an important role in meeting South Africa's energy demand through diversifying the sources of power generation whilst reducing the country's carbon footprint from power generation. Currently, approximately 93% of South Africa's power generation is derived from coal. The proposed Banna Ba Pifhu Wind Energy Project of 50 MW could offset over 100 000 tonnes of CO₂ per year, or 2 000 000 tonnes of CO₂ over the lifetime (20 years) of the project.^{1,2} Wind farms have a relatively short construction lead time and could therefore be quickly developed to meet South Africa's power need. Coal fired power stations used approximately 292 million cubic metres of water, or 1.5% of national water consumption, for electricity generation during 2005. The future availability and treatment costs of water therefore present a serious challenge for the economic sustainability of South Africa's current (coal-based) electricity supply.

The Eastern Cape Province is reliant on electricity imports from other provinces yet houses significant industrial and rural development potential. Power from the national grid is largely generated from coal power stations, and transmitted considerable distances to the Eastern Cape (e.g. from Mpumalanga). This leads to significant transmission losses and local grid instabilities. Electricity supply to the Eastern Cape Province is further constrained by transmission infrastructure. Eskom currently supplies approximately 1 400 MW of electricity to the Eastern Cape Province.

Against the background of international commitments to generation of "green energy" with low or zero CO₂ emissions, the intention of this project is to generate additional electricity that will be fed into the national grid by installing a wind farm with a capacity of 50 MW. The objective of the Banna Ba Pifhu project is to support the growing demand for electricity by means of renewable energy and to lower the emissions of carbon dioxide (CO₂) into the atmosphere. Electricity generated by wind energy, that replaces the use of fossil fuels, results in greenhouse gas emission reductions. Wind energy is a national imperative. A constrained national energy supply and South Africa's commitments to meeting its 2013 CO₂ reduction target and to the Kyoto Protocol require the rapid deployment of renewable energy, of which wind power has the greatest commercial potential.

At a provincial level, the project aims to assist the Eastern Cape in achieving improved energy stability and security. The local wind climate in the Humansdorp region creates the potential for a wind energy project to generate electricity, thereby contributing towards the provision of sustainable renewable energy.

PROJECT DESCRIPTION

Wind turbines

Fifteen to twenty seven turbines will be erected (the actual number will be dependent on the capacity of the turbines selected in the range between 1.8 and 3.2 MW). The turbines will have an expected hub height from 80 m to 105 m and a blade diameter from 90 m to 117 m. The turbines will be supported on foundations dimensioned to the geotechnical properties, for example reinforced concrete spread foundations of approximately 20 m by 20 m and 3 m in depth. Electrical transformers will be placed beside or in (the nacelle) of each turbine. Hard standing areas will be established adjacent to each turbine for use by cranes

¹ <http://www.iea.org/co2highlights/>

² http://www.sunearthtools.com/dp/tools/CO2-emissions-calculator.php?lang=de#txtCO2_3
Banna ba Pifhu, Draft EIA

Appendix D, Letters to stakeholders following release of FSR

Executive Summary

during construction and retained for maintenance use throughout life span of the project. Gravel roads, approximately 5 m wide, will be necessary to provide access to each turbine site, with the intent being to upgrade existing roads as far as possible. A wind monitoring mast with a height of 100 m has been erected on site.

Electrical connections

1. The wind turbines will be typically connected to each other and to the substation using medium voltage cables which will, in most cases, be buried approximately 1 m below ground, except where a technical assessment of the proposed design suggests that above ground lines are appropriate. The final internal underground cabling design will not traverse any sensitive areas as identified by the environmental specialists. The impact through trenches for the underground cabling can thus be minimised by decreasing the total lengths needed.
2. A new substation will be built on site to connect to the distribution or transmission system (maximum size of 70 m by 70 m). It is proposed to connect the wind farm substation to the existing 66 kV Melkhout / St. Francis overhead powerline, which passes through the site. Should this option become unfeasible, a new 132 kV overhead powerline would connect the wind farm to the Melkhout substation, which is located approximately 7 km north of the site.
3. The connection from the new substation to the Eskom grid line would be via underground cabling or a stretch of over head line supported on an intermediate pole(s), depending on the location of the substation relative to the 66 kV line.

Other infrastructure

1. Operations and maintenance building: An existing vacant building on the farm will be utilised as a storage/ maintenance and control/operations facility for the PV plant. New buildings will not be erected.
2. Fencing as required.

Temporary activities during construction

1. A lay down area (alongside an access route) of maximum area 10 000 m² is necessary for the assembly of the turbine components— this hard standing area could be temporary or if the landowner prefers, left for long-term use.
2. The overall site compound for contractors would be approximately 5000 m².
3. Existing borrow pits will be used as far as possible for road upgrades. The size of these pits will be dependent on the terrain and need for granular fill material for use in construction.
4. At the end of construction these borrow pits will be backfilled as much as possible using surplus excavated material from the foundations.

Construction and operational phases

The construction will be undertaken in three distinct components: Civil construction; Electrical installation and wind turbine erection; and Commissioning. The construction and commissioning phases are expected to require a total period of 8 to 15 months. The operational life span of the wind turbines is expected to be 20 years. Turbine life can be extended beyond 20 years through regular maintenance and/or upgrades in technology.

REQUIREMENTS OF AN ENVIRONMENTAL IMPACT ASSESSMENT

Amended NEMA EIA Regulations (Notices GN R. 543, 544, 545, and 546) were published in the Government Gazette No. 33306 of 18 June 2010, and came into effect from 2 August 2010 (referred to as the *2010 EIA Regulations*). This EIA application by WKN Windcurrent is undertaken under the 2010 EIA Regulations. In terms of these regulations, Scoping and Environmental Impact Assessment are required as the project includes *inter alia*:

GN.R545, 18 June 2010	1	1. The construction of facilities or infrastructure for the generation of electricity where the electricity output is 20 megawatts or more.
--------------------------	---	---

APPROACH TO THE EIA

An application to conduct the EIA process was re-submitted to the national Department of Environmental Affairs (DEA) in June 2011. The application was accepted and the project moved into the Scoping phase. The Final Scoping Report and Plan of Study for EIA were submitted to DEA in November 2011, with the notice to proceed to the EIA phase issued by DEA on 22 February 2012. The Draft EIA Report is now being released to stakeholders for a 40-day comment period. All comments received will be included in the Final EIA Report, which will be submitted to DEA for review and decision-making. This Draft EIA Report is available in the Jeffrey's Bay and Humansdorp Municipal Libraries; and on the project website at www.publicprocess.co.za. Hard copies and/or CDs containing the document will be sent to key stakeholders, including authorities. All I&APs on the project database have been notified of the release of the Draft EIA Report and EMP.

The Environmental Management Plan (EMP) is available as PART B of this report. The EMP is based on the recommendations made by specialists for design, construction and operation of the project.

PROJECT ALTERNATIVES

The "no-go" alternative was included in the EIA as a benchmark against which to assess the impacts (positive and negative) of the proposed Banna Ba Pifhu Wind Energy Project. Apart from the "no-go" alternative, various other types of alternatives are considered in this EIA. These are described in Chapter 4 of this Draft EIA Report, with the main alternatives being land use, technology, turbine scale and turbine layout alternatives.

Appendix D, Letters to stakeholders following release of FSR

Executive Summary

WKN Windcurrent prepared three preliminary alternative layouts based on three alternative suppliers and turbine sizes (see alternative layouts in Figures 4.7-4.9 of Chapter 4 in the DEIA Report). These layouts were assessed by the specialists working on the project. WKN Windcurrent subsequently prepared a new preferred layout based on the recommendations from the specialists. The current layout was reviewed by the specialists and was informed by the identification of buffer zones or no-go areas identified by the specialists (see Figure S2).

IMPACT ASSESSMENT AND MITIGATION

The key issues identified during the scoping process, and assessed during the EIA, were investigated and specialist studies conducted. The overall impacts (after mitigation) are summarised below:

- Impacts on terrestrial fauna and flora: **Medium to Low** (negative);
- Impacts on birds: **Low to High** (negative); (low for collision mortality - this will have to be verified by post-construction monitoring). High to Medium during construction and Medium to Low during the operational phase for displacement of birds);
- Impacts on bats: **Medium** (negative), (confidence levels are Low as it is based on only one month of monitoring data). After the data from additional monitoring has been assessed, the confidence in predictions will be higher.
- Visual impacts: **High** (negative);
- Noise impacts: **Low** (negative);
- Economic impact: **Medium** (negative) for tourism during operational phase, **Medium** (positive) for project investment/ expenditure during construction phase;
- Impacts on archaeology: **Low** (negative);
- Impacts on palaeontology: **Low** (negative);
- Impact on wetlands and aquatic systems: **Low** (negative); and
- Impact on Agricultural soil potential: **Low** (negative).

The main findings of these studies are outlined below, together with proposed mitigation and recommendations.

IMPACTS ON TERRESTRIAL FAUNA AND FLORA

FLORA

Sixteen terrestrial vegetation impacts that may occur during the construction and operational phases of the proposed project have been identified, which can be divided into three key types of impacts, namely:

- Loss of vegetation habitat;
- Reduction or changes to ecological processes and functioning. This include temporary fragmentation of habitats, increased risk of alien invasion in drainage lines and disturbed areas, changes in natural fire regime and overall reduction of ecosystem functioning; and
- Loss of species of special concern (SSC) and SSC habitat.

MITIGATION

- Protected flora or species of special concern must be removed from the development footprint to be safeguarded from destruction and relocated either to undeveloped areas or off-site in consultation with conservation authorities and relevant botanical specialists;
- Permission must be obtained from the provincial authorities to destroy or remove any protected plant species as per legislation;
- A long term alien plant management plan to control these invasive species must be implemented within the designated Open Space areas;
- Appropriate measures must be implemented where infrastructure crosses drainage lines or seeps and no turbine footprints or lay down areas will be sited within recommended wetland and riparian buffers; and
- Kikuyu grass must not be utilised during re-grassing of verges, turbine footprints and other landscaped areas within the site, particularly adjacent to riparian habitat.

Overall the impacts on terrestrial flora are estimated to be **negative** and of **medium to low** significance (after mitigation).

FAUNA

Five key faunal impacts have been identified and assessed, namely:

- Habitat destruction may affect faunal diversity and composition;
- Road mortality from trucks and other service vehicles;
- Poaching(mammals);
- Fauna harmed by fences (mammals/reptiles); and
- Corridor disruptions as a result of habitat fragmentation.

The impact on the terrestrial fauna will largely be temporary and is expected to return to its normal state after construction, other than road mortalities, the risk of which are likely to persist.

MITIGATION

- Removal of animals from the affected areas before the start of site clearing and construction, and relocating these to safe areas would only be a valid mitigation option in the case of tortoises, so far as reasonable possible. All other reptile and small

Banna ba Pifhu, Draft EIA

April 2012

Appendix D, Letters to stakeholders following release of FSR

Executive Summary

- mammal species are extremely difficult to catch and it would be futile to attempt to relocate them. Before site clearing, affected areas should be thoroughly searched for tortoises. Tortoises found must be released in adjacent unaffected areas;
- A speed limit of 60 km/h needs to be implemented on the access roads to the site and a 40 km/h speed limit on the construction sites and for the cranes;
 - Appropriate speed control measures must be implemented to keep vehicular traffic speeds to within recommended limits;
 - Road design must be such that it allows free movement of fauna;
 - All staff active on site must be instructed and briefed regarding the strict faunal management requirements before construction commences; and
 - Any fencing must be kept to minimum and recommended measures implemented to minimise risk of impacts to fauna.

IMPACT ON BIRDS

The main potential impacts of the project on birds are:

- Mortality due to collision with the wind turbines;
- Displacement due to disturbance;
- Habitat loss due to the footprint of the wind farm; and
- Mortalities due to collision with associated power line infrastructure.

Displacement of some priority species is possible, particularly Denham's Bustard, but at this stage, with no wind farms having been constructed as yet in the area, it is not possible to test the validity of this statement. However, should this impact materialise, the cumulative effect of displacement of particularly Denham's Bustard and White-bellied Korhaan might have regional or even national implications, depending on the number of wind farms that gets to be developed in the region, and the level of displacement. As far as the risk of mortality due to collisions is concerned, with the data currently available, it would seem that soaring species, and particularly Amur Falcons, might potentially be most exposed to this impact. Implementation of the proposed mitigation measures should reduce some of the envisaged impacts from medium to low, but while some impacts are low to start with, for others, very little practical mitigation is possible.

WKN Windcurrent has commissioned a pre-construction bird monitoring programme on site which commenced in March 2011. As far as collision risk is concerned, the following preliminary observations were made, based on the monitoring data gathered to date:

- The passage rates for priority species of 6.88 birds/hour (all heights) and 2.56 birds/hour (medium heights) indicate significant flight activity over the turbine area.
- Based solely on the amount of time spent at medium height over the turbine area, soaring species seem to be more at risk of collision than terrestrial species.
- Of the priority species recorded (both soaring and terrestrial species), Amur Falcons are most exposed to potential collision risk, based on the number of birds observed at the site at medium height over the turbine area.
- Of the terrestrial priority species recorded, Blue Cranes and Denham's Bustard are most exposed to potential collision risk, based on the number of birds observed at the site at medium height over the turbine area.
- Flight patterns of priority species at medium height recorded to date indicate areas where flight activity is more concentrated, although it is acknowledged that observations are inevitably biased towards the centre of the VP area. At this stage it seems that suitable foraging habitat might be an important factor in flight activity patterns.

From the results of the transect surveys the following preliminary trends emerge:

- The survey area supports high densities of Blue Crane, Amur Falcon and Black-winged Lapwing, which indicate the suitability of the study area across multiple habitat types for these species;
- Wetlands tend to support a high variety of birds; while agriculture supports the highest number of birds (but fewer species);

MITIGATION

- The monitoring should continue as planned during late autumn of 2012 in order to gather additional baseline data over four seasons;
- Access to the remainder of the site should be strictly controlled in order to minimise potential disturbance of sensitive priority species, particularly Denham's Bustard, both during the construction phase and the operational phase;
- Post-construction monitoring should be implemented to assess the impact of displacement, particularly on priority species. Initially, a 12 month period of post-construction monitoring should be implemented, using the same protocol as is currently implemented. Thereafter, the frequency for further monitoring will be informed by the results of the initial 12-month period;
- Should the results of the post-construction monitoring indicate significant displacement of priority species, appropriate off-set compensation should be negotiated with developer to compensate for the loss of priority species habitat; and
- During construction activity should be restricted to the construction footprint itself. Access to the rest of the properties must be strictly controlled to prevent unnecessary disturbance of birds.

This report should be seen as work in progress since full results of the pre-construction monitoring programme will only become available later in 2012, when the autumn monitoring has been completed. The final results of the current baseline monitoring will then be available to feed into the final lay-out of the turbines.

IMPACT ON BATS

The main potential negative impacts of the proposed Banna Ba Pifhu Wind Energy Project on bats are:

- Loss of foraging habitat;

Banna ba Pifhu, Draft EIA

April 2012

Appendix D, Letters to stakeholders following release of FSR

Executive Summary

- Direct collisions with the rotating turbine blades; and
- Fatalities from barotrauma (i.e. effect of a change in air pressure caused by the rotation of the wind turbine blades on the internal organs of the bats, such as lungs).

It is expected that open air foragers will be mostly negatively affected during operation of the turbines. Thus the need to investigate the area for a 12 month period covering all four seasons and also do recordings at hub height, is important. The proponent has already commenced with monitoring. Bats that fly to the proposed area to drink water is expected to be more at risk if turbines are situated close to open water bodies. Due to limited data available it is not possible to make confident predictions on the negative cumulative effect of several wind farms in the Jeffrey's Bay/Humansdorp vicinity. It is nevertheless expected that the combined proposed wind developments in the area might have a cumulative negative impact on the bat population, at least through a loss of habitat.

MITIGATION

- A condition of this assessment is that the pre-construction monitoring be completed;
- It is further recommended that post-construction monitoring be undertaken while the turbines are in operation, to determine the extent of bat fatalities and the species affected;
- If further monitoring data confirm low bat activity, the main mitigation proposed is to completely seal off roofs of new buildings within the study area, and those of existing buildings within the study area that do not have any bats roosting in them at present. If a high number of bats are recorded during the complete monitoring period, bat roost sites could be established (e.g. roost boxes) as a trade-off to offset potential mortalities during turbine operation; and
- If future monitoring data shows high activity, the client together with a bat specialist should investigate further mitigation measures. This could include an increase in the distance of buffer zones, depending on the foraging habitat of species that will be negatively impacted upon, and refining operational procedures of the turbines, such as an increase in turbine cut-in speed (curtailment).

VISUAL IMPACT

Visual or aesthetic impacts will occur during the construction, operational and decommissioning phases of the proposed project. The main visual impacts of the proposed WKN Windcurrent wind energy project are:

- Visual impact on the landscape;
- Visual impact on viewers;
- Intrusion of large highly visible wind turbines on the existing views of sensitive visual receptors; and
- Visual impact of night lights of a wind farm on existing nightscape.

There are a number of sensitive visual receptors in the surrounding landscape that will be highly affected by the development. These include residents of the St Francis Marina, some of who value scenic views of the mountains to their north, residents of Kromme River holiday homes and resorts, visitors to Eastcot PNR and residents of surrounding farms who may currently have sea or mountain views which will be intruded upon by the proposed wind farm.

The wind farm will be introduced into a landscape composed of agricultural and coastal resort elements. Stock farming (dairy and beef) is the main agricultural activity, and this landscape character type is expected to have a low sensitivity to changes brought by a wind farm since the farming will not be affected. Coastal resorts are likely to have a low sensitivity to the wind farm development since most of them are growing rapidly and their attraction to tourists and holiday makers is more related to well-established coastal activities. Oyster Bay is likely to be more sensitive to a wind farm development as it is less accessible than the other towns and has a sense of remoteness which may be compromised by the wind farm. The coastal dune system near Oyster Bay is sensitive for the same reasons.

MITIGATION

- Dust suppression is important as dust will raise the visibility of the development;
- New road construction should be minimised and existing roads should be used where possible;
- The contractor should maintain good housekeeping on site to avoid litter and minimise waste;
- Clearance of indigenous vegetation should be minimised and rehabilitation of cleared areas should start as soon as possible;
- Erosion risks should be assessed and minimised as erosion scarring can create areas of strong visual contrast with the surrounding vegetation, which can often be seen from long distances since they will be exposed against the hillslopes;
- Laydown areas and stockyards should be located in low visibility areas (e.g. valleys between ridges) and existing vegetation should be used to screen them from views where possible;
- Night lighting of the construction sites should be minimised within requirements of safety and efficiency;
- Ensure that there are no wind turbines closer than 500 m to a residence;
- Maintenance of the turbines is important. A spinning rotor is perceived as being useful. If a rotor is stationary when the wind is blowing it is seen as not fulfilling its purpose and a negative impression is created (Gipe 1995);
- Signs near wind turbines should be avoided unless they serve to inform the public about wind turbines and their function. Advertising billboards should be avoided;
- According to the Aviation Act, 1962, Thirteenth Amendment of the Civil Aviation Regulations, 1997: "Wind turbines shall be painted bright white to provide maximum daytime conspicuousness. The colours grey, blue and darker shades of white should be avoided altogether. If such colours have been used, the wind turbines shall be supplemented with daytime lighting, as required;"

Appendix D, Letters to stakeholders following release of FSR

Executive Summary

- Lighting should be designed to minimise light pollution without compromising safety. Investigate using motion sensitive lights for security lighting. Turbines are to be lit according to Civil Aviation regulations;
- An information centre (provided that it is located in a low visibility area) and trails along the wind farm can enhance the project by educating the public about the need and benefits of wind power. 'Engaging school groups can also assist the wind farm proponent, as energy education is paramount in developing good public relations over the long term. Instilling the concept of sustainability, and creating awareness of the need for wind farm developments, is an important process that can engage the entire community' (Johnston 2001). This has also been borne out by a more recent study on the effect of wind farms on tourism in which respondents said they would visit wind farms as long as there was an information centre (Frantal and Kunc 2010); and
- The aviation standards have to be followed and no mitigation measures are applicable in terms of marking the turbines. Lighting of ancillary buildings and structures should be designed to minimise light pollution without compromising safety. Motion sensitive lighting can be used for security purposes.

NOISE IMPACT

The noise impact during the construction period will be localised around the turbine sites, as well as noise from construction vehicles accessing the sites. There will be a short term increase in noise in the vicinity of the site during the construction phase as the ambient noise level will be exceeded. The noise modelling indicates that, in general, noise from the turbines will be below the SANS10103 limits for rural areas at a distance of approximately 500m from the turbines.

MITIGATION

- All construction operations should only occur during daylight hours if possible;
- No construction piling should occur at night. Piling should only occur during the hottest part of the day to take advantage of unstable atmospheric conditions;
- Ensuring that construction staff is given "noise sensitivity" training; and
- Ambient noise monitoring to be conducted at the 11 NSAs when operations commence to verify the noise emissions meet the noise rating limit.

ECONOMIC IMPACTS

The main economic impacts identified during the construction and operational phases of the project include the following:

- Impacts on land owners within the site boundaries;
- Impact on surrounding land uses;
- Impacts on tourism; and
- Impacts on commercial activity associated with expenditure linked to the construction and operation of the development.

When considering the overall costs and benefits of the project it was found that the latter should be more prominent allowing for the achievement of a net benefit. Benefits would be particularly prominent for the project proponents, land owners on the site and in the achievement of national and regional energy policy goals. The project would also result in significant positive economic spin-offs primarily because of the large expenditure injection associated with it. Preliminary estimates indicate that a total of approximately R800 million would be spent on the entire construction phase and R20 million per year during operations. Roughly 187 jobs of 6 to 10 month duration would be associated with the construction phase. Approximately 82 of these jobs would be allocated to workers from the Kouga municipal area and a further 72 to workers from the rest of the Eastern Cape. With regard to direct employment during operations, it is expected that approximately 10 direct employment opportunities would be created by the project.

Positive cumulative impacts are also likely as the project should set a positive precedent for further investment in the area. By committing to investment in a large development, the proponent would be casting a strong 'vote of confidence' in the local economy. This has the potential to influence other investors (including locals) to also act with similar confidence thereby resulting in cumulative impacts on overall investment levels.

The key source of potential negative cumulative impacts is the project's risk to tourism when combined with other planned wind farm projects in the area. It is not clear how significant these risks would be particularly in the absence of a regional study focusing on this question. The lack of such a study in the area should be viewed as a significant information gap. In the absence of such a study, it is probably reasonable to tentatively rate cumulative risks as medium significance particularly when one considers the international literature on the subject and the findings of the visual specialist studies for the wind projects in the area.

MITIGATION

- Impacts on tourism are dependent on how the site is developed and managed to minimise negative biophysical impacts. The measures recommended in other specialist reports to these impacts (primarily the minimisation of visual, noise and ecological impacts) would thus also minimise tourism impacts;
- Adequate setbacks from buildings, structures and residences to be strictly enforced;
- Set targets for use of local labour and maximise opportunities for training;
- Use local sub-contractors where possible; and
- Explore ways to enhance local community benefits with a focus on broad-based BEE through mechanisms such as community shareholding schemes and trusts.

Appendix D, Letters to stakeholders following release of FSR

Executive Summary

IMPACT ON ARCHAEOLOGY

The proposed Banna Ba Pifhu Wind Energy Facility site is more than 5 kilometres from the coast and falls outside the coastal sensitive zone. Apart from a few Early and Middle Stone Age stone tools exposed in a track, no significant sites/materials were found and it is highly unlikely that *in situ* archaeological material/sites will be exposed during development.

MITIGATION

- In the unlikely event that any concentrations of archaeological material are uncovered during further development of the site, it should be reported to the Albany Museum and/or the South African Heritage Resources Agency immediately so that systematic and professional investigation/excavations can be undertaken. Sufficient time should be allowed to remove/collect such material; and
- Construction managers/foremen should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites. It is suggested that a person be trained to be on site to report to the site manager if sites are found.

IMPACT ON PALAEOLOGY

The Banna Ba Pifhu Wind Energy Project study area is entirely underlain by Devonian marine rocks of the Lower Bokkeveld Group (Ceres Subgroup). These shallow marine sediments are *potentially* highly fossiliferous, but in practice on the southern coastal plain their fossil content has been largely or completely obliterated by high levels of deformation (e.g. cleavage development, especially within mudrocks) and by deep chemical weathering. Their effective palaeontological sensitivity is consequently very low and developments here are rated as of *low* significance in fossil heritage terms. No specialist palaeontological mitigation is regarded as necessary for this wind energy project.

MITIGATION

Should substantial fossil remains be exposed at any stage during development, these should be safeguarded - *in situ*, if feasible - and recorded by the responsible Environmental Control Officer (photos, GPS readings). SAHRA should be alerted as soon as possible so that appropriate mitigation measures may be considered.

IMPACT ON WETLANDS AND OTHER AQUATIC ECOSYSTEMS

This study has assessed a number of aquatic ecosystems, which were mostly characterised as wetlands or ephemeral drainage lines. The wetlands perform an important role in attenuating surface water flows, while providing a series of differing wetland habitats, which form part of a wetland network within the region. The main potential impacts associated with the construction and operational phases are:

- Physical destruction of aquatic habitat;
- Loss of wetland habitat, ecosystem services and biodiversity services;
- Loss of species of special concern;
- Habitat fragmentation - loss of ecological corridors; and
- Sedimentation and erosion.

MITIGATION

- Stormwater should be managed using suitable structures such as swales, gabions and rock rip-wrap so that any run-off from the development site is attenuated prior to discharge. Silt and sedimentation should be kept to a minimum, through the use of the above mentioned structures by also ensuring that all structures don't create any form of erosion;
- Vegetation clearing should occur in parallel with the construction progress to minimise erosion and/or run-off. Large tracts of bare soil will either cause dust pollution or quickly erode and then cause sedimentation in the lower portions of the catchment;
- Only indigenous plant species must be used in the re-vegetation process;
- All construction materials including fuels and oil should be stored in demarcated areas that are contained within berms / bunds to avoid spread of any contamination into wetland or rivers. Washing and cleaning of equipment should also be done in berms or bunds, in order to trap any cement and prevent excessive soil erosion. These sites must be re-vegetated after construction has been completed. Mechanical plant and bowsers must not be refuelled or serviced within or directly adjacent to any river channel. It is therefore suggested that all construction camps, lay down areas, batching plants or areas and any stores should be more than 50m from any demarcated wetland or riverine area;
- It is also advised that an Environmental Control Officer (ECO), with a good understanding of the local flora be appointed during the construction phase. The ECO should be able to make clear recommendations with regards to the re-vegetation of the newly completed / disturbed areas, using selected species detailed in this and the terrestrial vegetation report. All alien plant re-growth must be monitored and should it occur these plants should be eradicated. Where any works (e.g. storm water control measures) near a wetland or river is required specific attention should be paid to the immediate re-vegetation of cleared areas to prevent future erosion of sedimentation issues.
- All relevant buffers mentioned in the wetlands and aquatic report should be included into future designs and later engineering diagrams.

IMPACT ON AGRICULTURAL SOIL POTENTIAL

The soils are all residual soils that have formed from the weathering of underlying Bokkeveld mudrocks, and the underlying C horizon of all soils comprises partially weathered mudrocks. The soil catena (sequence of different soil types along a topographical transect) on this site, running north to south, is from well-drained Glenrosa (on the north facing slopes) to

Appendix D, Letters to stakeholders following release of FSR

Executive Summary

Swartland (on the well drained flat crest) to Sepane with some drainage limitations and then to Estcourt and Kroonstad on the poorly drained landscape positions to the south. In terms of soil limitations to agricultural production, the soils are primarily limited by their shallow effective depth. Soils to the south, particularly in low lying spots, are limited by poor drainage as well. Due to these limitations, the majority of the soils are categorised as medium agricultural suitability. Those in particularly poorly drained positions are classified as low agricultural suitability.

Impacts on agricultural resources and productivity were identified as:

- Loss of agricultural land;
- Disturbance of run-off and resultant potential impact on erosion;
- Disturbance of existing contour banks;
- Soil profile disturbance and resultant decrease in soil agricultural capability;
- Prevention of crop spraying by aircraft over land occupied by turbines;
- Disturbance of cultivation practices due to the division of existing camps by turbines and access roads;
- Placement of spoil material generated from excavations;
- Yield reduction; and
- Prevention of possible future agricultural activities on land occupied by turbines.

A number of mitigation measures have been implemented to significantly mitigate the impacts of the wind farm development on agricultural resources and productivity. These are listed below. The most significant of these involve the layout of the wind farm, which has been done to minimise various agricultural impacts. After mitigation, the loss of agricultural land was determined as only 13.02 hectares, which represents a mere 1.1 % of the land surface of the farm.

MITIGATION

- Water run-off from all constructed and altered surfaces including roads, where slopes pose an erosion hazard, will be managed with an appropriate system to divert or channel any collected run-off water into existing natural or constructed waterways;
- An effective run-off management plan is a specific requirement of the Environmental Management Plan. As part of this, erosion will be monitored and corrective action will be implemented to the run-off plan in the event of any erosion problems;
- The layout of turbines and hard standings for cranes has been done on positions of minimum slope (see site plan in agricultural report; Chapter 14, Figure 14.2);
- No new roads are proposed on slopes where erosion is a potential hazard (see site plan);
- For all excavations and other direct disturbance of the soil surface (e.g for roads, buildings) that are to be returned to agricultural use, the upper 20 cm of the top soil will be stripped, stockpiled, and then re-spread over the surface of the backfilled excavation or disturbed surface, during rehabilitation.
- The wind farm utilises existing roads wherever possible and so the length of required new roads, and disturbance to agricultural soil as a result, is minimised (see site plan in Agricultural specialist study, Chapter 14);
- If crop spraying by aircraft is ever required, the wind farm undertakes to lock all necessary turbines (with 1 day's notice) with the blades parked in parallel to facilitate easy access for aeroplanes between them. Crop spraying by aeroplane is usually done when there is little or no wind;
- The distance between turbines facilitates easy access for aeroplanes between them; and
- Most turbines and new access roads are positioned on non-cultivated, grazing land, where mechanised vehicular traffic is not required for cultivation.

OVERALL EVALUATION OF IMPACTS BY ENVIRONMENTAL ASSESSMENT PRACTITIONER

No negative impacts have been identified that, in the opinion of the Environmental Assessment Practitioner, should be considered "fatal flaws" from an environmental perspective, and thereby necessitate substantial re-design or termination of the project. The EIA process included a synthesized mapping of "no go" areas using environmental constraints provided by the specialist team (Figure S.2). This mapping guided the layout of turbines and internal access roads and cabling. In this way, the environmental and social constraints of the site informed the scale and configuration of the proposed project. Through the course of the EIA process, the project layout went through several iterations after consultation with the specialists on the project team. This indicates how the EIA process has actively and effectively informed the project planning.

Residual impacts are those that are expected to remain once appropriate mitigation has been implemented. The main residual negative impacts of the Banna Ba Pifhu Wind Energy Project are the predicted impact on birds and bats, and the visual impact.

- The impact on birds arises from the possible displacement of priority bird species during the construction and operational phases of the project. The impacts are predicted to be high to medium (after mitigation) during the construction phase and Medium to Low (after mitigation) during the operational phase depending on whether habituation takes place or off-set compensation is implemented. The impact on birds arising from the collision of priority species with turbines is predicted to be Medium to Low (after mitigation).
- Based on existing available information and the findings of the site visit, the potential impact of the wind turbines on bats at the proposed Banna Ba Pifhu is anticipated to be of medium significance with mitigation. Although confidence levels for the October recordings are high, overall confidence levels are low as only one month of monitoring data has been incorporated into the study. After the data from additional monitoring have been assessed, the confidence in predictions will be higher.
- The visual impacts of the turbines on the landscape character are predicted to be negative and of high significance.

Appendix D, Letters to stakeholders following release of FSR

Executive Summary

If the Banna Ba Pifhu wind farm is established, the actual physical footprint of the wind turbines is limited to approximately 13.02 hectares, which represents a mere 1.1% of the land surface of the farm, and grazing and other agricultural activities can continue in parallel with the operation of the turbines. The project will have no significant impact in terms of loss of agricultural productivity.

In conclusion, given South Africa's need for additional electricity generation and efforts to decrease the country's proportional dependency on coal-based power, renewable energy has been identified as a national priority, with wind energy identified as one of the most readily available, technically viable and commercially cost-effective sources of renewable energy. Taking into consideration the findings of the EIA process for the proposed Banna Ba Pifhu wind energy project near Jeffrey's Bay, it is the opinion of the Environmental Assessment Practitioner that the project benefits outweigh the costs, and that the project will make a positive contribution to steering South Africa on a pathway towards sustainable development. Provided that the specified mitigation measures are applied.



**Environmental Impact Assessment for the
proposed Banna Ba Pifhu Wind Energy Project
near Humansdorp, Eastern Cape:
Final Environmental Impact Assessment Report**

APPENDIX E

**Comments from Interested and
Affected Parties before and following
the release of the Draft Environmental
Impact Assessment Report**

Comments received from I&APs prior to the release of the Draft EIA Report

From: Nanna Gouws (SR) [GouwsJ@nra.co.za]
Sent: 16 August 2011 11:39 AM
To: 'sandy@publicprocess.co.za'
Subject: Draft scoping report: Proposed Banna Ba Pifhu Wind Energy Project Farms
Broadlands and Saragossa, Humansdorp

Dear Sandy

As with our comment with the other projects: The wind turbines should be erected at least 500 metres from the national road reserve boundary and 500 metres from any point of intersection. If this cannot be achieved then applications have to be submitted to SANRAL for consideration and approval. Please also note that no access to these wind farms will be granted from the national road.

Regards



Mrs Nanna Gouws
Statutory Control Officer Southern Region
Tel: +27 41 398 3226
Fax: +27 41 398 3211

Reg.No.
1998/009584/06

SANRAL Southern Region Offices
SANRAL House, Southern Life Gardens, Block C
70 Second Avenue, Newton Park, Port Elizabeth
P.O. Box 27230, Greenacres, 6057
www.nra.co.za
SANRAL Fraud Hotline: 0800204558

Comments received after the release of the Draft EIA report

05.JUN.2012 19:35 0414842848

CMR PE

#6694 P.001 /002

EIA PHASE:

DRAFT EIA REPORT & EMP COMMENT FORM

**SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT PROCESS
WKN Windcurrent SA (Pty) Ltd (the Applicant)**

WKN-Windcurrent SA Pty Ltd are proposing a 50 MW wind energy facility on the Farms
Broadlands and Saragossa, Humansdorp, Kouga Local Municipality, referred to as Banna Ba Pifhu

DEA Reference Number: 12/12/20/2289

Primary Listed Activity: GN R545 Activity 1.

Return Completed Reply Form to:

Public Process Consultants, PO Box 27688, Greenacres 6057

Phone: 041 – 374 8426 or Fax 041-373 2002 or Email sandy@publicprocess.co.za

Complete all Relevant Sections Below and Return By: 8 June 2012

Please provide your full contact details:

FIRST NAME: CORNE'	SURNAME: ERASMUS
ORGANISATION: BEROLFFE EASTERN CAPE	POSITION: CHAIR PERSON
POSTAL ADDRESS: P.O. BOX 27454	GREEN ACRES
CODE: 6057	
PHONE:	FAX: 086 518 76 73
CELL: 084 515 8425	EMAIL: CORNE.ERASMUS@ACCESS.CO.ZA

Please clearly state any interest you may have in the project and/or list your issues and comments or questions you may have (use additional pages if required)

BirdLife Eastern Cape interest in this area is related to the bird activity of the area and specifically the vulnerable birds.

According the Draft EIA Report's data, it is clear that they acknowledge that there is significant flight activity over the proposed turbine area. This is a fact also known due to Atlas (SABAP) and the Coordinated Avifaunal Roadcounts of Birds as well as the "My BirdPatch project. The data collected through these projects can be obtained from the Animal Demography Unit in Cape Town. Therefore the erecting of a Wind Energy Farm will definitely impact negatively on the mortality of birds, due to collision.

Post-construction monitoring will be too late, as that will not protect the birds. The survey already indicated that priority species like Denham's Bustard, Blue Crane, Amur Falcon and Black-winged Lapwing are moving through the area and will therefore collide with the turbines, and result in their death. It is also known that the visual fields in bustards and cranes are characterised by large blind areas. Compared to other birds, the proportion of the hemisphere that projects forward has very reduced visual coverage in bustards: there are two blind areas, one larger than the other. Downward movement of the head by greater than 25° would bring these blind areas to project forwards, in the direction of flight. Bustards looking below them are effectively flying blind with respect to objects directly ahead of them. And so they are prone to collide with power lines and – by extension – with wind turbines.

Registration and comments form for Issues

The indication that these birds will be "displaced" during the construction and operational period does not justify going ahead, due to the fact that other wind farms in the area are also planned and will lead to nowhere to go for the birds.

In the light of the above BirdLife Eastern Cape is against the Proposed Banna ba Pifhu Wind Energy Project and request that it will not go ahead.

M. Erasmus.



04/05 2012 12:36 0414561666

Canon

Department o #5118 P.001/001

EIA PHASE:

DRAFT EIA REPORT & EMP COMMENT FORM

SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT PROCESS
WKN Windcurrent SA (Pty) Ltd (the Applicant)

WKN-Windcurrent SA Pty Ltd are proposing a 50 MW wind energy facility on the Farms Broadlands and Saragossa, Humansdorp, Kouga Local Municipality, referred to as Banna Ba Pifhu

DEA Reference Number: 12/12/20/2289

Primary Listed Activity: GN R545 Activity 1.

Return Completed Reply Form to:

Public Process Consultants, PO Box 27688, Greenacres 6057

Phone: 041 - 374 8426 or Fax 041-373 2002 or Email sandy@publicprocess.co.za

Complete all Relevant Sections Below and Return By: 8 June 2012

Please provide your full contact details:

FIRST NAME: Marius	SURNAME: Keyser
ORGANISATION: Dept of Roads	DESIGNATION: District Roads Engineer
POSTAL ADDRESS: PO Box 11100, Algora Park, 6005	
CODE: 6005	
PHONE: 0236661598	FAX: 021 4561666
CELL:	EMAIL:
Email: marius.keyser@dpu-ecape.gov.za	

Please clearly state any interest you may have in the project and/or list your issues and comments or questions you may have (use additional pages if required)

Access to Provincial Roads / Abnormal routes etc.


M.T. KEYSER
District Roads Engineer

From: David aldendorff [davidald@mweb.co.za]
Sent: 10 March 2012 08:31 AM
To: mievendal@csir.co.za
Cc: sandy@publicprocess.co.za
Subject: DEA reference 12/12/20/2289

Follow Up Flag: Follow up
Flag Status: Flagged

Please note your correspondence dated 4 november, 2011 has just been forwarded to me by the Kouga municipality, and I am not the ward councillor for the area where the Banna Ba Pifhu wind scheme is planned. I suggest you do not use the Kouga municipality to address any correspondence to councillors if you wish a speedy reply.
Rgds,
David Aldendorff

>>> John Geeringh <GeerinJH@eskom.co.za> 13/06/2012 10:13 >>>
Your reference 12/12/20/2289 refers.

The development does not seem to have any impact on existing Eskom Transmission infrastructure. However, Eskom is busy with the EIA studies for the proposed Transmission lines to connect the proposed Thyspunt Nuclear Power Station to the National Grid. The study area overlaps with your proposed development.

Attached please find generic Eskom requirements for work at or near Eskom Infrastructure (Wind projects) as well as an Google image indicating the study area for the Thyspunt integration study. The Eskom Scheme Manager (Land Development) is Martina Nailana whom I have copied in this e-mail. I suggest you contact her to gain more insight into proposed corridors for the Thyspunt connection lines.

Regards

John Geeringh (Pr Sci Nat)
Snr Env Advisor
GC Land Development
Megawatt Park D1 Y38
P O Box 1091
Johannesburg
2000

Tel: 011 516 7233
Fax: 086 661 4064
Cell: 083 632 7663

Eskom requirements for work in or near Eskom servitudes.

1. Eskom's rights and services must be acknowledged and respected at all times.
2. Eskom shall at all times retain unobstructed access to and egress from its servitudes.
3. Eskom's consent does not relieve the developer from obtaining the necessary statutory, land owner or municipal approvals.
4. Any cost incurred by Eskom as a result of non-compliance to any relevant environmental legislation will be charged to the developer.
5. If Eskom has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the developer's activities or because of the presence of his equipment or installation within the servitude restriction area, the developer shall pay such costs to Eskom on demand.
6. The use of explosives of any type within 500 metres of Eskom's services shall only occur with Eskom's previous written permission. If such permission is granted the developer must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process. It is advisable to make application separately in this regard.
7. Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilised so as to prevent erosion. The measures taken shall be to Eskom's satisfaction.
8. Eskom shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the developer, his/her agent, contractors, employees, successors in title, and assignees. The developer indemnifies Eskom against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom's services or apparatus

or otherwise. Eskom will not be held responsible for damage to the developer's equipment.

9. No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the developer must give at least seven working days' notice prior to the commencement of work. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued by the relevant Eskom Manager

Note: Where and electrical outage is required, at least fourteen work days are required to arrange it.

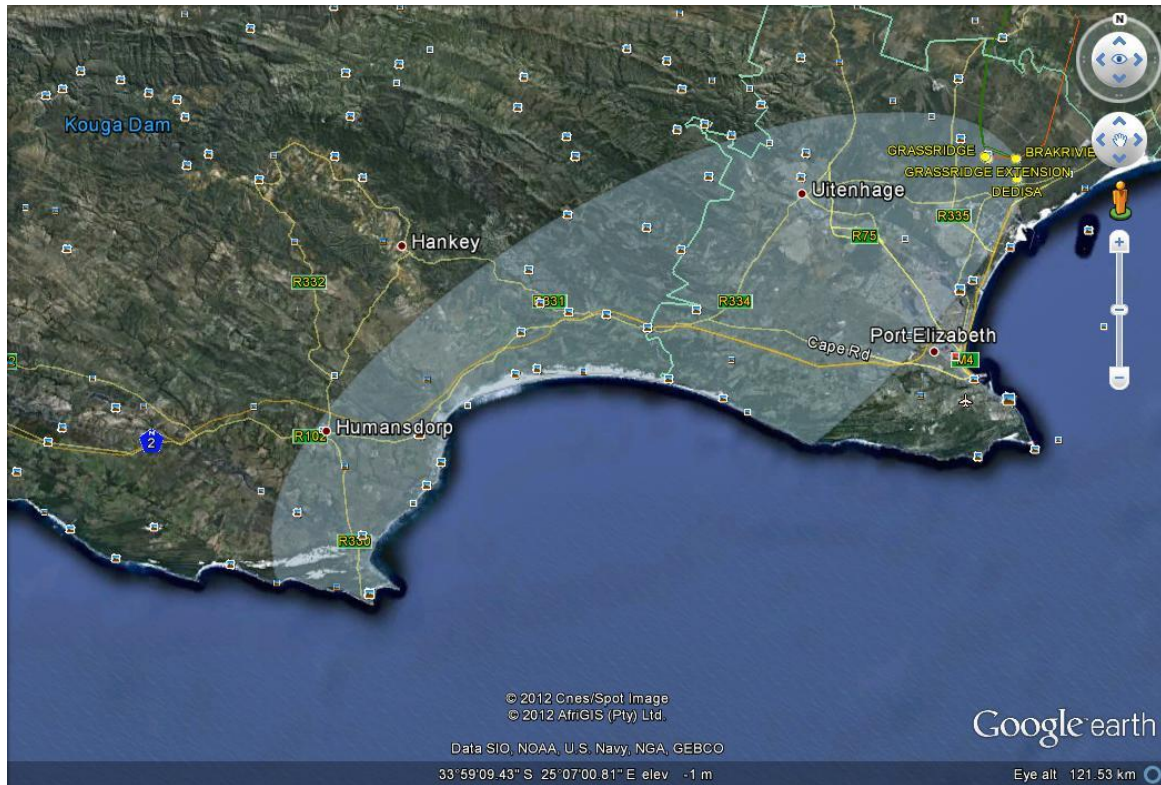
10. Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with.
11. Under no circumstances shall rubble, earth or other material be dumped within the servitude restriction area. The developer shall maintain the area concerned to Eskom's satisfaction. The developer shall be liable to Eskom for the cost of any remedial action which has to be carried out by Eskom.
12. The clearances between Eskom's live electrical equipment and the proposed construction work shall be observed as stipulated by *Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993)*.
13. Equipment shall be regarded electrically live and therefore dangerous at all times.
14. In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as an additional safety precaution, Eskom will not approve the erection of houses, or structures occupied or frequented by human beings, under the power lines or within the servitude restriction area.
15. Eskom may stipulate any additional requirements to highlight any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant.
16. It is required of the developer to familiarise himself with all safety hazards related to Electrical plant.
17. Any third party servitudes encroaching on Eskom servitudes shall be registered against Eskom's title deed at the developer's own cost. If such a servitude is brought into being, its existence should be endorsed on the Eskom servitude deed concerned, while the third party's servitude deed must also include the rights of the affected Eskom servitude.

18. Eskom request that any wind turbine structures be placed at least four (4) times the blade diameter of the wind turbine to be used away from any Eskom High voltage power line servitudes (220kV and above). This is to allow for future possible expansion of the Eskom servitude to allow for additional power lines to be constructed parallel to existing lines, upgrading of existing lines to higher voltage Transmission power lines in future, combat the effects of turbulence from the turbines on the power lines, limit the possible effect of electromagnetic interference and to decrease the risk of catastrophic failure of the turbine to impact on the power line. Eskom does a lot of live line maintenance work on High Voltage lines and thus use helicopters in close proximity to high voltage lines. Turbines in close proximity to Eskom Microwave radio sites and substations should also not be placed within the line of site of the antennae on such sites and towers.

John Geeringh (Pr Sci Nat)

Senior Environmental Advisor
Eskom GC: Land Development

Appendix E, Comments received from I&APs



St Francis Kromme Trust

16 January 2012

Public Process Consultants
sandy@publicprocess.co.za

**BANNA BA PIFHU WIND ENERGY PROJECT
SUBMISSION RE
IMPACT ON BIRDS**

The St Francis Kromme Trust recommends that Kouga farmers whose land provides suitable habitat for bustards and cranes be approached to provide refuge for these birds. We suggest that developers who are successful in acquiring Independent Power Producer licences be required to contribute to a fund to recompense those farmers who forfeit the income from turbine rental in order to provide such bird refuge.

The Trust notes with concern that environmental authorization has been granted to proceed with wind farm construction on six sites in and around the immediate Kouga area, with another five sites awaiting decision.

Bird specialists have, in their environmental impact assessments, identified that the Eastern Cape Coastal Precinct has the highest densities of Denham's Bustard and White-bellied Korhaan in South Africa, with the Humansdorp population of White-Bellied Korhaan virtually isolated from the rest of the country, and that the coastal plain between Tsitsikamma and Port Elizabeth is arguably the most important area for Denham's Bustard in the country.

Research has shown that bustard and crane mortality from power line collision is disproportionately high compared to other species. Data from the Overberg shows that as high a proportion as 30% of the Denham's Bustard and 10% of the Blue Crane population in that area may be killed annually by power lines¹. Investigation identified that the underlying cause is that visual fields in bustards and cranes are characterised by large blind areas². Bustards looking below them are effectively flying blind with respect to objects directly ahead of them. And so they are prone to collide with power lines and – by extension – with wind turbines.

If there are significant distances between wind farms displacement of these birds to safe sites is possible, but in the Kouga area the number of project applications and their proximity to one another reduces this possibility dangerously.

Appendix E, Comments received from I&APs

From: MARIAGRAZIA GALIMBERTI [MGALIMBERTI@sahra.org.za]
Sent: 11 July 2012 03:31 PM
To: MLevendal@csir.co.za; PLochner@csir.co.za;
tvandermerwe@environment.gov.za; sandy@publicprocess.co.za
Cc: naturaviva@universe.co.za; kobusreichert@yahoo.com
Subject: 12/12/20/2289
Attachments: Banna Ba Pifhu comments.pdf

Dear All,

I apologise for the delay, but please find attached the comments for the Banna Ba Pifhu wind energy facility.

Kind regards
Mariagrazia

Mariagrazia Galimberti (PhD)
Heritage Officer: Archaeology
South African Heritage Resources Agency
111 Harrington Street
PO Box 4637, Cape Town 8000,
South Africa
E-mail: mgalimberti@sahra.org.za
Phone : +27 (0)21 462 4502
Fax : +27 (0)21 462 4509
Web : www.sahra.org.za

Banna Ba Pifhu
Our Ref: 9/2/034/0005

Enquiries: Mariagrazia Galimberti
Tel: 021 462 4502
Email: mgalimberti@sahra.org.za
CaseID: 214

Date: Wednesday July 11, 2012

Page No: 1



Final Comment

In terms of section 38(8) of the National Heritage Resources Act (Act 25 of 1999)

Attention:
Mr Alan Wolfrohm
WKN Windcurrent SA (Pty) Ltd

Proposed construction of a 50 MW wind energy facility on the Broadlands and Saragossa Farms in the Kouga Municipal Area, Eastern Cape Province.

Binneman, J., April 2012. Impact on Archaeology.

Almond, J., April 2012. Impact on Palaeontology

Windcurrent SA (Pty) Ltd and WKN Windkraft Nord AG are proposing the establishment of a wind energy facility in the Kouga Municipality, about 3.5km south of Humansdorp. The facility is proposed to produce up to 50MW of energy with up to 27 turbines. The infrastructure required for this project will include underground cables between the turbines, foundations for the turbines themselves, a new substation to connect the wind farm to the existing 66 kV Melkhout - St. Francis overhead power line, which crosses the site and internal access roads between the turbines. Temporary laydown areas and stockyards will also be necessary.

This project proposes to erect the turbines on a low lying coastal plain between the Kromme and Seekoei Rivers, surrounded by the Cape Fold Mountain System and by the mobile aeolian dunes. The coastal plain is currently used for stock and dairy farming.

The archaeologist surveyed the area and concluded that the impact on archaeological resources will be minimal. The proposed area for the development is characterised by the presence of Early and Middle Stone Age material *ex situ* with low archaeological significance. Most of the artefacts identified are made in quartzite and mostly are informal flakes and chunks.

No historical material, structures or burials were identified on the three properties during the survey.

The palaeontologist only undertook a desktop study. According to the information gathered by the specialist, the proposed site for the wind energy facility is underlain by the mudrocks of the Lower Bokkeveld Group and more specifically by its Ceres Subgroup mantled in turn by Late Caenozoic alluvial deposits. While generally the palaeontological significance of the Bokkeveld Group is high, in this specific instance the palaeontologist believes that given the high level of deformation and chemical weathering undergone in this area, the likelihood of recovering significant fossils is remote.

As the archaeologist points out correctly in his report, several wind energy facilities (at least 5) have been proposed in the Kouga Municipality and most of them have already received Environmental Authorization and



The South African Heritage Resources Agency

Street Address: 111 Harrington Street, Cape Town 8000 * Postal Address: PO Box 4637, Cape Town 8000
* Tel: +27 21 462 4502 * Fax: +27 21 462 4509 * Web: <http://www.sahra.org.za>

Banna Ba Pifhu
Our Ref: 9/2/034/0005

Enquiries: Mariagrazia Galimberti
Tel: 021 462 4502
Email: mgalimberti@sahra.org.za
CaseID: 214

Date: Wednesday July 11, 2012

Page No: 2



one of them is in the process of being established. Considering this, it is definitive that the sense of place and the character of the area will be irreversibly changed. The visual impact assessment states that *here will be very few areas in this region from which no wind turbines will be visible. (...) the cumulative effect of the additional wind turbines on sensitive viewers in the region is expected to be minimal.*

Decision:

Considering all information provided in the Environmental Impact Assessment Report, SAHRA agrees with the recommendations of the specialists that no mitigation is necessary from a palaeontological and archaeological perspective.

However, if any new evidence of archaeological sites or artefacts, palaeontological fossils, graves or other heritage resources are found during construction, SAHRA APM Unit (Tel: 021 462 4502) and a professional archaeologist or palaeontologist, according to the nature of the findings, must be alerted immediately.

Should you have any further queries, please contact the designated official using the case number quoted above in the case header.

Yours faithfully

Mariagrazia Galimberti
Heritage Officer: Archaeology
South African Heritage Resources Agency

Colette Scheermeyer
SAHRA Head Archaeologist
South African Heritage Resources Agency

ADMIN:
(DEA, Ref: 12/12/20/2289)

Terms & Conditions:

1. This approval does not exonerate the applicant from obtaining local authority approval or any other necessary approval for



The South African Heritage Resources Agency
Street Address: 111 Harrington Street, Cape Town 8000 * Postal Address: PO Box 4637, Cape Town 8000
* Tel: +27 21 462 4502 * Fax: +27 21 462 4509 * Web: <http://www.sahra.org.za>

Appendix E, Comments received from I&APs

Banna Ba Pifhu
Our Ref: 9/2/034/0005

Enquiries: Mariagrazia Galimberti
Tel: 021 462 4502
Email: mgalimberti@sahra.org.za
CaseID: 214

Date: Wednesday July 11, 2012

Page No: 3



-
- proposed work.
 2. If any heritage resources, including graves or human remains, are encountered they must be reported to SAHRA immediately.
 3. SAHRA reserves the right to request additional information as required.



The South African Heritage Resources Agency

Street Address: 111 Harrington Street, Cape Town 8000 * Postal Address: PO Box 4637, Cape Town 8000
* Tel: +27 21 462 4502 * Fax: +27 21 462 4509 * Web: <http://www.sahra.org.za>

Appendix E, Comments received from I&APs

From: Peter Rautenbach [peter@grasmereostriches.com]
Sent: 15 May 2012 01:05 PM
To: sandy@publicprocess.co.za
Subject: BANNA BA PIFHU EIA COMMENTS

I hereby wish to bring to your attention my concern about the positioning of turbines on my boundary at GRASMERE FARM. I feel that anything closer to my boundary than 50% of what the distances between the turbines is supposed to be, is impacting on the number of turbines that I could accommodate on my land in a possible future windfarm development.

I would thus request that the positioning of the turbines be changed accordingly.

Kind regards,

Peter Rautenbach
Grasmere
PO Box 99
Humansdorp
6300

Tel:042 2932039
Fax: 042 29318898
Email: peter@grasmereostriches.com

From: Robert Montgomery [robertm@rushmere.co.za]
Sent: 21 May 2012 08:42 AM
To: Minnelise Levendal
Cc: Sandy Wren
Subject: RE: OBJECTION TO PROPOSED BANNA BA PIFHU WIND ENERGY PROJECT
Attachments: 1985_001.pdf

Hi Minnelise

Kindly find attached our clients amended objection. Please confirm that the this amended objection will replace the previous version sent.

Thank you.

Kind Regards

Robert Montgomery

From: Minnelise Levendal [<mailto:MLevendal@csir.co.za>]
Sent: 18 May 2012 10:15 AM
To: Robert Montgomery

Cc: Sandy Wren

Subject: Re: OBJECTION TO PROPOSED BANNA BA PIFHU WIND ENERGY PROJECT

Dear Mr Montgomery

I hereby acknowledge receipt of your clients objection. I have forwarded your email to Ms Sandy Wren, who is the public participation facilitator for this project. The concerns raised will be addressed and the response will be included in the issues and responses trail that will be included in the Final EIA Report.

Best wishes,

Minnelise Levendal

>>> "Robert Montgomery" <robertm@rushmere.co.za> 18/05/2012 08:40 >>>

Dear Ms Levendal

Kindly find attached our clients objection to the proposed Banna Ba Pifhu Wind Energy Project and request to be registered as an interested and affected party.

Kind regards

Robert Montgomery

Candidate Attorney

RUSHMERE NOACH INCORPORATED

5 Ascot Office Park, Conyngham Road, Greenacres, Port Elizabeth, 6045

P.O. Box 100, Port Elizabeth, 6000

Docex 6, Port Elizabeth

Tel: (041) 399-6700

Fax: (041) 374-3112

E-mail: robertm@rushmere.co.za

Rushmere  Noach

ATTORNEYS

Fax Cover Page

Number of Pages including this page (2)

Date: **21 MAY 2012**

To: **CSIR**

Your Fax No: 021 888 2693

PO Box 320

Your Ref: MINNELISE LEVENDAL

Stellenbosch, 7599

Our Ref: **CD ARNOLD/RM**

mlevendal@csir.co.za

Direct line: (041) 399 6700
Facsimile: (041) 374 3112
e-mail: christophera@rushmere.co.za
e-mail: robertm@rushmere.co.za

*** Kindly quote our reference at **ALL** times ***

Dear sir

RE: OBJECTION TO PROPOSED BANNA BA PIFHU WIND ENERGY PROJECT

We act on behalf of the trustees of the Lex Gutsche Investment Trust, the owner of Portion 25 of the Farm Geelhouteboom No.688 ("the Farm"). The Farm abuts one of the properties, namely the Remainder of Farm 688 ("the Abutting Property") earmarked for incorporation in the proposed development of a Wind Farm described as the Banna Ba Pifhu Wind Energy Project ("the Project") by WKN Wind Current SA (Pty) Ltd ("Developer"), in respect of the above matter.

We have been provided with a copy of a summary of the proposed Project prepared by you as the environmental assessment practitioner which provides an overview of the purported steps contemplated by the Developer to mitigate certain identified environmental risks associated with the development of the Wind Farm. Our client is an Interested and Affected Party envisaged by Regulation GNR.385 of 21 April 2006: Regulations in terms of Chapter 5 of the National Environmental Management Act, 1998. In terms of the aforesaid regulations you are obliged to open and maintain a register of such parties and we are instructed to request, as we hereby do, that you immediately register our client as an interested and affected party for the

Notaries • Conveyancers • Administrators of deceased and insolvent estates

Rushmere Noach Inc

Reg No 2002/015382/21

Directors: RO Jefferson B Comm B Proc, SK Gough BA LLB (Managing),
JM Louw B Juris LLB, DJ Parker B Juris LLB, J Theron B Comm LLB,
CD Arnold B Comm LLB, L Koorse LLB
Assisted By: JD Storer B Proc, JD Greeff LLB
Consultants: WS Allchurch BA, CG Rushmere BA LLB
General Manager: PC Theron B.Comm B.Compt-Hons CA(SA)

5 Ascot Office Park
Conyngham Road
Greenacres, 6045
P O Box 100
Port Elizabeth
6000
South Africa
Docex 6
Port Elizabeth

Tel: (041) 399 6700
Fax: (041) 374 3110 General
(041) 374 3112 Conveyancing
(041) 374 3108 Commercial
(041) 374 3107 Litigation
International Code: + 2741
E-Mail Address:
general@rushmere.co.za
Website Address:
www.rushmere.co.za

purpose of the application for an Environmental Impact Assessment. Please confirm that our client has been registered.

Our client's preliminary environmental concerns, and potential objections should such concerns not be adequately addressed to the satisfaction of our client, in any assessment by you are summarised below and you are requested to confirm that they will be addressed in the further reports to be provided by you and/or specialists appointed for such purpose.

1. Our client when initially approached by the owner of the Abutting Property ("the **Owner**") was assured that the development of the Wind Farm would be limited to the eastern sector of Portion 1 of the Farm 868. It is not apparent from the summary whether the turbines are to be confined to that portion identified by the Owner. Please confirm that the Turbines will be so confined as this may influence the basis of any objection to the proposed Project. The location on the site agreed with the Owner would go some way to mitigate the visual impact of the Turbines to our client. Development of the Wind Farm towards the northern and western sectors of the Abutting Property will materially and adversely affect our client as it will severely impact upon the pristine views which it enjoys, and has enjoyed for some 36 years, towards the mountains and its surrounds. Having regard to the location and the amenity of the Farm such impact will significantly reduce the market value the Farms.
2. Our client also has deep concerns that the proposed Project will threaten birdlife as well as other fauna and flora. By way of example only, a colony of approximately 1000 blue cranes nest on the Farm and having regard to their flight patterns [including height] there is a real risk that a vast numbers of this species will either be killed or severely harmed due to the location of the Turbines on the Abutting Property.
3. Our client also understands that the existing grid supplying the area does not have capacity to allow for the connection of a further wind farm additional to those approved by the Department of Energy under its REIPP. As such the Developer, in considering the proposed Project, must also make allowance for the additional environmental burden that will be imposed by increasing grid capacity. Please confirm that it will do so.

The above reservations and objections are only preliminary and our client reserves the right to supplement any concerns or raise objections which it has to the proposed Project.

Yours Faithfully,

RUSHMERE NOACH INCORPORATED

Per:



From: Paul Steyn [paul@publicprocess.co.za]
Sent: 18 May 2012 09:51 AM
To: sandy@publicprocess.co.za
Subject: Banna Ba Pifhu Query

Importance: High

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Sandy

Re.: Banna Ba Pifhu Query

Peter Rautenbach (neighbouring landowner) called and has requested that you call him back. I could not answer his question:

Basically his concern relates to the minimum distance required between turbines, E.g. *500 meters*; and the limitations that the current turbine placement imposes on future wind-power projects his property.

If for example a BBP turbine is only *100 m* from his boundary, he would in future be limited to placing turbines on his property *400 meters* from the boundary in order to achieve the required 500 meter turbine separation distance. I.e. he would be limited in the number of turbines which could be erected on his land.

He suggests that the developer meets him half way: i.e. limits turbine placement on the site to 250 meters from the boundary; then he would in future also be limited to placing turbines on his property 250 meters from the boundary.

Dr Paul-Pierre Steyn (PhD)
Environmental Scientist
Public Process Consultants
PO Box 27688, Greenacres, 6057
120 Diaz Road, Adcockvale, PE, 6001
Phone: 041 374 8426
Fax: 041 373 2002
Cell: 084 302 8364
Website: www.publicprocess.co.za

Appendix E, Comments received from I&APs

From: Alan Southwood [<mailto:Alan.Southwood@deaet.ecape.gov.za>]
Sent: 06 November 2012 07:45 AM
To: Sandy Wren
Subject: Banna Ba Phifu Wind Energy Project: DEA Ref No 12/12/20/2289: Authorization

Good morning Sandy,

Could you please e-mail us a copy of the Authorization? We have received an application from a consultant to undertake bat monitoring for the developer.

Regards,

Alan Southwood
Environmental Officer: Specialised Production



Province of the
EASTERN CAPE
ECONOMIC DEVELOPMENT,
ENVIRONMENTAL AFFAIRS AND TOURISM

Tel: 041 508 5813 . Fax: 086 519 7698
Collegiate Provincial Building, Cnr of Belmont
Terrace & Castle Hill, Central
Port Elizabeth, 6000
P/Bag X5001, Greenacres, South Africa, 6057
<http://www.dedea.gov.za/>
Alan.Southwood@deaet.ecape.gov.za

Vision: A Province where economic growth and sound environmental management underpin sustainable development.

Values: Leadership | Integrity | Flexibility | Teamwork

From:

To: 0218882693

30/09/2011 08:29

#825 P.001/002



agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

DEPARTMENT: AGRICULTURE
REPUBLIC OF SOUTH AFRICA

Directorate LUSM Private Bag x 120, PRETORIA, 0001 • Tel: (012) 319 7678

FAX COVER SHEET

DATE: 2011-09-30

TO:	CSIR	
ORGANISATION:		
FAX:	021 888 2693	
FROM:	T Nyoka (ThembiN@daff.gov.za)	
TEL:	012- 319 7464	Ref No: 2011_07_0154
FAX:	012-329 5938	
NO. PAGES:	2 incl. cover sheet	

MESSAGE:

Please find the letter of the farm Broadlands and Sarragossa no. 688,689 and 868-
Humansdorp for PIFHU wind energy project, EC province.

From:

To: 0218882693

30/09/2011 08:29

#825 P.002/002



agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

Private Bag X120, Pretoria (Tshwane), 0001
Delpen Building, C/o Annie Botha & Union Street, Riviera, 0084

From: Directorate Land Use and Soil Management
Tel: 012-319-7678 Fax: 012-329-5938 E-mail:
Enquiries: Help Desk Ref: 2011_07_0154

CSIR
P O Box 320
STELLENBOSH
021 888 2693

2011 -09- 3 0

Fax: 021 888 2693

Dear Sir/Madam

**ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED BANNA BA
PIFHU WIND ENERGY PROJCT: ON BROADLANDS AND SARRAGOSSA NO. 688,
689 AND 868-HUMANSDORP, EASTERN CAPE PROVINCE**

Your letter dated July 2011 refers.

In view of the above and specifically in relation to the agricultural production potential of the site and surrounding areas as well as the current land use, this Department does not support any change of land use, rezoning, sub-division as it will impact negatively on the agricultural nature and production potential of the site.

The proposed change in land use is on cultivated area and this department does not support.

Yours faithfully

DELEGATE OF THE MINISTER: LAND USE AND SOIL MANAGEMENT

R/2011



**Environmental Impact Assessment for the
proposed Banna Ba Pifhu Wind Energy Project
near Humansdorp, Eastern Cape:
Final Environmental Impact Assessment Report**

APPENDIX F

**Comments and
Responses Trail**

The following provides an overview of the comments received prior to and during the review of the Draft EIA.

1. Traffic related impacts

	Comment	Commentator	Date	Response
1.1	As with our comment with the other projects: The wind turbines should be erected at least 500 metres from the national road reserve boundary and 500 metres from any point of intersection. If this cannot be achieved then applications have to be submitted to SANRAL for consideration and approval. Please also note that no access to these wind farms will be granted from the national road.	Nanna Gouws, Statutory Control Officer Southern Region, SA National Roads Agency	16Aug11 email	<i>WKN Windcurrent</i> The proposed Banna Ba Pifhu wind energy project will be located more than 500 m from the N2 National Road. Access from the national road will not be required.
1.2	Access to Provincial Roads/ Abnormal routes.	Marius Keyser, Dept of Roads, District Roads Engineer	4May2012 fax	<i>WKN Windcurrent</i> The proposed wind farm will be located next to the R330.

2. Noise related impacts

	Comment	Commentator	Date	Response
2.1	What would the dba reading be 500 meters away from a turbine?	Peter Rautenbach, Grasmere	8May2012 public meeting	<i>Brett Williams (Safetech)</i> In general the reading 500 m away from a turbine would be 42dB(A) as at Noise Sensitive Area 9 in the noise study (Chapter 9) of the Final EIA Report. Please refer to this chapter for further details of the noise measurements in the proximity of the wind farm.
2.2	What does 45 dba in noise equate to, can you give an example?	Maggie Langlands, St Francis Kromme Trust	8May2012 public meeting	<i>Brett Williams (Safetech)</i> 40dB(A) is as loud as a quiet conversation.
2.3	If there are 10 turbines on the site, what would the noise	Stan Clarke,	8May2012	<i>Brett Williams (Safetech)</i>

	Comment	Commentator	Date	Response
	be 1km from the site. We are the immediate neighbours and I want to know what the noise level would be on the boundary of our farm?	Woodlands Dairy	public meeting	The noise of a turbine diminishes with distance. At 1 km away the noise will be approximately 38 dBA (as at Noise Sensitive Area 8). The ambient noise from the wind will provide a masking effect.
2.4	If you are 500 meters from the site and the noise is 45 dba, surely at 1km away you would not hear the turbines, is this correct?	Brian Bouwer, Black Chamber of Commerce	8May2012 public meeting	<i>Brett Williams (Safetech)</i> The noise of a turbine diminishes with distance. At 1 km away the noise will be approximately 38 dBA (as at Noise Sensitive Area 8). The ambient noise from the wind will provide a masking effect.

3. Socio Economic related impacts

	Comment	Commentator	Date	Response
3.1	On your job figures you indicate 187 as the SA local, Provincial and National employment generation figures. How did you arrive at 82 local jobs and 72 from the Eastern Cape, and what is defined as local?	John Bouwer, Black Chamber of Commerce	8May2012 public meeting	<i>WKN Windcurrent</i> 82 local jobs consist of 72 low skilled jobs and 10 medium skilled jobs. Local is defined as the Kouga Municipal Area. <i>CSIR</i> Please note that since the public meeting was held on 8 May 2012, the capacity of the wind farm was decreased from 50 MW to 30.6 MW. The number of jobs has therefore also decreased from approximately 72 jobs of 6 to 12 month duration within the Kouga municipal area. This includes 63 low skilled jobs and 9 medium skilled jobs.
3.2	When you present job figures for locals you need to be aware that you create expectations. WKN needs to be more clear how locals will actually benefit from this project.	John Bouwer, Black Chamber of Commerce	8May2012 public meeting	<i>WKN Windcurrent</i> Noted. It should be understood that there would be no local benefits unless the project is successful under the national tender process under the IPPP, which is a competitive bidding process. As local benefit is a criteria in the competitive tender, further details on how locals can and will benefit should the project be successful cannot be supplied at this stage.

4. Bird impacts

	Comment	Commentator	Date	Response
4.1	<p>Birdlike Eastern Cape interest in this area is related to the bird activity of the area and specifically the vulnerable birds.</p> <p>According the Draft EIA Report's data, it is clear that they acknowledge that there is significant flight activity over the proposed turbine area. This is a fact also known due to Atlas (SABAP) and the Coordinated Avifaunal Roadcounts of Birds as well as the "My BirdPatch project. The data collected through these projects can be obtained from the Animal Demography Unit in Cape Town. Therefore the erecting of a Wind Energy Farm will definitely impact negatively on the mortality of birds, due to collision.</p>	Corne Erasmus, Birdlife Eastern Cape	5Jun2012 fax	<p><i>Chris van Rooyen (Chris van Rooyen Consulting)</i> A bird specialist report based on a one year on-site monitoring programme was compiled and is included as Chapter 6 of the Final EIA Report. This will be followed-up by a post-construction monitoring programme. Based on the information collected mitigation measures will be implemented to keep the impact on birds as low as possible.</p>
4.2	<p>Post-construction monitoring will be too late, as that will not protect the birds. The survey already indicated that priority species like the Denhams Bustard, Blue Crane, Amur Falcon and Black-winged Lapwing are moving through the area and will therefore collide with the turbines, and result in their death.</p>	Corne Erasmus, Birdlife Eastern Cape	5Jun2012 fax	<p><i>Chris van Rooyen (Chris van Rooyen Consulting)</i> It is not clear at this stage whether the collision impact will be significant. For some species, e.g. Denham's Bustard, the collision impact may be insignificant, based on the results of wind farm monitoring in Spain and Austria where a related and very similar species, the Great Bustard, <i>Otis tarda</i>, occurs. The only way to establish if there are significant collision impacts will be through post-construction surveys. If this happens to be the case, mitigation measures, specifically the halting of specific turbines, would have to be implemented. It is worth noting that power lines are probably a much greater collision threat to species such as Denham's Bustard and Blue Crane than wind turbines.</p>
4.3	<p>It is also known that the visual fields in bustards and cranes are characterised by large blind areas. Compared to other birds, the proportion of the hemisphere that</p>	Corne Erasmus, Birdlife Eastern	5Jun2012 fax	<p><i>Chris van Rooyen (Chris van Rooyen Consulting)</i> While the flight characteristics of bustards make them obvious candidates for collisions with power lines, it is noted that (unlike</p>

	Comment	Commentator	Date	Response
	projects forward has very reduced visual coverage in bustards: there are two blind areas, one larger than the other. Downward movement of the head by greater than 25 degrees would bring these blind areas to project forwards, in the direction of flight. Bustards looking below them are effectively flying blind with respect to objects directly ahead of them. And so they are prone to collide with power lines and – by extension – with wind turbines.	Cape		raptors) they do not feature prominently in literature as wind turbine collision victims. It may be that they avoid wind farms entirely, resulting in lower collision risks – a Spanish database of over 7000 recorded turbine collisions contains no Great Bustards, <i>Otis tarda</i> (A. Camiña pers. comm). The same seems to be the case in Austria.
4.4	The indication that these birds will be “displaced” during the construction and operational period does not justify going ahead, due to the fact that other wind farms in the area are also planned and will lead to nowhere to go for the birds.	Corne Erasmus, Birdlife Eastern Cape	5Jun2012 fax	<i>Chris van Rooyen (Chris van Rooyen Consulting)</i> It is true that displacement could be a significant impact on specifically Denham’s Bustard, should a number of wind farms actually be built in the Kouga Municipal area. The issue of displacement and potential regional conservation initiatives for specifically Denham’s Bustard was raised by local stakeholders (St Francis Kromme Trust) and a proposal for an avifaunal habitat assessment for the Kouga Municipal Area has been submitted to the applicant and two other wind energy developers. All three developers have agreed in principal to support the initiative.
4.5	In light of the above, BirdLife Eastern Cape is against the Proposed Banna ba Pifhu Win Energy Project and request that it will not go ahead.	Corne Erasmus, Birdlife Eastern Cape	5Jun2012 fax	<i>Chris van Rooyen (Chris van Rooyen Consulting)</i> Noted. WKN Windcurrent will implement mitigation measures to keep the impact on birds, as mentioned above, as low as possible.
4.6	The St Francis Kromme Trust recommends that Kouga farmers whose land provides suitable habitat for bustards and cranes be approached to provide refuge for these birds. We suggest that developers who are successful in acquiring Independent Power Producer licences be required to contribute to a fund to recompense those farmers who forfeit the income from turbine rental in order to provide such bird refuge.	Maggie Langlands, St Francis Kromme Trust	16Jan2012 letter	Noted.
4.7	The Trust notes with concern that environmental authorization has been granted to proceed with wind farm	Maggie Langlands, St	16Jan2012 letter	<i>Chris van Rooyen (Chris van Rooyen Consulting)</i> Noted. A proposal for an avifaunal habitat assessment for the Kouga

	Comment	Commentator	Date	Response
	<p>construction on six sites in and around the immediate Kouga area, with another five sites awaiting decision.</p> <p>Bird specialists have, in their environmental impact assessments, identified that the Eastern Cape Coastal Precinct has the highest densities of Denham's Bustard and White-bellied Korhaan in South Africa, with the Humansdorp population of White-Bellied Korhaan virtually isolated from the rest of the country, and that the coastal plain between Tsitsikamma and Port Elizabeth is arguably the most important area for Denham's Bustard in the country.</p>	Francis Kromme Trust		Municipal Area has been submitted to the applicant and two other wind energy developers. All three developers have agreed in principal to support the initiative.
4.8	<p>Research has shown that bustard and crane mortality from power line collision is disproportionately high compared to other species. Data from the Overberg shows that as high a proportion as 30% of the Denham's Bustard and 10% of the Blue Crane population in that area may be killed annually by power lines¹. Investigation identified that the underlying cause is that visual fields in bustards and cranes are characterised by large blind areas². Bustards looking below them are effectively flying blind with respect to objects directly ahead of them. And so they are prone to collide with power lines and – by extension – with wind turbines.</p>	Maggie Langlands, St Francis Kromme Trust	16Jan2012 letter	<p><i>Chris van Rooyen (Chris van Rooyen Consulting)</i></p> <p>While the flight characteristics and visual fields of bustards make them obvious candidates for collisions with power lines, it is noted that (unlike raptors) they do not feature prominently in literature as wind turbine collision victims. It may be that they avoid wind farms entirely, resulting in lower collision risks – a Spanish database of over 7000 recorded turbine collisions contains no Great Bustards <i>Otis tarda</i>. The same seems to be the case in Austria. Blue Cranes may well be more prone to collisions with turbines, as they are unlikely to be displaced by the wind farm activity. This will have to be closely monitored once turbines become operational, and mitigation (halting of turbines) implemented where necessary.</p>
4.9	<p>If there are significant distances between wind farms displacement of these birds to safe sites is possible, but in the Kouga area the number of project applications and their proximity to one another reduces this possibility dangerously.</p>	Maggie Langlands, St Francis Kromme Trust	16Jan2012 letter	<p><i>Chris van Rooyen (Chris van Rooyen Consulting)</i></p> <p>Noted. A proposal for an avifaunal habitat assessment for the Kouga Municipal Area has been submitted to the applicant and two other wind energy developers. All three developers have agreed in principal to support the initiative. The objective of the assessment would be to delineate areas of sensitive habitat to assess the potential cumulative displacement impact of wind farm developments.</p>

	Comment	Commentator	Date	Response
4.10	<p>Our Clients preliminary environmental concerns, and potential objections should such concerns not be adequately addressed to the satisfaction of our client, in any assessment by you are summarised below and you are requested to confirm that they will be addressed in the further reports to be provided by you and/or specialists appointed for such purpose.</p> <p>Our client also has deep concerns that the proposed Project will threaten birdlife as well as other fauna and flora. By way of example only, a colony of approximately 1000 blue cranes nest on the Farm and having regard to their flight patterns (including height) there is a real risk that a vast numbers of this species will either be killed or severely harmed due to the location of the Turbines on the abutting Property.</p>	<p>Robert Montgomery, Legal Representative for Lex Gutsche Investment Trust</p>	<p>21May 2012 email</p>	<p><i>Chris van Rooyen (Chris van Rooyen Consulting)</i> A one year bird monitoring programme has been completed. The data gathered has been used in adapting the final turbine layout, in order to keep impacts to a minimum. No large concentrations of Blue Cranes were recorded on the development site, and recorded flight activity over the turbine area at rotor height was 1.08 Blue Crane/hour (144 hours of flight activity monitoring). Taking into account that it is generally accepted that the collision avoidance rates for birds at wind farms are 95-98%, it is unlikely that vast numbers will be killed. Blue Cranes are not known to breed in colonies, but they do form flocks outside the breeding season. Perhaps the comment refers to a roosting site? If the location of the site can be provided, it can be investigated to assess if the potential impact of the wind farm. There is a roost site of Blue Cranes situated approximately 5 km away from the proposed wind farm site (Soutvlei 34° 5'45.88"S 24°50'36.63"E), where approximately 80-100 cranes have been recorded when conditions are favourable (Maggie Langlands St Francis Bird Club) but no specific flight patterns over the site were identified that could be linked to the presence of the site. In any event, post construction monitoring will be implemented at the site to assess if there is any significant collision mortality, and implementation of mitigation measures, specifically the halting of turbines, will be implemented if necessary.</p>

5. Potential Visual impacts

	Comment	Commentator	Date	Response
5.1	<p>Our Clients preliminary environmental concerns, and potential objections should such concerns not be adequately addressed to the satisfaction of our client, in any assessment by you are summarised below and you are requested to confirm that they will be addressed in the further reports to be provided by you and/or specialists appointed for such purpose.</p> <p>Our client when initially approached by the owner of the Abutting Property (the owner) was assured that the development of the Wind Farm would be limited to the eastern sector of Portion 1 of the Farm 868. It is not apparent from the summary whether the turbines are to be confined to that portion identified by the Owner. Please confirm that the Turbines will be so confined as this may influence that basis of any objection to the proposed Project. The location on the site agreed with the Owner would go some way to mitigate the visual Impact of the Turbines to our client. Development of the Wind Farm towards the northern and western sectors of the abutting Property will materially and adversely affect our client s it will severely impact upon the pristine views which it enjoys, and has enjoyed for some 36 years, towards the mountains and its surrounds. Having regard to the location and the amenity of the Farm such impact will significantly reduce the market value of the Farms.</p>	Robert Montgomery, Legal Representative for Lex Gutsche Investment Trust	21May 2012 email	<p><i>WKN Windcurrent</i> David Wolfromm, Alan Wolfromm and Cassie Lotter of WKN Windcurrent met with Mr Lex Gutsche on 21 August 2012 to discuss the concerns raised by Mr Gutsche.</p> <p><i>Henry Holland (Map(this))</i> With Mr. Lex Gutsche's permission, photographs were taken from the entrance to his house. Photomontages were then created by the visual specialist on the project team, Mr Henry Holland. These photomontages were delivered to Mr Gutsche and are included in the visual study, Chapter 8 of the Final Environmental Impact Assessment Report. The photomontages show that the mountain views will be affected. Some of the photomontages are included below in Appendix 1 below.</p>

6. Access to Power lines and Impacts on Eskom

	Comment	Commentator	Date	Response
6.1	<p>Our Clients preliminary environmental concerns, and potential objections should such concerns not be adequately addressed to the satisfaction of our client, in any assessment by you are summarised below and you are requested to confirm that they will be addressed in the further reports to be provided by you and/or specialists appointed for such purpose.</p> <p>Our client also understands that the existing grid supplying the area does not have capacity for the connection of a further wind farm additional to those approved by the Department of Energy under its REIPP. As such the Developer, in considering the proposed project, must also make allowance for the additional environmental burden that will be imposed by increasing grid capacity. Please confirm that it will do so.</p>	Robert Montgomery, Legal Representative for Lex Gutsche Investment Trust	21May 2012 email	<p><i>WKN Windcurrent</i> This issue has been taken into consideration; hence the total capacity of the wind farm was decreased from 50 MW to 30.6 MW. This allows the project to connect into the existing 66 kV overhead powerlines on-site.</p> <p><i>CSIR</i> Since the release of the Draft EIA Report, Eskom has conveyed to WKN Windcurrent that the existing 66 kV Melkhout / St. Francis overhead powerline can only receive an additional connection of up to approximately 30 MW from this project. WKN Windcurrent has thus decided to decrease the total capacity from 50 MW to 30.6 MW (approx. 9 to 17 turbines) in order to utilize the on-site grid connection. No additional powerlines will be erected.</p>
6.2	<p>Eskom's rights and services must be acknowledged and respected at all times.</p> <p>Eskom shall at all times retain unobstructed access to and egress from its servitudes.</p> <p>Eskom's consent does not relieve the developer from obtaining the necessary statutory, land owner or municipal approvals.</p>	John Geeringh, Eskom, Senior Environmental Advisor	13Jun2012 email	<p><i>WKN Windcurrent</i> The Eskom requirements for works in or near to Eskom servitudes are acknowledged and will be adhered to.</p>
6.3	Any cost incurred by Eskom as a result of non-compliance to any relevant environmental legislation will be charged to the developer.	John Geeringh, Eskom, Senior Environmental Advisor	13Jun2012 email	Noted.

	Comment	Commentator	Date	Response
	If Eskom has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the developer's activities or because of the presence of his equipment or installation within the servitude restriction area, the developer shall pay such costs to Eskom on demand.			
6.4	The use of explosives of any type within 500 metres of Eskom's services shall only occur with Eskom's previous written permission. If such permission is granted the developer must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process. It is advisable to make application separately in this regard.	John Geeringh, Eskom, Senior Environmental Advisor	13Jun2012 email	Noted.
6.5	Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilised so as to prevent erosion. The measures taken shall be to Eskom's satisfaction.	John Geeringh, Eskom, Senior Environmental Advisor	13Jun2012 email	Noted.
6.6	Eskom shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the developer, his/her agent, contractors, employees, successors in title, and assignees. The developer indemnifies Eskom against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom's services or apparatus or otherwise. Eskom will not be held responsible for damage to the developer's equipment.	John Geeringh, Eskom, Senior Environmental Advisor	13Jun2012 email	Noted.

	Comment	Commentator	Date	Response
6.7	No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the developer must give at least seven working days' notice prior to the commencement of work. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued by the relevant Eskom Manager Note: Where and electrical outage is required, at least fourteen work days are required to arrange it.	John Geeringh, Eskom, Senior Environmental Advisor	13Jun2012 email	Noted.
6.8	Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with.	John Geeringh, Eskom, Senior Environmental Advisor	13Jun2012 email	Noted.
6.9	Under no circumstances shall rubble, earth or other material be dumped within the servitude restriction area. The developer shall maintain the area concerned to Eskom's satisfaction. The developer shall be liable to Eskom for the cost of any remedial action which has to be carried out by Eskom.	John Geeringh, Eskom, Senior Environmental Advisor	13Jun2012 email	Noted.
6.10	The clearances between Eskom's live electrical equipment and the proposed construction work shall be observed as stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993). Equipment shall be regarded electrically live and therefore dangerous at all times.	John Geeringh, Eskom, Senior Environmental Advisor	13Jun2012 email	Noted.
6.11	In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as an	John Geeringh, Eskom, Senior Environmental	13Jun2012 email	Noted.

	Comment	Commentator	Date	Response
	<p>additional safety precaution, Eskom will not approve the erection of houses, or structures occupied or frequented by human beings, under the power lines or within the servitude restriction area.</p> <p>Eskom may stipulate any additional requirements to highlight any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant.</p> <p>It is required of the developer to familiarise himself with all safety hazards related to Electrical plant.</p>	Advisor		
6.12	Any third party servitudes encroaching on Eskom servitudes shall be registered against Eskom's title deed at the developer's own cost. If such a servitude is brought into being, its existence should be endorsed on the Eskom servitude deed concerned, while the third party's servitude deed must also include the rights of the affected Eskom servitude.	John Geeringh, Eskom, Senior Environmental Advisor	13Jun2012 email	Noted.
6.13	Eskom request that any wind turbine structures be placed at least four (4) times the blade diameter of the wind turbine to be used away from any Eskom High voltage power line servitudes (220kV and above). This is to allow for future possible expansion of the Eskom servitude to allow for additional power lines to be constructed parallel to existing lines, upgrading of existing lines to higher voltage Transmission power lines in future, combat the effects of turbulence from the turbines on the power lines, limit the possible effect of electromagnetic interference and to decrease the risk of catastrophic failure of the turbine to impact on the power line. Eskom does a lot of live line	John Geeringh, Eskom, Senior Environmental Advisor	13Jun2012 email	Noted.

	Comment	Commentator	Date	Response
	maintenance work on High Voltage lines and thus use helicopters in close proximity to high voltage lines. Turbines in close proximity to Eskom Microwave radio sites and substations should also not be placed within the line of site of the antennae on such sites and towers.			

7. Heritage related impacts

	Comment	Commentator	Date	Response
7.1	As the archaeologist points out correctly in his report, several wind energy facilities (at least 5) have been proposed in the Kouga Municipality and most of them have already received Environmental Authorisation and one of them is in the process of being established. Considering this, it is definitive that the sense of place and the character of the area will be irreversibly changed. The visual impact assessment states that there will be very few areas in this region from which no wind turbines will be visible (...) the cumulative effect of the additional wind turbines on sensitive viewers in the region is expected to be minimal.	Mariagrazia Galimberti, SA Heritage Resources Agency	7Jul2012 email	CSIR Noted. The cumulative visual impacts were assessed in the visual study which is included as Chapter 8 of the Final EIA Report.
7.2	Considering all information provided in the EIA report, SAHRA agrees with the recommendations of the specialists that no mitigation is necessary from a palaeontological and archaeological perspective. However, if new evidence of archaeological sites or artefacts, palaeontological fossils, graves or other heritage resources are found during contrition, SAHAR APM Unit (Tel: 021 462 4502) and a professional archaeologist or palaeontologist, according to the nature of the findings, must be alerted immediately.	Mariagrazia Galimberti, SA Heritage Resources Agency	7Jul2012 email	Noted. If new evidence of archaeological sites or artefacts, palaeontological fossils, graves or other heritage resources are found, SAHAR APM Unit and a professional archaeologist or palaeontologist will be alerted immediately.

8 Impact on Agriculture

	Comment	Commentator	Date	Response
8.1	In view of the above and specifically in relation to the agricultural production potential of the site and surrounding areas as well as the current land use, this Department does not support any change of land use, rezoning, subdivision as it will impact negatively on the agricultural nature and production potential of the site. The proposed change in land use is on cultivated area and this department does not support.	Thoko Nyoka Department of Agriculture (Land Use and Soil Management)	30Sep201	<p><i>CSIR</i></p> <p>This response from the Department of Agriculture (DoA) is noted. Mr Alan Wolfrohm of WKN Windcurrent has subsequently accompanied Mr Frank Weitz, the extension officer of the DoA in Humansdorp, on a site visit with Mr Cassie Lotter on 31 July 2012. Mr Cassie Lotter, a representative of the client, has also accompanied Mr Weitz on a site visit on 15 August 2012, during which all the individual turbine sites were visited.</p> <p>Mr Lotter has also conducted a site visit with Ms Annette Stoltz and Mr David Kleyn of the DoA (Land use and Soil Management) on 6 September 2012. Ms Stoltz indicated in an email dated 25 September 2012 to Ms Minnelise Levendal (CSIR Project Manager) that the committee will discuss the project and will issue a decision. She indicated that she will inform Ms Levendal accordingly. To date, no decision has been issued.</p>

9 Project Detail

	Comment	Commentator	Date	Response
9.1	What is the size and depth of the hard standing surfaces and what material is used to construct the surfaces?	Peter Rautenbach, Grasmere	8May2012 public meeting	<p><i>WKN Windcurrent</i></p> <p>The size of the hard standing surfaces is approximately 40 by 50 m. The depth is approximately 2-3 m (depending on the soil conditions). The main material used is crushed rock/gravel.</p>
9.2	Why is the project capped at 50 WM, is there a way to work this out, e.g. so many turbines per ha? The site is approximately 1300 ha, why is the project only capped at 50WM?	Peter Rautenbach, Grasmere	8May2012 public meeting	<p><i>WKN Windcurrent</i></p> <p>This was based on grid data supplied by Eskom at that time.</p>
9.3	Where is the exact location of the turbines on the 1300 ha	Stan Clarke,	8May2012	<i>CSIR</i>

	Comment	Commentator	Date	Response
	site? Can you provide us with a map so we can see where our site is in relation to the turbines?	Woodlands Dairy	public meeting	The map showing the locations was emailed to Mr Clarke. The turbine layout is included as Figure 2.5 in Chapter 2 and is also included in the summary report of the Final EIA Report.
9.4	<p>My concern relates to the minimum distance required between turbines, E.g. 500 meters; and the limitations that the current turbine placement imposes on future wind-power projects on my property.</p> <p>If for example a BBP turbine is only 100 m from the boundary, I would in future be limited to placing turbines on my property 400 meters from the boundary in order to achieve the required 500 meter turbine separation distance. i.e. I would be limited in the number of turbines which could be erected on my land.</p> <p>I suggests the developer meets me half way: i.e. limits turbine placement on the site to 250 meters from the boundary; then I would in future also be limited to placing turbines on my property 250 meters from the boundary.</p>	Peter Rautenbach, Grasmere, Adjacent Landowner	18May 2012 telephonic	<p><i>WKN Windcurrent</i></p> <p>Noted. The updated layout has taken this into consideration - a distance of 250 m from the turbine to the relevant boundary has been implemented.</p>

10. EIA and Public Participation Process

	Comment	Commentator	Date	Response
10.1	Please note your correspondence dated 4 november, 2011 has just been forwarded to me by the Kouga municipality, and I am not the ward councillor for the area where the Banna Ba Pifhu wind scheme is planned. I suggest you do not use the Kouga municipality to address any correspondence to councillors if you wish a speedy reply.	David Aldendorff, private	10Mar 2012 email	<i>Public Process Consultants</i> Mr Aldendorff was contacted via email to clarify this comment however no response was received. The Councillor for this area is on the project database and has been sent correspondence on the project throughout the Scoping and EIA process.
10.2	I hereby wish to bring to your attention my concern about the positioning of turbines on my boundary at GRASMERE FARM. I feel that anything closer to my boundary than 50% of what the distances between the turbines is supposed to be, is impacting on the number of turbines that I could accommodate on my land in a possible future windfarm development. I would thus request that the positioning of the turbines be changed accordingly.	Peter Rautenbach, Grasmere, Adjacent Landownwer	12May 2012 email	<i>WKN Windcurrent</i> Noted. The updated layout has taken this into consideration - a distance of 250 m from the turbine to the relevant boundary has been implemented.
10.3	We act on behalf of the trustees of the Lex Gutsche Investment Trust, the owner of Portion 25 of the Farm Geelhouteboom No. 688 (The Farm). The Farm abuts one of the properties, namely the Remainder of Farm 688 (the abutting property) earmarked for incorporation in the proposed development of a Wind Farm described as the Banna Ba Pifhu Wind Energy Project (the Project) by WKN Wind Current SA (Pty) Ltd (Developer), in respect of the above matter. We have been provided with a copy of a summary of the proposed Project prepared by you as the environmental	Robert Montgomery, Legal Representative for Lex Gutsche Investment Trust	21May 2012 email	<i>Public Process Consultants</i> Mr Gutsche has been registered as an interested and affected party on the project database from the outset of the Scoping process. Mr Gutsche has been kept on the database and been notified in writing of all opportunities to comment. Mr Montgomery of Rushmere Noach, has been included on the project database as representing the Lex Gutsche Investment Trust.

	Comment	Commentator	Date	Response
	<p>assessment practitioner which provides an overview of the purported steps contemplated by the Developer to mitigate certain identified environmental risks associated with the development of the Wind Farm. Our Client is an Interested and affected Party envisaged by Regulation GNR. 385 of 21 April 2006: Regulations in terms of Chapter 5 of the National Environmental Management Act, 1998. In terms of the aforesaid regulations you are obliged to open and maintain a register of such parties and we are instructed to request, as we hereby do, that you immediately register our client as an interested and affected party for the purpose of the application for an Environmental Impact Assessment. Please confirm that our client has been registered.</p> <p>The above reservations and objections are only preliminary and our client reserves the right to supplement any concerns or raise objections which it has to the proposed project.</p>			
10.4	<p>Could you please e-mail us a copy of the Authorization? We have received an application from a consultant to undertake bat monitoring for the developer.</p>	<p>Mr Alan Southwood (Eastern cape Economic Development, Environmental Affairs and Tourism)</p>	<p>6Nov 2012 email</p>	<p><i>Public Process Consultants</i> The application has not yet received environmental authorisation. The project is at the stage where the Final EIA will be submitted to National DEA during the course of this week for decision making. It is quite common for wind energy projects to undertake bird and/or bat monitoring during the course of the EIA process. This information feeds into the EIA and/ or provides baseline information, should a positive environmental authorisation be issued for a project.</p> <p>If you need any further information please don't hesitate to contact me.</p>

APPENDIX 1

Photomontages of views from neighbouring property of Mr Lex Gutsche



Photomontages for views from Site 3 and Site 4. (Landscape photos for Site 3 and 4 provided by Windcurrent).

A decorative graphic consisting of a thick, curved, light blue-to-white gradient bar that starts from the left edge and curves upwards and to the right, ending near the top center of the page.

**Environmental Impact Assessment for the
proposed Banna Ba Pifhu Wind Energy Project
near Humansdorp, Eastern Cape:
Final Environmental Impact Assessment Report**

APPENDIX G

**Acceptance letter from the South
African Civil Aviation Authority**

Appendix G, Letter of approval from the South African Civil Aviation Authority

SOUTH AFRICAN



CIVIL AVIATION
AUTHORITY

WKN Windcurrents SA (PTY) Ltd

Po Box 963 George 6530

Tel: 082 529 4909

20 October 2011

Our Ref: - CAA_2010_W0084

Your Ref: David Wolfromm

Attention: David Wolfromm

Comments on Wind Farm application received in July 2010 for the Environmental Impact Assessment process on the construction of the Proposed Development near Humansdorp known as Banna ba Pifhu wind farm.

The CAA recognizes the national need for renewable energy resources and as such is supportive of the development of any such projects within its mandate to ensure aviation safety in South Africa.

In light of this, a provisional assessment of your proposal has been conducted in relation to the terms and provisions as contained in the Aviation Act (Act 13 of 2009) for the controlling and/or restricting of structures which will constitute an obstruction or potential hazard to aircraft moving in the navigable air space in the vicinity of aerodromes, along promulgated air routes and airspaces, or to aviation communication/navigation/surveillance assets, or which will adversely affect the performance of the said aviation assets or landing systems.

The Civil Aviation Authority has not identified any concerns regarding the potential negative impact of your proposal on aviation.

The Civil Aviation Authority therefore has no objections to the development of your proposal, subject to the submission of the final turbine layout, where after the SACAA will provide conditions of approval with regard to marking conditions as per Civil Aviation Technical Standards, Part 139.01.33.

Kindly contact Chris Isherwood (011 545 1028 or isherwoodc@caa.co.za) if any further information is required.

Yours Truly,



Gary Newman
Manager Procedure Design and Cartography
Air Navigation Services

Tel: 011 545 1202 | Fax: 011 545 1282 | Cell: 083 461 6071 | Email: NewmanG@caa.co.za |
www.caa.co.za

Board Members: Ms P Riba, "Interim Chairperson" D Golding, Maj Gen M Mangethe,
Ms N Mshali, Mr Z Thwala (Acting DCA), Mr L Mabaso, Company Secretary: Mr A Motake

A decorative graphic consisting of a thick, curved, light blue-to-white gradient bar that starts from the left edge and curves upwards and to the right, ending near the top center of the page.

**Environmental Impact Assessment for the
proposed Banna Ba Pifhu Wind Energy Project
near Humansdorp, Eastern Cape:
Final Environmental Impact Assessment Report**

APPENDIX H

**Newspaper advertisements placed
for the review of the DRAFT EIA**

11010

Legal Notices

**COMMENT
PERIOD DRAFT
EIA REPORT
AND PUBLIC
MEETING**

All I&APs are hereby notified of the comment period for the Draft EIA Report and EMP, for the proposed Banna Ba Pifhu Wind Energy Project, Farms Broadlands and Saragossa, Humansdorp, Kouga Local Municipality (DEA Reference Number: 12/12/20/2289). The comment period will extend from 25 April 2012 to 8 June 2012.

Copies of the Draft EIA Report are available for public viewing at the Humansdorp and Jeffreys Bay Main Library and can be downloaded from the website
www.publicprocess.co.za

PUBLIC MEETING

To assist the review of the Draft EIA Report all I&APs are invited to attend the following Public Meeting where an overview of the report will be given and an opportunity will be provided for comments/queries to be raised. Representatives from the CSIR, the Environmental Consultants for the Project, as well as WKN-Windcurrent SA (Pty) Ltd, the Project Applicant, will be present to engage with members of the public.

Date: Tuesday, 8 May 2012
Time: 12 noon
Venue: Humansdorp Country Club, Main Hall (Park Street, Humansdorp, entrance opposite Kemp Street)

All comments on the Draft EIA Report will be considered in preparation of the Final Report and are to be submitted to Public Process Consultants to reach us by no later than 8 June 2012 at the address indicated below. For further information contact Sandy Wren, Public Process Consultants, PO Box 27688, Greenacres, 6057, Phone (041) 374-8426, Fax (041) 373-2002 or Email sandy@publicprocess.co.za

The Herald, 25 April 2012

COMMENT PERIOD DRAFT EIA REPORT AND PUBLIC MEETING

All I&APs are hereby notified of the comment period for the Draft EIA Report and EMP, for the proposed Banna Ba Pifhu Wind Energy Project, Farms Broadlands and Saragossa, Humansdorp, Kouga Local Municipality (DEA Reference Number: 12/12/20/2289). The comment period will extend from 25 April 2012 to 8 June 2012.

Copies of the Draft EIA Report are available for public viewing at the **Humansdorp and Jeffreys Bay Main Library** and can be downloaded from the website www.publicprocess.co.za

PUBLIC MEETING

To assist in the review of the Draft EIA Report all I&APs are invited to attend the following Public Meeting where an overview of the report will be given and an opportunity will be provided for comments/ queries to be raised. Representatives from the CSIR, the Environmental Consultants for the Project, as well as, WKN-Windcurrent SA (Pty) Ltd, the Project Applicant, will be present to engage with members of the public.

DATE	TIME	VENUE
Tuesday, 8 May 2012	12 noon	Humansdorp Country Club, Main Hall (Park Street, Humansdorp, entrance opposite Kemp Street)

All comments on the Draft EIA Report will be considered in preparation of the Final Report and are to be submitted to Public Process Consultants to reach us by no later than 8 June 2012 at the address indicated below. For further information contact: Sandy Wren, Public Process Consultants, PO Box 27688 Greenacres 6057, Phone 041 3748426 Fax 041 3732002 or Email sandy@publicprocess.co.za

Our Times, 25 April 2012



**Environmental Impact Assessment for the
proposed Banna Ba Pifhu Wind Energy Project
near Humansdorp, Eastern Cape:
Final Environmental Impact Assessment Report**

APPENDIX I

**Notes of Public meeting on 8 May
2012 following the release of the
Draft EIA**

**Banna Ba Pifhu
Public Meeting
Draft EIA
8 May 2012**

Peter Rautenbach, Grasmere

- What is the size and depth of the hard standing surfaces and what material is used to construct the surfaces?
- Why is the project capped at 50 WM, is there a way to work this out, e.g. so many turbines per ha? The site is approximately 1300 ha, why is the project only capped at 50WM?
- What would the dba reading be 500 meters away from a turbine?

Maggie Langlands, St Francis Kromme Trust

- What does 45 dba in noise equate to, can you give an example?

Stan Clarke, Woodlands Dairy (adjacent landowner)

- If there are 10 turbines on the site, what would the noise be 1km from the site. We are the immediate neighbours and I want to know what the noise level would be on the boundary of our farm?
- Where is the exact location of the turbines on the 1300 ha site? Can you provide us with a map so we can see where our site is in relation to the turbines?

Brian Bower, Black Chamber of Commerce

- If you are 500 meters from the site and the noise is 45 dba, surely at 1km away you would not hear the turbines, is this correct?

John Bower, Black Chamber of Commerce

- On your job figures you indicate 187 as the SA local, Provincial and National employment generation figures. How did you arrive at 82 local jobs and 72 from the Eastern Cape, and what is defined as local?
- When you present job figures for locals you need to be aware that you create expectations. WKN needs to be more clear how locals will actually benefit from this project.

A decorative graphic consisting of a thick, curved, light blue-to-white gradient bar that starts from the left edge and curves upwards and to the right, ending near the top center of the page.

**Environmental Impact Assessment for the
proposed Banna Ba Pifhu Wind Energy Project
near Humansdorp, Eastern Cape:
Final Environmental Impact Assessment Report**

APPENDIX J

Public meeting Registration forms

Appendix J, Public meeting Registration forms

MEETING: Public Mtg, Humansdorp. PROJECT: Banna ba Pifhu.
DATE: 8 May 2012

KINDLY PRINT YOUR NAME IN FULL AND WRITE CLEARLY.

FIRST NAME	SURNAME	ORGANISATION	FULL POSTAL ADDRESS	CODE	PHONE	FAX	EMAIL
Maggie	Langlands	St Francis Whombe Trust	P.O. Box 293 St Francis Bay	6312	082- 458- 8063	n/a	langlands@ wireless29, co.za
David	Masterson	Broadlands Farm	P.O. Box 162 Humansdorp	6300	083 702 1895	086 5240 776	Savagossa Egen. co.za
Dot	Masterson	50 Holmeshead Village St. Francis Bay	P.O. Box 426, St. Francis Bay	6312	083 702 1896	0422940- 711. (Satel.)	hek@telkom.co.za
Brian	Banwar	KBCC E Banwarcorp Holdings	79 Dagama Rd Jeffreys Bay 6330	6330	073 708 7559	n/a	brian@banwarcorp.com
CHESTER.	EDWARDS	KBCC.	79 DAGAMA RD JEFFREYSBAY	6330	074895 2697	NA	chesteredwards07 @gmail.com.
JOHN	BOWEN	KBCC.	79 DAGAMA RD JEFFREYSBAY	6330	072586 5374	n/a.	kbcc @live. co.za.
Paul	HEYNS	WOODLANDSFARM NEIGHBOUR	Box 4 HUMANSDORP	6300	0422911 706	0422911 706	pheyns@woodlands- farm.co.za

MEETING: Public Mtg: Humansdorp PROJECT: Banna ba Pifhu
 DATE: 8 May 2012

KINDLY PRINT YOUR NAME IN FULL AND WRITE CLEARLY.

FIRST NAME	SURNAME	ORGANISATION	FULL POSTAL ADDRESS	CODE	PHONE	FAX	EMAIL
STAN	CHARKE	WOODLANDS FARM	P.O. BOX 4 HUMANSDORP.	6300	042 2911706	042 2911706	admin@woodlandsfarm.co.za
PETER	RAUTENBACH	GRASMEER	Box 99 H. dorp.	6300	082 570 5744	042 293881	Peter@grasmeer.co.za