

# CES EXPERTISE IN THE RENEWABLE ENERGY SECTOR

CES was established in 1990 when we were the lead consultants for the St Lucia environmental impact assessment for Richards Bay Minerals, one of the first large-scale EIAs conducted in South Africa. Since then we have expanded our capabilities and now provide a wide variety of environmental and social advisory services to public and private-sector clients both within South Africa and internationally.

**CES OFFERS ENVIRONMENTAL AND SOCIAL (E&S) ADVISORY SERVICES, INCLUDING ENVIRONMENTAL IMPACT ASSESSMENT (EIA), E&S DUE DILIGENCE (E&SDD) AND E&S COMPLIANCE AUDITING (E&SCA) FOR A RANGE OF SECTORS, BUT WE HAVE PARTICULARLY EXTENSIVE EXPERIENCE IN THE RENEWABLE ENERGY SECTOR.**

CES has completed more than 50 ESIs for wind and solar energy projects for both government and the private sector.

CES professional staff are all exceptionally well qualified, with many being recognised as international experts in their particular disciplines. Several of our staff hold PhD degrees and most hold post-graduate qualifications in the environmental sciences, with both national and international certifications.

As a result of the dynamic nature of large-scale commercial renewable energy (RE) projects within the southern African context, environmental and social advisory services in this sector is challenging and requires on-going improvements in the understanding of RE-related impacts, and corresponding developments amongst the regulators. Development of appropriate project-specific environmental management strategies within the sector requires a sound understanding of the unique environmental and social issues related to RE. These include the potential impacts of wind energy facilities on birds and bats, as well as noise and visual impacts of these facilities on communities. In addition, our understanding of the sensitivities of communities to these technologies, combined with careful stakeholder engagement, has been key to the successful completion of many of these projects.

“It was evident that they were able to apply their experience in energy projects in general, and wind farms in particular, to adequately respond to all issues raised by stakeholders during the EIA process” - Mainstream Renewable Power

“We can confirm that CES provided the required services in a timeous and professional manner. The CES staff who managed these projects, had an excellent knowledge of the National Environmental Management Act and the EIA Regulations. Atlantic Energy Partners would highly recommend CES Environmental and Social Advisory Services for environmental consulting services.” – Atlantic Energy Partners

CES has been contracted to undertake environmental prefeasibility studies and ESIA's for some of the earliest large-scale commercial wind farms in South Africa and has subsequently developed an impressive portfolio of RE projects in South Africa and internationally. This reputation has enabled CES to establish long-term relationships with a number of the more prominent RE developers in South Africa. Our current services cover the entire project development cycle, from environmental and social (E&S) feasibility studies through to construction and operational phase E&S monitoring and the development of Environmental Management Systems. Our E&S monitoring typically aims to either assist developers to comply with regulatory requirements or, in the case of Lenders, providing an independent assessment of the extent to which their clients are meeting the E&S obligations in terms of their loan agreement. CES has established an excellent relationship with a number of prominent Development Finance Institutions and over the last ten years has been contracted to act as Lender's long-term E&S Advisor for a number of RE projects across Africa. Successful execution of such assignments requires a comprehensive understanding of the requirements of the national legislation of host countries, as well as applicable international E&S safeguards including:

- ✓ The Equator Principles;
- ✓ The International Finance Corporation's (IFC) Performance Standards (PS) on Environmental and Social Sustainability and associated sector-specific EHS guidelines; and
- ✓ The African Development Bank's Integrated Safeguards System

“The services were performed satisfactorily and work was delivered as per the scope of work” - Enel Green Power (5 projects to date)

For more information see [www.cesnet.co.za](http://www.cesnet.co.za)



## OUR CLIENTS



## SELECTED ENVIRONMENTAL PROJECTS IN THE RENEWABLE ENERGY SECTOR

### Wind Energy Facilities EIAs

- ✓ 2010: Waainek Wind Energy Facility: EIA for 20MW facility near Grahamstown, Eastern Cape.
- ✓ 2011: Golden Valley Wind Energy Facility: EIA for 500MW facility near Cookhouse, Eastern Cape.
- ✓ 2011: Coega Wind Energy Facility: EIA for 200MW facility in the COEGA IDZ near Port Elizabeth, Eastern Cape.
- ✓ 2012: Mossel Bay Wind Energy Facility: EIA for 90MW facility, near Mossel Bay, Western Cape.
- ✓ 2012: Richards Bay Wind Energy Facility: EIA for 90MW facility, near Richards Bay, KwaZulu-Natal.
- ✓ 2012: Makanaone Wind Energy Facility: EIA for 140MW facility, between Riebeeck East and Grahamstown, Eastern Cape.
- ✓ 2013 Middleton Wind Energy Facility: EIA for 150MW facility, near Middleton, Eastern Cape.
- ✓ 2012: Peddie Wind Energy Facility: EIA for 40MW facility, near Peddie in the former Ciskei, Eastern Cape.
- ✓ 2012: Haverfontein Wind Energy Facility: EIA for 99MW facility near Carolina, Mpumalanga.
- ✓ 2012: Hluhluwe Wind Energy Facility: EIA for 60MW facility near Hluhluwe, Kwa-Zulu Natal.
- ✓ 2013: Grahamstown Wind Energy Facility: EIA for 70MW facility 30km east of Grahamstown, Eastern Cape.
- ✓ 2013: Beaufort West Wind Energy Facility: EIA for 700MW facility in the Beaufort West area, Western Cape.
- ✓ 2015: InnoWind Riverbank Wind Energy facility: EIA for Update of EMP for the facility in Wesley, near East London, Eastern Cape.
- ✓ 2015: G7 Klawer Wind Energy facility: Environmental Authorisation Amendment process for the 5 MW Klawer Wind Farm, near Klawer, Western Cape.

- ✓ 2015-2016: Golden Valley Wind Energy Facility: Amendment to the EA to split the project into two smaller (140MW) projects.
- ✓ 2010 (Ongoing): EDF Energy Facilities: EIAs for over 15 wind and solar farms in the Eastern Cape, including Chaba, Thomas River, Qumbu, Nqgamakwe, Ncora, Umzobomvu, Dassiesridge and Peddie.
- ✓ 2017-2018: Scarlet Ibis Wind Energy Facility: BA for the up to 20MW facility in the Nelson Mandela Bay Metropolitan Municipality.
- ✓ 2020-2021: Waaihoek Battery Energy Storage System: BA for a BESS near Utrecht, Kwa-Zulu Natal.
- ✓ 2021: Umsobomvu Wind Energy Facility: EIA for EDF Renewables (Pty) Ltd in the Northern Cape.
- ✓ 2021: Part 2 amendment carried out for South African Mainstream Renewable Power Developments (Pty) Ltd for the Waaihoek Wind Energy Facility in the Amjuba District in Kwazulu Natal.
- ✓ 2020 – 2022: Basic Assessment (BA) carried out for Latrodex Wind Energy (WEF) located in Marshstrand, Eastern Cape.
- ✓ 2022-2023: Soutrivier and Taaibos Wind Energy Facility cluster: EIAs for five facilities (1 350MW) near Victoria West, Northern Cape.
- ✓ 2022-2023: Soyuz Wind Energy Facility Cluster: EIAs for six facilities (2 880 MW) near Britstown, Northern Cape.
- ✓ 2022-2023: Mulilo Newcastle Wind Energy Facility Cluster: EIAs for two facilities (200 MW), near Newcastle, Kwa-Zulu Natal.
- ✓ 2022-2023: Ngxwabangu Wind Energy Facility: BA for 260 MW facility near Covimvaba, Eastern Cape.

## Solar PV Facilities EIAs

- ✓ 2011: Coega Solar (photovoltaic) Facility: EIA for 13MW facility, located in the Coega Industrial Development Zone, Port Elizabeth, Eastern Cape.
- ✓ 2011: Langa Solar PV Facility: EIA for 100MW facility near East London, Eastern Cape.
- ✓ 2011: Gehrlicker Ikwezi Solar PV Facility: EIA for 10MW facility located in the East London Industrial Development Zone, East London, Eastern Cape.
- ✓ 2012: Peddie Solar Facility: EIA for 5MW facility, located near the town of Peddie in the former Ciskei, Eastern Cape.
- ✓ 2015: BioThermSA Petauke & Mambwe Solar Parks: Environmental Project Briefs (EPBs) for two PV solar developments (4MW and 2MW) in eastern Zambia.
- ✓ 2016: Black Lite Solar PV Manufacturing Facility: EIA for 165 MW facility, located in the East London Industrial Development Zone, Eastern Cape.
- ✓ 2016 –Northern Cape Economic Development (NCEDA) PV Solar Plant: EIA carried out for PV facility near Kimberley, Northern Cape.
- ✓ 2019: JCM Power Solar PV facility: ESIA for 70 MW facility located 40 km south of Younde, Cameroon.

## Combined Wind and Solar Energy Facilities EIAs

- ✓ 2011: Ngqamakhwe Wind and Solar Energy Facility: Scoping assessment for a facility in the former Transkei area of the Eastern Cape.
- ✓ 2011: Qunu Renewable Energy Facility: EIA for project which included the generation of both wind and solar energy, located in the former Transkei (just north of Qunu).
- ✓ 2013: Ngqamakwe Renewable Energy Facility: EIA for 39 MW wind and 5MW solar facility near the town of Ngqamakwe in the former Transkei, Eastern Cape.

## Hydroelectric Power Facilities EIAs

- ✓ 2010: Kafue Gorge Lower Hydropower Station Zambia: Due Diligence study of previous environmental and social impact assessments for a 600–900MW peaking hydropower station in the Kafue Gorge, including preparation of a detailed Terms of Reference for an Environmental, Social and Health Impact Assessment, determination of social and environmental impacts, and environmental flow requirements. Study done to IFC, World Bank and AfDB standards and all reports reviewed by IFC and WB.
- ✓ 2015: HydroSA (Pty) Ltd: EIA to South African national standards for a 40MW run-of-river HPP on the Orange River. The project uses the elevation difference over the 56m-high Augrabies Falls as the driving head. The project is sensitive because, although the underground power chamber is outside the boundary of the Augrabies Falls National Park, it will be necessary to run the feed water across park land via an under-ground culvert, from a low diversion weir across the river inside the park boundary.

## Construction phase environmental management services

- ✓ 2010-11: International Finance Corporation: Pungwe 'B' Hydro-Electrical Power Project, Zimbabwe.
- ✓ 2012: Environmental Control Officer for the Kouga Wind Energy Facility: Finalise the Environmental Management Programme (EMPr) and provide Environmental Control Officer (ECO) services for the duration of the construction phase, for one of the first facilities selected for the Department of Energy's preferred bidder status.
- ✓ 2014 - 2015: Environmental Control Officer for the Waainek Wind Energy Facility: Finalise the Environmental Management Programme (EMPr) and provide ECO services for the duration of the construction phase for this

project. CES also undertook the pre-construction and operational phase bird and bat monitoring for this development.

- ✓ 2014 - to date: ENEL RSA: Environmental Control Officers (ECO) for the Nojoli Wind Farm outside Cookhouse, Eastern Cape; the Gibson Bay Wind Farm outside Humansdorp; the Paleisheuvel Solar Plant, Pieketberg, Western Cape; and the Tom Burke Solar Plant, Western Cape. These services include the permanent deployment of ECOs to all sites for the duration of the construction phase. On behalf of the owners team CES ensured that all contractors complied with the Environmental Authorisation and EMP.
- ✓ 2019-2020: Environmental Control Officer (ECO) for the Wesley Wind Energy Facility, Hamburg, Eastern Cape.

## Miscellaneous Environmental Advisory Projects

- ✓ 2009: G7 Renewable Energy: Environmental Pre-feasibility assessment of 14 sites in South Africa considered for potential wind energy facilities.
- ✓ 2009: East London IDZ: Renewable Energy Feasibility Study for the Eastern Cape.
- ✓ 2014: Kouga Wind Energy Facility: Development of an Operational EMPr in line with IFC Performance Standards and Equator Principles.
- ✓ 2019: Wesley Wind Energy Facility.
- ✓ 2022: Nextgreen Environmental Pre-feasibility assessment of two sites in the Western Cape considered for potential solar PV energy facilities.



## E&S Due Diligence and compliance monitoring

- ✓ 2010-11: International Finance Corporation: E&S 2013: Pungwe 'B' Hydro-Electric Power Project, Zimbabwe: Environmental and social compliance review to IFC Standards of the EIA process for a proposed 15MW run-of-river hydroelectric project in the Honde Valley, north-eastern Zimbabwe.
- ✓ 2014 - 2018: Shiroro (Nigeria) and Kabompo Gorge (Zambia) hydropower stations: Lender's E&S Advisor to monitor Copperbelt Energy Corporation's compliance with E&S obligations under the loan agreement. The portfolio of projects includes the 700MW Shiroro hydropower facility (under CEC Africa) as well as the construction phase of the 40MW Kabompo Gorge facility.
- ✓ 2013: Redstone and Limestone solar power facilities: Two proposed 100MW solar concentrated power facilities near Postmasburg, Northern Cape Province of South Africa.
- ✓ 2012 - 2014: Ilanga Lethemba PV Solar Energy Facility: First phase of proposed 75MW solar energy facility in the Northern Cape Province, South Africa (2012), followed by a compliance review of the ESMS (2013).
- ✓ 2016: Chaba Wind Farm: Development of ESMS Manual Including OEMP and Aspects Register, Eastern Cape, South Africa.
- ✓ 2016 - 2017: Kouga Wind Farm: Conduct ESMS audit to ensure compliance as per the lender's requirements, Eastern Cape.
- ✓ 2018 - ongoing: Emerging Power Uganda, Uganda: E&S due diligence for this solar PV facility and power evacuation line. Subsequently appointed as Lender's E&S Advisor for the construction and operational phases.
- ✓ 2018: Metrowind, Van Stadens Wind Farm Compliance Audit: CES was commissioned to conduct an ESMS audit of the project, Kouga Local Municipality, Eastern Cape.
- ✓ 2020: Inteliuchem Land O Lakes Winfield Solutions Compliance Audit: CES was commissioned to conduct an ESMS audit of the project, Free State and Western Cape.
- ✓ 2022: EDF Renewables, Wesley, Chaba, Grassridge and Waainek WEF Compliance Audits: CES was commissioned to conduct ESMS audits for each of the project, Eastern Cape.
- ✓ 2023: 3E, Letsatsi Kgololesego PV ESDD Compliance Audit: CES was commissioned to conduct an ESMS audit of the project, Limpopo Province, South Africa
- ✓ 2023: Perdekraal WEF Compliance Audit: CES was commissioned to conduct an ESMS audit of the project, Breede Valley Municipality, Western Cape.

