

Annex B

## Details of Environmental Assessment Practitioner

# Stuart Heather-Clark

Partner, Impact Assessment & Planning



Stuart Heather-Clark is a Partner in the **Impact Assessment and Planning Team** within ERM Southern Africa based in Cape Town, South Africa.

Mr Heather-Clark's has over 20 years of experience in infrastructure, industrial, oil & gas and renewable energy related ESIA's and Strategic Environmental Assessments (SEA) throughout Africa. His experience has afforded him a sound understanding of the sustainability issues facing development in Africa. He has been involved in a number of internationally funded projects in Cameroon, Ethiopia, Zambia, Tanzania, Angola, Botswana, Namibia, Uganda and Mozambique. All of these projects involved interaction with lenders, developers, local stakeholders, including NGO's, government officials and local communities. Mr Heather-Clark has an in-depth understanding of the Equator Principles and IFC performance Standards.

Mr Heather-Clark has been involved in Environmental and Social Assessment and Management training and capacity building over the past 14 years. He has also facilitating numerous ESIA/SEA and EMS training courses for the World Bank, Universities and the private and public sector in South Africa and other African countries. More recently Mr Heather-Clark has been involved in developing and facilitating training courses on the Equator Principles and IFC Performance Standards for various sectors including various Financial Institutions.

## Professional Affiliations & Registrations

- Registered Professional Environmental Assessment Practitioner in South Africa
- International Association for Impact Assessment (IAIA) South Africa – Member

## Fields of Competence

- Environmental and social impact assessment
- Environmental and social management plans
- Environmental and Social Due Diligence
- Strategic environmental assessment
- Environmental and social screening studies
- Sustainability strategy and reporting
- Environmental Management capacity building

## Education

- BSc Civil Engineering – Univ. of Cape Town (1992)
- MPhil. Environ Science – Univ. of Cape Town (1996)
- Certification Course ISO 14001 SABS (1997)
- Environmental Conflict Management Course (1997)
- Advanced Environ Management Course (1997)
- Coastal Engineering Course (1998)
- Strategic Environmental Assessment Course (1998)

## Languages

- English
- Afrikaans

## Key Industry Sectors

- Infrastructure including ports and harbour developments
- Large industrial and infrastructure developments
- Oil and gas
- Renewable Energy

## Publications:

**Sep 2007:** Co-author of case study for IIEDs 'User Guide' to effective tools and methods for integrating environment and development. South African case study: *Role of environmental and social screening in informing the conceptual design and planning of large-scale projects in the pre-feasibility stage.*

**Aug 2003:** Author of a case study on the SEA for the Port of Cape Town, contained in "The Status and Potential of Strategic Environmental Assessment" by Barry Dalal-Clayton and Barry Saddler, DRAFT 17 September 2003.

**March 2002:** Strategic Integrated Port Planning: Moving from EIA to SEA. International Conference on Coastal Zone Management and Development, Kuwait 18 to 20 March 2002.

**Nov 2000:** Sustainable Port Development: Report on the preparatory seminar for Africa. 7<sup>th</sup> International Conference of the International Association for Cities and Ports, Marseilles – France.

**Mar 2000:** The development of Strategic Environmental Assessment in South Africa: Journal of Impact Assessment and Project Appraisal, Vol 18, Number 3, pg 217-223. September 2000.

**April 1999:** Integrating environmental opportunities and constraints into Port Planning, Development and Operation. 5<sup>th</sup> International Conference on Coastal and Port Engineering in Developing Countries, Cape Town, 19 to 23 April 1999.

## **SOUTH AFRICAN ESIA'S - ALL SECTORS**

### **Environmental and Social Impact Assessment for the Burgan Oil Fuel Storage Depot in the Port of Cape Town, Burgan Oil, South Africa, 2014-15**

Mr Heather-Clark was the project director for the ESIA for the Burgan Oil Fuel Storage Depot in the Port of Cape Town.

### **Environmental and Social Impact Assessment for the Expansion of Transnet's existing Manganese Ore Export Railway Line and Associated Infrastructure, South Africa, 2012.**

Mr Heather-Clark is the Project Director for the ESIA for the Expansion of Transnet's existing Manganese Ore Export Railway Line and Associated Infrastructure in the Northern and Eastern Cape, South Africa.

### **Environmental and Social Impact Assessment (ESIA) for the Gamsberg Zinc Mine, South Africa, Black Mountain Mine (Vedanta) 2012-13**

Mr Heather-Clark is the Project Director for the Environmental and Social Impact Assessment for a new Zinc Mine in the Northern Cape Province in South Africa. The ESIA includes the assessment of the mine and all associated infrastructure including waste rock dumps, tailing dams, processing plant, transmission lines, a new township development, upgrade of a water pipeline and associated water treatment facilities, and transport options to the Port of Saldanha via both road and rail. The ESIA is being undertaken as an integrative process to meet various environmental legal requirements including National Environmental Management Act (NEMA): EIA Regulations, NEM: Waste Act, NEM: Air Quality Act, NEM: Biodiversity Act, National Heritage Resource Act, National Water Act and the Minerals Petroleum Resources Development Act. The process includes various specialist studies, full stakeholder engagement as well as integration with a Biodiversity Off-sets process.

### **Environmental and Social Impact Assessment for Venetia Diamond Mine, De Beers, South Africa, 2011**

Mr Heather-Clark was the project director for the Scoping and ESIA for the proposed new underground mine and EMP consolidation for existing mining activities. The ESIA was undertaken as an integrative process to meet various environmental legal requirements including National Environmental Management Act (NEMA): EIA Regulations, NEM: Waste Act, NEM: Air Quality Act, NEM: Biodiversity Act, National Heritage Resource Act, National Water Act and the Minerals Petroleum Resources Development Act.

### **Environmental and Social Impact Assessment for a LPG import and distribution facility, Sunrise Energy, South Africa, 2011-2012**

Mr Heather-Clark was the Project Director for the Scoping/EIA for a LPG importation, storage and distribution facility which includes a marine offloading facility in Saldanha Bay, a pipeline and a storage facility. The environmental permitting process required the liaison with local and provincial environmental authorities, co-ordination of specialist studies, public participation and impact assessment.

### **EIA for a 380MW renewable energy facility north of Touwsrivier in the Western Cape, 2010-2011. Project Director**

ERM was commissioned to undertake a Scoping/EIA for a proposed renewable energy facility incorporating wind and photovoltaic power generating technologies. The environmental permitting process requires the liaison with local, provincial and national environmental authorities, co-ordination of specialist studies, public participation and impact assessment.

### **EIA for a 170MW renewable energy facility east of Touwsrivier in the Western Cape, 2010-2011. Project Director**

ERM was commissioned to undertake a Scoping/EIA for a proposed renewable energy facility incorporating wind and photovoltaic power generating technologies. The environmental permitting process requires the liaison with local, provincial and national environmental authorities, co-ordination of specialist studies, public participation and impact assessment.

### **EIA for a 670MW renewable energy facility south of Sutherland in the Western and Northern Cape, 2010-2011. Project Director**

ERM was commissioned to undertake a Scoping/EIA for a proposed renewable energy facility incorporating wind and photovoltaic power generating technologies. The environmental permitting process requires the liaison with local, provincial and national environmental authorities, co-ordination of specialist studies, public participation and impact assessment.

### **EIA for a 500MW renewable energy facility south of Beaufort West in the Western Cape, 2010-2011. Project Director**

ERM was commissioned to undertake a Scoping/EIA for a proposed renewable energy facility incorporating wind and photovoltaic power generating technologies. The environmental permitting process requires the liaison with local, provincial and national environmental authorities, co-ordination of specialist studies, public participation and impact assessment.

**EIA for a 120MW renewable energy facility south east of Victoria West in the Northern Cape, 2010-2011. Project Director**

ERM was commissioned to undertake a Scoping/EIA for a proposed renewable energy facility incorporating wind and photovoltaic power generating technologies. The environmental permitting process requires the liaison with local, provincial and national environmental authorities, co-ordination of specialist studies, public participation and impact assessment.

**Basic Assessment for the installation of wind measuring masts on six sites in the Western Cape and two sites in the Northern Cape, 2010. Project Director**

ERM was commissioned to undertake Basic Assessments to install wind measuring masts at eight sites in South Africa. The scope of work included the submission of the application, public participation, preparation of an EMP and submission of the Basic Assessment report.

**Environmental and Social Impact Assessment for two solar farm (pv) development, South Africa, 2010**

Mr Heather-Clark was the Project Director of the EIA for the development of two solar power farms (photovoltaic cell plants) in the Northern Cape and Free State Provinces of South Africa. ERM undertook the required studies to obtain environmental approval for these developments, including specialist studies such as landscape and visual and cultural heritage assessments, and stakeholder engagement.

**EIA for a 225MW wind farm in the Richtersveld, Western Cape, 2011. Project Director**

ERM was commissioned to undertake a Scoping/EIA for a proposed wind farm. The environmental permitting process requires the liaison with local, provincial and national environmental authorities, co-ordination of specialist studies, public participation and impact assessment.

**EIA for a 750MW wind farm in the Roggeveld, Western Cape and Northern Cape, 2011. Project Director**

ERM was commissioned to undertake a Scoping/EIA for a proposed wind farm. The environmental permitting process requires the liaison with local, provincial and national environmental authorities, co-ordination of specialist studies, public participation and impact assessment.

**EIA for a 225MW renewable energy facility between Vredenburg and Velddrif in the in the Western Cape, 2010-2011. Project Director**

ERM was commissioned to undertake a Scoping/EIA for a proposed renewable energy facility incorporating wind and photovoltaic power generating technologies. The environmental permitting process requires the liaison with local, provincial and national environmental authorities, co-ordination of specialist studies, public participation and impact assessment.

**EIA for a 100MW renewable energy facility north of Velddrif in the in the Western Cape, 2010. Project Director**

ERM was commissioned to undertake a Scoping process for a proposed renewable energy facility incorporating wind and photovoltaic power generating technologies. The environmental permitting process required the liaison with local, provincial and national environmental authorities, co-ordination of specialist studies and public participation.

**EIA for a 300MW renewable energy facility east of Lambert's Bay in the Western Cape, 2010. Project Director**

ERM was commissioned to undertake a Scoping process for a proposed renewable energy facility incorporating wind and photovoltaic power generating technologies. The environmental permitting process required the liaison with local, provincial and national environmental authorities, co-ordination of specialist studies and public participation.

**Environmental and Social Impact Assessment for the services corridor associated with the development of a greenfield CTL Plant, Sasol, South Africa, 2009**

Mr. Heather-Clark was the Project Director for an ESIA of a services corridor to support the development of a greenfield CTL plant development in South Africa. The ESHIA process was conducted in accordance to the South African EIA Regulations and the IFC performance standards.

**Environmental Assessment for the dredging and disposal of dredge spoil at the Port of Saldanha, Transnet, South Africa, 2008**

Mr Heather-Clark was the Project Director for this project and was responsible for guidance of technical studies which included dredging studies and marine sediment contamination characterization. The study included the assessment of dredge spoil dumping alternatives. Stakeholder engagement included an important component of the project.

**Environmental and Social Impact Assessment for the upgrade of a 1100 km railway line in South Africa, Transnet, 2008- 2009**



Mr Heather-Clark was the Project Director for the Environmental and Social Impact Assessment for the upgrade of a commodities railway line across South Africa. The project included a number of specialist studies, managing subcontractors, interfacing with the railway engineering team, report writing, managing an extensive stakeholder consultation process, client liaison and management of project finances.

**EIA for a Metal Recovery Plant and Slag Crushing, Screening and Weathering facility at Arcelor Mittal Saldanha Works, MultiServ, South Africa, 2007 – 2008.**

As Project Director, Mr Heather-Clark was responsible for client liaison, quality control and final review of all reports. The project involved undertaking an EIA, including a public consultation process and the following specialist studies: air quality, groundwater, noise impact assessment, botanical and archaeology studies and a traffic impact assessment.

**EIA for the upgrade and expansion of the existing sinter plant at Vanderbijlpark, ArcelorMittal, South Africa, 2006**

Mr. Heather-Clark was the Project Director for the EIA and stakeholder engagement process to meet South African requirements. This included coordination of the technology review, air quality, health and waste management specialist studies and compilation of the integrated Scoping and EIA Report.

**EIA of a proposed expansion of the Container Terminal Stacking area at the Port of Cape Town, National Ports Authority, South Africa, 2003-2004**

Mr Heather-Clark was the project manager for this EIA. The project included the expansion of the Cape Town container terminal into the sea through dredging 1 million m<sup>3</sup> of material for reclamation. The project included a detailed study on alternative sources for fill material and other studies which focused on marine archaeology, coastal erosion, marine hydrodynamics and water quality, visual, noise and traffic. The EIA included full stakeholder engagement throughout the EIA process.

**Environmental Impact Assessment for the Eskom SABRE-GEN wind turbine test facility, Eskom, South Africa, 2002**

Mr Heather-Clark was the project manager for the EIA. The EIA included stakeholder engagement throughout the process and included the following specialist studies: visual assessment, bird strike modelling and noise assessment.

**Scoping Phase of the Environmental Impact Assessment for the expansion of the Container Terminal at the Port of Cape Town, Portnet, South Africa, 2000**

Mr Heather-Clark was the Project Manager for the EIA for the expansion of the container terminal at the Port of Cape Town. The project included the dredging of 1 million m<sup>3</sup> dredge material to provide fill for the expansion of the port. Specialist studies that were required included coastal dynamic modelling, hydrodynamic modelling to assess water quality issues associated with dredging, marine archaeological issues, marine ecology issues, traffic, visual and noise.

**ESIA IN OTHER AFRICAN COUNTRIES - ALL SECTORS**

**Environmental and Social Impact Assessment for the Batoka Gorge Hydropower Project, ZRA, Zambia/Zimbabwe, 2014-15**

Mr Heather acted as advisor to the ESIA team undertaking the Environmental and Social Impact Assessment (ESIA) for the proposed Batoka Gorge Hydropower Plant on the Zambezi River below the Victoria Falls. The project includes the construction of a dam wall, hydropower plants, transmission lines and associated infrastructure. The ESIA is being conducted in alignment with the IFC Performance Standards and the World Bank Safeguard Policies.

**Environmental and Social Impact Assessment for the Tete-Macuse Railway Line and Macuse Power Development, Italthai, Mozambique, 2014-15**

Mr. Heather-Clark was the Project Director for the Environmental and Social Impact Assessment (ESIA) for the proposed Tete-Macuse railway line and Macuse Port development for the export of coal from Tete Province in Mozambique. The project includes the development of over 700km of railway line and a new port development.

**Environmental and Social Impact Assessment for the Rehabilitation of the Kariba Dam Wall, ZRA, Zambia/Zimbabwe, 2014-15**

Mr. Heather-Clark acted as the Project Director for the Environmental and Social Impact Assessment (ESIA) for the proposed Kariba Dam Rehabilitation Project. The project includes the rehabilitation of the plunge pool and spillway of the dam wall. The project is being funded by the World Bank, African Development Bank and the EU.

**Environmental and Social Impact Assessment for the Lesotho Highland 150 MW Wind Power Project, Breeze Power, Lesotho, 2011**

Mr Heather-Clark was the Project Director for the Scoping Phase of the Environmental and Social Impact Assessment for a 150MW wind farm development in Lesotho. The Scoping Phase included the analysis of available information to identify key environmental and social risks associated with the siting of the wind farm.

**Environmental and Social Impact Assessment for the upgrade of the Principe Airport, HBD, Principe, 2011-2012**

Mr Heather-Clark was the Project Director for the Environmental and Social Impact Assessment for the upgrade of the airport in Principe.

**Environmental and Social Impact Assessment for a river barging project on the Zambezi River, Riversdale Mining, Mozambique, 2010-2011**

Mr Heather-Clark was the Project Director for the project which includes the assessment of environmental and social impacts associated with dredging over 500km of the Zambezi River. The project includes full stakeholder engagement, coordination of various specialist studies with extensive field work and the integration of all information into an ESIA report and ESMP.

**Environmental and Social Impact Assessment for 2D seismic exploration project in the Rovuma Basin, Petronas, Mozambique, 2009**

Mr Heather-Clark was the Project Director for the ESIA for the offshore seismic exploration activities in Blocks 3 & 6, situated in the Rovuma Basin off the coast of Mozambique. The exploration activities comprise 2D seismic surveys in deepwater.

**ESIA for an Early Production System (EPS) and Power Plant for Kaiso-Tonya Area, Exploration Area 2, Tullow Uganda Operations Pty Ltd, Uganda, 2007/8**

Mr Heather-Clark was the Project Director for the project which included a full ESIA for an Early Production System and associated Power Plant in the Kaiso-Tonya area on the banks of Lake Albert, Uganda. The intent of the project is to produce oil (and small amounts of gas) which will be converted into electrical power and distillate products (kerosene and diesel) for consumption within Uganda. The electrical power will be fed into the main grid supplementing the Ugandan electrical power grid while the distilled products (diesel and kerosene) will be used to displace the currently imported fuels. The ESIA included a detailed assessment of alternative sites for the proposed EPS and

power plant, together with various environmental and social baseline studies and stakeholder engagement.

**ESIA for a new high voltage overhead transmission power line in Cameroon, AES Sonel, Cameroon, 2007-2009**

The project included co-ordinating a multidisciplinary team to undertake an Environmental and Social Impact Assessment and a full Resettlement Action Plan, for a new electricity distribution project, comprising a 113km overhead power line, for AES Sonel. As Project Director, Mr Heather-Clark was responsible for client liaison, quality control and final review of all reports.

**ESIA monitoring studies for Sasol's Off-shore gas exploration activities in Inhambane and Sofala Provinces, Mozambique, Sasol Petroleum Sofala & Empresa Nacional de Hidrocarbonetos, 2007/8**

Mr Heather-Clark directed an extensive environmental monitoring survey programme for Sasol's offshore hydrocarbon exploration activities. Monitoring studies included seismic noise modelling and monitoring, dugong surveys, artisanal fish catch monitoring, coral reef surveys and monitoring, sea turtle monitoring and tourism monitoring.

**ESIA for seismic surveys and exploration well drilling and testing in Blocks 16 and 19 off the coast of Mozambique, Sasol Petroleum Sofala & Empresa Nacional de Hidrocarbonetos, 2005 - 2006**

Mr Heather-Clark was the Project Manager for the ESIA which involved undertaking an ESIA and compiling EMPs for offshore exploration activities in Blocks 16 & 19, situated to the east of the Bazaruto Archipelago National Park, off the coast of Mozambique. The exploration activities comprised 2D and 3D seismic surveys in deepwater and shallow water as well as exploration well drilling and testing activities.

**EIA of the Moatize Coal Mine and associated railway line and deep water port infrastructure, CVRD, Tete Province, Mozambique 2006-2007**

Mr Heather-Clark acted as the Project Coordinator and Cost Controller on this project. ERM was commissioned by CVRD, a Brazilian Mining Company, to undertake environmental studies related to the green fields development of a coal mine in Tete Province, Mozambique. The project included the development of a power plant, railway line and port for the export of coal.

**ESIA of the proposed seismic survey in licence area 2814a on the continental shelf of Namibia, Shell Exploration and Production Namibia B.V., Namibia, 2001**

Mr Heather-Clark was a team member of the ESIA for the offshore seismic exploration project. The ESIA included all issues associated with seismic surveys including seismic noise impacts on marine mammals, oil spill modelling and general environmental management issues.

**ESIA of the Phase 2 expansion of the Mozal Aluminium Smelter and Matola Port Terminal in Maputo, BHP Billiton, Mozambique, 2000-2001**

Mr Heather-Clark was the Project Manager and integrative writer for this ESIA. The EIA included an assessment of the expansion of the port terminal at the Port of Matola and a review of the Phase 2 expansion of the aluminium smelter. All reports together with the EIA process were reviewed and approved by the International Finance Corporation (IFC).

**Environmental Impact Review for the abandonment of the Cuntala Well Protector Platform off the coast of Angola (Block 2), Texaco Panama Inc., Angola, 2001**

Mr Heather-Clark was part of the project team who developed a decommissioning plan for a well protector platform off the coast of Angola.

**STRATEGIC ENVIRONMENTAL ASSESSMENT - ALL SECTORS**

**Strategic Environmental Assessment of the New Town Integrated Development Zone, TFM Mining, Katanga Province, DRC, 2014**

Mr Heather-Clark was Project Director for the Strategic Environmental Assessment of the New Town Integrated Development Zone undertaken for Tenke Fungurume Mining (TFM) in Katanga Province, DRC.

**Strategic Environmental Assessment for the supporting infrastructure for the Baynes Hydropower Project, Baynes PJTC, Namibia/Angola, 2014-15**

Mr Heather-Clark was Project Director for the Strategic Environmental Assessment of the associated infrastructure for the Baynes hydropower project. The SEA covered the assessment of access roads for construction, transmission lines routing in Angola and Namibia and locations of an airfield.

**Cumulative Impact Assessment of the development of numerous hydropower plants on the Cuanza River, Odebrecht, Angola, 2014-15**

Mr Heather-Clark was the Project Director for the Cumulative Impact Assessment of the development of a number of hydropower plant on the Cuanza River in Angola.

**Strategic Environmental Assessment for the Mozambican Regional Gateway Programme, MRGP, Mozambique, Malawi, Zambia, Zimbabwe, 2012**

Mr Heather-Clark was the Partner Director for the SEA of the MRGP. The MRGP aims to support the improvement of the Southern African transport (roads, rail and ports), regional infrastructure network, which uses Mozambique as a gateway for international trade. The MRGP geographic scope encompasses the Beira and Nacala Transport Corridors and the respective links to the Maputo and Limpopo Corridors. The SEA identified environmental and social issues that need to be considered in the long terms planning an implementation of the rail and port infrastructure that makes up the Beira and Nacala Transport Corridors.

**Strategic Environmental Assessment (SEA) for the coastline of Mozambique, MICOA, Mozambique 2012**

Mr Heather-Clark is an advisor on the SEA for the coast of Mozambique. The SEA aims to identify potential conflicts between various uses of the coastal zone and to recommend strategic interventions to facilitate sustainable development within the coastal zone. Various users of the coastal zone that are being considered include off-shore oil and gas operations, coastal mining, tourism, conservation and artisanal and industrial fishing.

**Strategic Environmental and Social Overview and ESIA for offshore exploration well drilling activities in Blocks 2 and 3A, Lake Albert, Uganda. Tullow Oil Plc and Heritage Oil and Gas Limited, 2006- 2008**

Mr Heather-Clark was Project Director for this project. The project involved undertaking a strategic overview study of Lake Albert that provided background information on the limnological (physical, chemical and biological) features of the lake as well as environmental and socio-economic resources (such as nature reserves, tourism nodes, prime fishing areas etc). It also presented areas of environmental risk and opportunity associated with oil explorations on, and immediately adjacent to, the lake. The strategic overview provided a framework within which ESIA were undertaken for the offshore drilling project. A site selection study was undertaken for onshore support infrastructure. Baseline studies included shoreline sensitivity mapping, oil spill modelling, water and sediment quality surveys, fish and fisheries surveys, socio-economic surveys and terrestrial ecology surveys. An extensive public participation process was undertaken as part of the ESIA's.



**Strategic Environmental Assessment (SEA) for the Port of Cape Town, National Ports Authority of South Africa, South Africa, 2003**

Mr Heather-Clark was the project manager for this project and played a lead role in directing the course and outcome of the SEA. The SEA focussed on key environmental and social opportunities and constraint to the future long term development of the Port of Cape Town. A Sustainability Framework was developed to address key opportunities and constraints and to set up long terms monitoring programs. A key component of this study was to understand the Port-City linkages and developing mechanisms to ensure that port planning was supported by city planning and visa-versa.

**Strategic Environmental Assessment (SEA) for the Port of Richards Bay, National Ports Authority of South Africa, South Africa, 2003**

Mr Heather-Clark was the project adviser for this project and played a lead role in directing the course and outcome of the SEA. The SEA focussed on key environmental and social opportunities and constraint to the future long term development of the Port of Cape Town. A Sustainability Framework was developed to address key opportunities and constraints and to set up long terms monitoring programs. A key component of this study was to understand the Port-City linkages and developing mechanisms to ensure that port planning was supported by city planning and visa-versa.

**Strategic Environmental Assessment: Scoping Phase Port of Richards Bay, National Ports Authority of South Africa, South Africa, 2002**

Mr Heather-Clark was the Project Leader and integrative writer for the Scoping Phase of the SEA for the Port of Richards Bay. This phase included detailed stakeholder consultation to identify opportunities and constraints to long term port development at the Port of Richards Bay.

**ENVIRONMENTAL AND SOCIAL SCREENING STUDIES - ALL SECTORS**

**Environmental and Social Screening Study for a Gas Power Plant, Confidential Client, South Africa, 2015**

Mr Heather-Clark was the Project Director for an Environmental and Social Screening study for the establishment of a gas power plant in South Africa. The screening study outputs included a permitting strategy, environmental opportunities and constraints maps, and input into the site selection process.

**Millennium Challenge Account – Malawi: Infrastructure Development Project – Energy Sector**

**(hydropower plants, transmission and distribution lines and substations), MCC, Malawi, 2014-15**

Mr Heather-Clark acted as the Independent Engineer to review all the Contracting Engineers environmental and social studies associated with the Infrastructure Development Project. The project includes the upgrade and development of new infrastructure including hydropower plants, transmission lines, distribution lines and substations.

**Environmental and Social Screening Study for port options in Pemba Bay, Anadarko, Mozambique 2012**

Mr Heather-Clark was the project lead for a Environmental and Social Screening Study for various port options in Pemba Bay. The screening study includes a multi-criteria assessment of various port locations taking into account marine and terrestrial ecology, social issues, land ownership, legal aspects and physical marine conditions.

**Ore Line Expansion Project for the Sishen-Saldanha Ore Line and Port of Saldanha, various Mining Companies and Transnet, South Africa 2011-2012**

Mr Heather-Clark is the Project Director for the Environmental and Social Screening Study for the Pre-feasibility Phase of the Ore Line Expansion Project. This included compiling a detail Environmental and Social Design Criteria Report together with initial Stakeholder Engagement. A detailed multi-criteria assessment for various port and stockpile options was undertaken. The project included upgrading over a 1000 km of railway line and upgrading the port facilities including stockpiles, stacker-reclaimers, conveyors and shiploading facilities. The stakeholder engagement process was specifically designed to obtain buy-in from stakeholder who were strongly apposed some components of the port and rail expansion.

**Environmental and Social Screening Study for a Mine development in Angola, Confidential Client, Angola 2011-2012**

Mr Heather-Clark was the Project Director for the Environmental and Social Screening Study for the Concept Phase for a new mine development in Angola. The study included identifying environmental and social risks to the project and costing a full ESIA according to IFC Performance Standards and Equator Principles.

**Environmental Screening Study for a Wind Farm Development in the Southern Cape, South Africa, 2011**

Mr Heather-Clark is the Project Director for the Environmental Screening Study for a wind farm development in the Southern Cape.



**Environmental Sensitivity Study of the Durban Airport Site Expansion Project , South Africa, Transnet, 2010**

Mr Heather-Clark was the Project Director for the Environmental Sensitivity Study for the proposed dig-out port currently being considered by Transnet at the Durban International Airport Site. The aim of this assessment was to determine the biophysical, natural and social opportunities and constraints to the development of the dig-out port, as well as provide a strategic overview of the environmental context of the site. In addition, the sensitivity study provided strategic guidance in terms of the environmental due process and licensing requirements with respect to the National Environmental Management Act, and associated legislation.

**Environmental and Social Screening Study for a river barging project on the Zambezi River, Riversdale Mining, Mozambique, 2009**

Mr Heather-Clark was the Project Director for the project which included the assessment of environmental and social risks associated with dredging over 500km of the Zambezi River. The project included reviewing existing information, mapping key sensitivities and facilitating a specialist workshop in order to develop Terms of Reference for detailed baseline studies that will be required should the project proceed to a full ESIA.

**Environmental and Social Screening Study, Port of Saldanha, Transnet, South Africa, 2008.**

Mr Heather-Clark was the Project Director for the screening study which included an assessment of alternative berth options for the export of iron ore at the iron ore terminal at the Port of Saldanha, South Africa. The work included ongoing interaction with the port engineering and design teams, together with stakeholder engagement.

**Environmental and Social Baseline Assessment for a green fields coal mine and CTL plant development, Sasol, South Africa, 2008**

Mr. Heather-Clark was the Project Director the environmental and social baseline studies to support the evaluation of sites for potential development of a green fields coal mine and associated CTL Plant in South Africa. Mr. Heather-Clark has assisted with review and quality control of the various baseline studies.

**Environmental and Social Screening and Qualitative Risk Assessment Western Ports and Rail Corridor, Transnet, South Africa, 2007**

As Project Director, Mr Heather-Clark was involved in identifying environmental and social risks associated with future port development in the Port of Saldanha, Port of Cape Town and Port of Mossel Bay. The scope of the study included the review of previous EIAs, SEAs and other planning documents to identify environmental and social drivers and assess their risk to future port planning, development and operations. As the environmental team, ERM interacted on a regular basis with the port engineering and design teams to develop a port development framework for a 30 year planning period.

**Environmental and Social Screening and Qualitative Risk Assessment Central Ports and Rail Corridor, Transnet, South Africa, 2007**

As Project Director, Mr Heather-Clark was involved in identifying environmental and social risks associated with future port development in the Port of East London, Port of Port Elizabeth and Port of Ngqura. The scope of the study included the review of previous EIAs, SEAs and other planning documents to identify environmental and social drivers and assess their risk to future port planning, development and operations. As the environmental team, ERM interacted on a regular basis with the port engineering and design teams to develop a port development framework for a 30 year planning period.

**Environmental and Social Screening and Qualitative Risk Assessment Eastern Ports and Rail Corridor, Transnet, South Africa, 2007**

As Project Director, Mr Heather-Clark was involved in identifying environmental and social risks associated with future port development in the Port of Durban and Port of Richards Bay. The scope of the study included the review of previous EIAs, SEAs and other planning documents to identify environmental and social drivers and assess their risk to future port planning, development and operations. As the environmental team, ERM interacted on a regular basis with the port engineering and design teams to develop a port development framework for a 30 year planning period.

**Environmental Site Suitability Study for a manganese smelter, Asia Minerals Limited, 2004**

Mr Heather-Clark was part of the project team that undertook a preliminary site selection process for a manganese smelter by identifying key environmental and social issues for potential sites within Southern Africa. Sites included the Belualane Industrial Park (Mozambique) and Richards Bay, the Coega Industrial Development Zone (IDZ) and Saldanha (South Africa).

**Environmental screening study for the establishment of a deep-water port at Ponta Dobela, Confidential Client, Mozambique, 2001**

Mr Heather-Clark was a member of the project team who undertook a screening study to identify environmental, social and economic issues and show stoppers associated with the development of a deep-water port on the coast on Mozambique.

**ENVIRONMENTAL AND SOCIAL DUE DILIGENCE AND TRAINING**

**Environmental and Social Gap Analysis for a 98 MW wind farm in South Africa, Confidential Client, South Africa, 2015**

Mr Heather-Clark was the Project Director for the ESDD.

**Environmental and Social Gap Analysis for a 2 x 75 MW solar pv farm in South Africa, Confidential Client, South Africa, 2015**

Mr Heather-Clark was the Project Director for the ESDD.

**Environmental and Social Due Diligence (ESDD) for a 74 MW wind farm in South Africa, Confidential Client, 2015**

Mr Heather-Clark was the Project Director for the ESDD.

**Equator Principles and IFC Performance Standards Training, Vedanta Resources Plc, Zambia 2012**

Mr Heather-Clark was the lead facilitator of a 5-day training course on the implementation of the Equator Principles and IFC Performance Standards for a number of Vedanta's mining operations across Southern Africa, Europe and Australia.

**Environmental and Social Due Diligence for a Wind Farm Development in Coega, Electrawinds, South Africa, 2011**

Mr Heather-Clark is the Project Director for the Environmental and Social Due Diligence for a wind farm development in the Coega.

**External adviser and reviewer for an ESIA for a wind farm development in the Eastern Cape, Confidential Client, South Africa, 2010**

Mr Heather-Clark is acted as adviser and reviewer for an EIA for the development of a wind farm in the Eastern Cape.

**Environmental Advisor Environmental and Social Impact Assessment for the Mphanda Nkuwa Hydropower Project in Mozambique, 2010**

Mr Heather-Clark was appointed to act as advisor for the ESIA for the Mphanda Nkuwa Hydropower Project in Mozambique. The core service was to advise the project team on international standards such as the IFC Performance Standards and World Commission on Dams.

**Equator Principled and IFC Performance Standards Review and Training, African Housing Solutions, South Africa, 2009**

ERM was appointed to review and ESIA and Resettlement Policy Framework, for a housing development in Nigeria, against the Equator Principles and IFC Performance Standards. Mr Heather-Clark was responsible for reviewing the ESIA Report and for presenting a 2 ½ day training course on the Equator Principles and IFC Performance Standards.

**Advisor to the Environmental and Social Impact Assessment for the Baynes Hydropower Project in Namibia and Angola, 2009.**

Mr Heather-Clark was the Project Advisor for the Environmental and Social Impact Assessment for the proposed Baynes Hydropower Project on the Kunene River. The ESHIA process is being conducted in accordance to the Angolan EIA Regulations, the Namibian EIA Regulations, the World Bank Safeguard Policies and the IFC performance standards.

**Implementation of the Equator Principles for Standard Bank's Project Financing Processes, Standard Bank, South Africa, 2008**

ERM was commissioned to assist Standard Bank in adopting the Equator Principles. ERM developed an assessment system (based on the IFC Performance Standards) to link with Standard Bank's project finance transaction life-cycle. This involved the development of "tools" and guidance documents to form a system, together with training on the use of the system for all project finance staff. Mr Heather-Clark was one of the lead facilitators who undertook the training component of this project.

**Independent Environmental Advisers to the Financing Parties of the Gautrain Rapid Rail Link project, Bowman Gilfillan. 2006**

Mr Heather-Clark acted was appointed by The Bombela Consortium as Independent Environmental Advisers as to the Financing Parties. He provided review and advisory services through Bowman Gilfillan on Environmental Management Plans for the Gautrain Rapid Link project.

**Development of guideline document for the integration of environmental and social issues into the**

**project lifecycle for mine development, De Beers, South Africa, 2008**

Mr Heather-Clark was part of the project team that assisted the client in developing a detailed guideline document for the integration of social and environmental issues into mine planning. This included all phases of the planning process from Concept through to Pre-feasibility, Feasibility and Implementation. Mr Heather-Clark, as lead facilitator, presented a 2 day training course on these guidelines, to mine planners and engineers.

**Comparative review of EIAs undertaken by ERM globally for electricity utilities, Eskom, South Africa, 2007**

Mr Heather-Clark was Project Director for this project. The project included research to provide Eskom with an overview of different EIA governance systems and approaches to managing EIAs in other countries, as well as identifying trends in EIA practice.

**Corporate Social Responsibility Strategy development for a leading South African retailer, South Africa, 2006**

Mr Heather-Clark was the lead facilitator for this project. The project involved identifying and prioritising the company's sustainability issues and defining a strategy to address these issues. The process was driven by the need for the company to be listed on the Johannesburg Stock Exchanges SRI Index.

**Review of Sustainability Report and Sustainability Management System, Confidential, South Africa, 2004**

Mr Heather-Clark played a lead role in reviewing the Sustainability Report of a leading retailer in South Africa and providing adhoc advice on sustainability issues. This included compiling a monthly news letter to staff on relevant sustainability issues facing the retail industry in South Africa.

**EIA/SEA Capacity Building, Environmental Public Authority (EPA), State of Kuwait, 2003**

Mr Heather-Clark was the lead facilitator for a 2 day training course on SEA and EIA for the Environmental Public Authority (EPA) of the State of Kuwait.

**Training Workshop on Strategic Environmental Assessment for South Eastern Africa and the Western Indian Ocean Island States, SEACAM, Mozambique, 2003**

Mr Heather-Clark was the lead course facilitator for the SEA training course funded by SEACAM. The training course included the principles of SEA, SEA process and case studies of SEA's in Southern Africa.

**Improving the Effectiveness of EIA and the Potential of SEA in Southern Africa: Case Study on SEA of the National Commercial Ports Policy and SEA for the Port of Cape Town, World Bank/SAIEA, Namibia, 2003.**

Mr Heather-Clark was invited to present two case studies on SEA at a regional workshop funded by the World Bank and SAIEA.

**Due Diligence of the Phase 2 Maputo Port Revitalisation and Rehabilitation Project, Standard Corporate Merchant Bank, Mozambique, 2003**

Mr Heather-Clark acted as the Environmental Adviser to the Standard Corporate Merchant Bank for the review of the EIA and Risk Assessment studies undertaken for the Phase 2 Maputo Port Revitalisation and Rehabilitation Project. The EIA was reviewed against the Mozambican and International Best Practice guidelines and detailed recommendation made on how to manage the environmental risks associated with the revitalisation project.

**Environmental Audit and Assessment of the Socio-economic Impacts of the Trans-Kgalagadi Highway, Botswana, Development Bank of Southern Africa, Botswana, 2002**

Mr Heather-Clark played a lead role in reviewing the EIA and EMP implementation for the Trans-Kalagadi corridor in Botswana. The review included site visits, detailed interviews and review of secondary data and records.

**World Bank EIA Project Management Training Course, World Bank/SAIEA, Zambia, 2002**

Mr Heather-Clark was the lead facilitator for the 5 day EIA Project Management Training Course. The course was presented to 20 African delegates from southern Africa. The course focused on the practical aspects of EIA project management including budgeting and scheduling an EIA, contract negotiations with clients, managing specialist studies, managing the public participation phase and compiling an integrated EIA report. The course formed part of a Southern Africa capacity building initiative lead by the SAIEA.

**Ecologically Sustainable Industrial Development Programme, United Nations Industrial Development Organisation (UNIDO), Tanzania, 2002**

Mr Heather-Clark was part of a project team appointed to review the Industrial Development Strategy for Industrial Development in Tanzania. The focus of the project was to integrate environmental and social issues into the programme.



**White Paper on National Commercial Ports Policy, National Ports Authority, South Africa, 2002**

Mr Heather-Clark was coordinated the review of the White Paper on National Commercial Ports Policy for South Africa. The review focussed on the integration of environmental and social issues into the port planning process. Mr Heather-Clark made a formal submission and presentation to the Portfolio Committee on Transport in the South African Parliament.

**Environmental Liability and Risk Assessment for the Multi-Purpose Terminal at the Port of Saldanha, National Ports Operations, South Africa, 2002**

Mr Heather-Clark was the Project Manager for the project. The purpose of the project was to identify key environmental risks associate with the material handling at the Multi-Purpose Terminal at the Port of Saldanha.

**Environmental Overview of South Africa's major ports with special reference to future container terminal development, National Ports Authority Container Terminal Strategy, National Ports Authority, South Africa, 2002**

Mr Heather-Clark was appointed to undertake a comparative assessment of the relative environmental sensitivity of the seven commercial ports in South Africa with reference to future container terminal development. The study included a detail review of secondary environmental information of all the ports, the identification of specific environmental criteria and the use of these criteria to rank each port in terms of its sensitivity to future container terminal development.

**Review of the EIA undertaken for the Maputo Port Privatisation and Rehabilitation Project, Development Bank of Southern Africa (DBSA), South Africa, 2002**

Mr Heather-Clark was appointed as the Environmental Adviser to the Development Bank of Southern Africa to review the Phase 1 EIA for the Maputo Port Privatisation and Rehabilitation Project. The review was undertaken against the Mozambican EIA Regulations and International Best Practice.

**OTHER STUDIES**

**Research project on the effects of water scarcity on the fresh produce supply to a major South Africa retailer, South Africa, 2006**

As Project Leader Mr Heather-Clark coordinated a group of researchers to identify water scarce areas and to plot these against the location of fresh produce suppliers for a major retailer in South Africa. This researched form a core component of the companies Sustainability Strategy.

**DFID funded project to assess progress towards meeting the water relater targets of the Millennium Development Goals, DIFD, Zambia, 2004**

Mr Heather-Clark was the Country Coordinator for Zambia on this project. The project included detailed stakeholder surveys secondary data analysis to establish the countries progress towards meeting the Millennium Development Goals, specifically related to water supply and sanitation.

**Roll-out of ISO14001 and OHSAS18001 management systems to 2 industrial sites in South Africa, Confidential, South Africa, 2004.**

As Project Manager Mr Heather-Clark was responsible for undertaking ISO14001 training at two industrial sites. The project formed part of a global initiative to have several industrial sites throughout Africa and Europe ISO14001 certified.

**National Oil Spill Contingency Plan for Cameroon, funded by the World Bank, Cameroon Government, Cameroon, 2003**

Mr Heather-Clark was part of the team that compiled a comprehensive Oil Spill Contingency Plan for Cameroon (OSCP). The OSCP form a core component of the Chad Cameroon Pipeline and included contingency plans for both onland and marine based spills. The OSCP was compiled according to the IPEACA guidelines and was reviewed by the World Bank.

**Oil Spill Contingency Plan, Agip Angola oil operations, Angola, 2002**

Mr Heather-Clark was a member of the team to develop an oil spill contingency plan according to the IPEICA International Guidelines.

**Legal, Technical and Economic Feasibility Study for the Commercialisation of the SSF Association Milnerton Tank Farm and its links to the Port of Cape Town, SFF, Cape Town, 2001**

Mr Heather-Clark was the Project Manager for this project.

**Presentations and Lectures**

- 2014: EIA Project Management Course. University of Freestate, South Africa. Masters Course.
- 2013: EIA Project Management Course. University of Freestate, South Africa. Masters Course.
- 2012: EIA Project Management Course. University of Freestate, South Africa. Masters Course.
- 2011: EIA Project Management Course. University of Freestate, South Africa. Masters Course.
- 2011: EIA Project Management Course, Impacto, Mozambique.



- 2010: EIA Project Management Course. University of Freestate, South Africa. Masters Course.
- 2009: EIA Project Management Course. University of Freestate, South Africa. Masters Course. Equator Principles and IFC Performance Standards Training
- 2008: EIA Project Management Course. University of Freestate, South Africa. Masters Course.
- 2007: EIA Project Management Course. University of Freestate, South Africa. Masters Course.
- 2006: Corporate Social Responsibility course to University of Cape Town Masters Students
- 2005: Corporate Social Responsibility course to University of Cape Town Masters Students  
EIA Course presenter to Masters Students at the University of the Freestate. A 3 day course focusing on EIA Project Management  
EIA Course presenter to Masters Students at the University of the Western Cape
- 2004: SEA course facilitator and presenter. Training workshop in Mozambique on Strategic Environmental Assessment for the countries of eastern Africa and the Western Indian Ocean Island States, funded by SEACAM.2004: Course facilitator for the EIA Project Management Course at the University of Freestate and University of Stellenbosch. Course facilitator for the EIA Project Management Course at the University of Freestate and University of Stellenbosch.
- 2003: Guest Speaker at the "Successfully Conducting Environmental Impact Assessments" conference held in Midrand on the 24 to 26 November 2003. Presented a paper titled "Moving from EIA to SEA: Proactive integration of biophysical, social and economic issues into the planning stages of the development cycle.
- 2003: Presenter for the IAIA International SEA Training Course for China funded by the World Bank: Presented the case study of the SEA for the Port of Cape Town (Video presentation).
- 2002: Various presentations on environmental assessment and management to Peninsula Technikon, Univ. of Stellenbosch (Planning, Environmental and Public Admin Departments), and Univ. of Free State, Amatola District Council.
- 2001: Various presentations on environmental assessment and management to Cape Tech, Pen Tech, Univ. of Stellenbosch, Univ. of Cape Town and Univ. of Free State.
- 2000: Introductory Course on Environmental Impact Assessment and Management, presented to the Ethiopian Environmental Protection Authority and other regional authorities – Dire Dawa and Harar, Ethiopia. Various EIA/SEA presentations to Cape Tech, Univ. of Stellenbosch and Univ. of Free State.
- 1999: Introductory Course on Environmental Impact Assessment and Management, presented to the Ethiopian Environmental Protection Authority - Addis Ababa, Ethiopia.
- 1999: Various Integrated Environmental Management courses presented to the Department of Health - EIA process and regulations.