



ENERGY PORTFOLIO CAPABILITY STATEMENT





Our energy and renewables portfolio at a glance

Our MPAMOT Africa Energy team provides innovative solutions to the challenges facing the Energy sector. With a 25-year legacy as a leading engineering and development consultancy with nearly 200 professional engineers, and specialists, we are often the service provider of choice for renewables engineering projects in Africa.

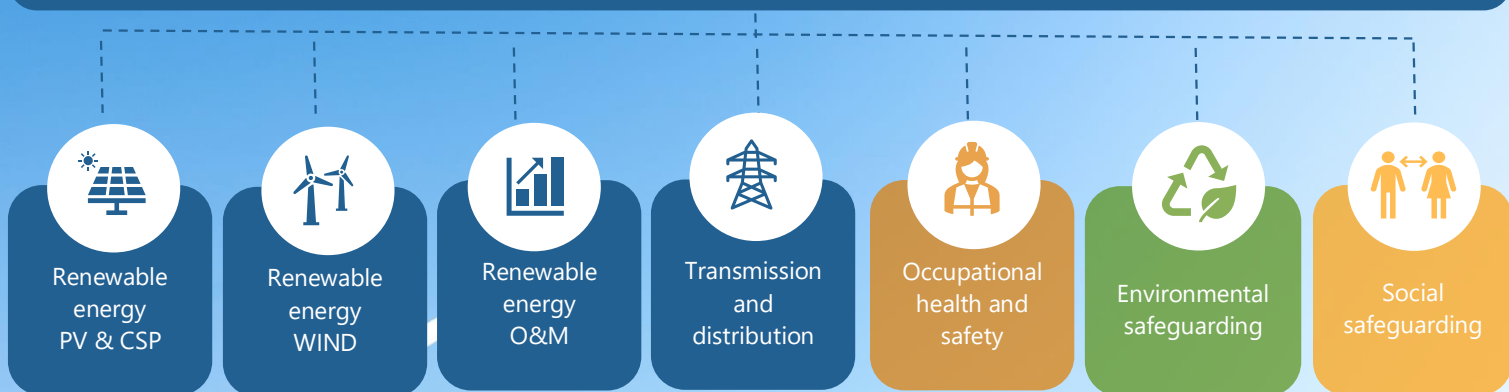
MPAMOT has been involved as owners' engineers or as lender technical advisors during construction and operations of a range of flagship projects in South Africa including 23 Wind projects implemented during the South African Department of Energy's Renewable Independent Power Producer Programme (REIPPP) round 1 to 4. We have also been involved in 20 solar PV and 7 CSP projects and in projects in various SADC countries, including Namibia and Malawi.

As a consultancy with home-grown talent and access to global experience we have the ability to draw on a range of skills and insights from experience and international best practice. We are not only providing innovative technical solutions, commercial and transaction insights but also provide in house health and safety, environmental and social specialists. In this regard, MPAMOT's ability to apply broad-ranging multi-disciplinary team with local and international experience gives us a decisive edge when it comes to analyzing problems and producing creative, sustainable solutions. This, as well as our understanding of sustainability provides added value on projects.



Our portfolio of services

Delivering value through energy



Renewable energy

Transmission

OHS

Environmental

Social

Lenders Technical Advisory, Project Advisory, Feasibility Studies, Procurement, Construction Monitoring, Commissioning, Operational Monitoring, Asset Management and Programme Management



Our MPAMOT Energy team has contributed to and led a wide range of flagship Energy projects in Africa. Every project has an impact and makes a significant contribution to addressing climate change risk and providing energy solutions to partners and communities. This is possible because we offer a one-stop-shop with support from our multidisciplinary team.

We look forward to learning more about your project and exploring ways to assist you with Energy design and independent power producer solutions.



Bradley Duncan,
Energy Portfolio Director
Email: BradleyD@mpamot.com



Our energy management team

Our highly experienced and diverse multi-disciplinary energy team has both local homegrown insight, and global experience that enable us to drive a full one-stop-end-to-end service throughout the energy project lifecycle.

Our team provides both renewable energy, energy generation, transmission and distribution and power system studies. In addition, we provide in-house specialists that provide health safety, security, environmental and social safeguarding.



Gerald Francis
Wind and O&M Project Principal



Walter Nxumalo
Power and Transmission Technical Lead



Kader Johnsen
Project and programme management



Terence Pillay
Health, safety, and security lead



Anel Grant
Environmental safeguarding lead



Thea Weeks
ESG and communication lead



Our services

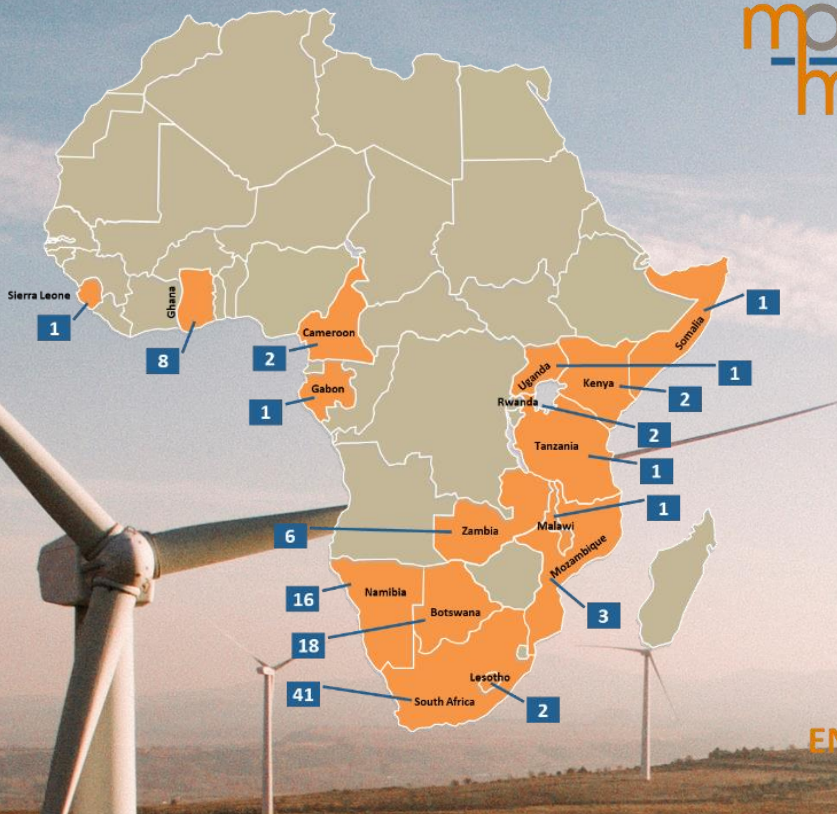
Our team provides a range of services throughout the project life cycle. We support investors, owners, banks, and funders as well as the public sector and contractors or suppliers. The following table illustrates our service offering across the spectrum

Services	Owners Investors	Governments Utilities	Contractors Suppliers	Banks Funders
Project identification	✓	✓		✓
Feasibility pre-investment studies	✓	✓		✓
Engineering design		✓		
Procurement services	✓	✓		
Construction supervision	✓	✓		✓
Project management	✓	✓	✓	✓
Contract administration	✓	✓		
Environmental and social studies	✓	✓	✓	✓
Grid Inter-connection studies and design	✓	✓		
Energy storage and hybridisation	✓	✓		✓
Due diligence and appraisals	✓	✓		✓
Economic and financial analysis	✓	✓	✓	✓
Conditional assessment / refurbishment	✓	✓	✓	





Our footprint of past projects



ENERGY



ENVIRONMENTAL & SOCIAL



ENERGY PORTFOLIO

Renewable energy





Renewable energy: Solar PV

These are some of our solar PV project highlights. More details are available upon request.

PV

1087⁺ MW

Storage 39.5 h

20⁺ PV

Projects

8 Development

10 Operational

2 Awarded

Type of contract

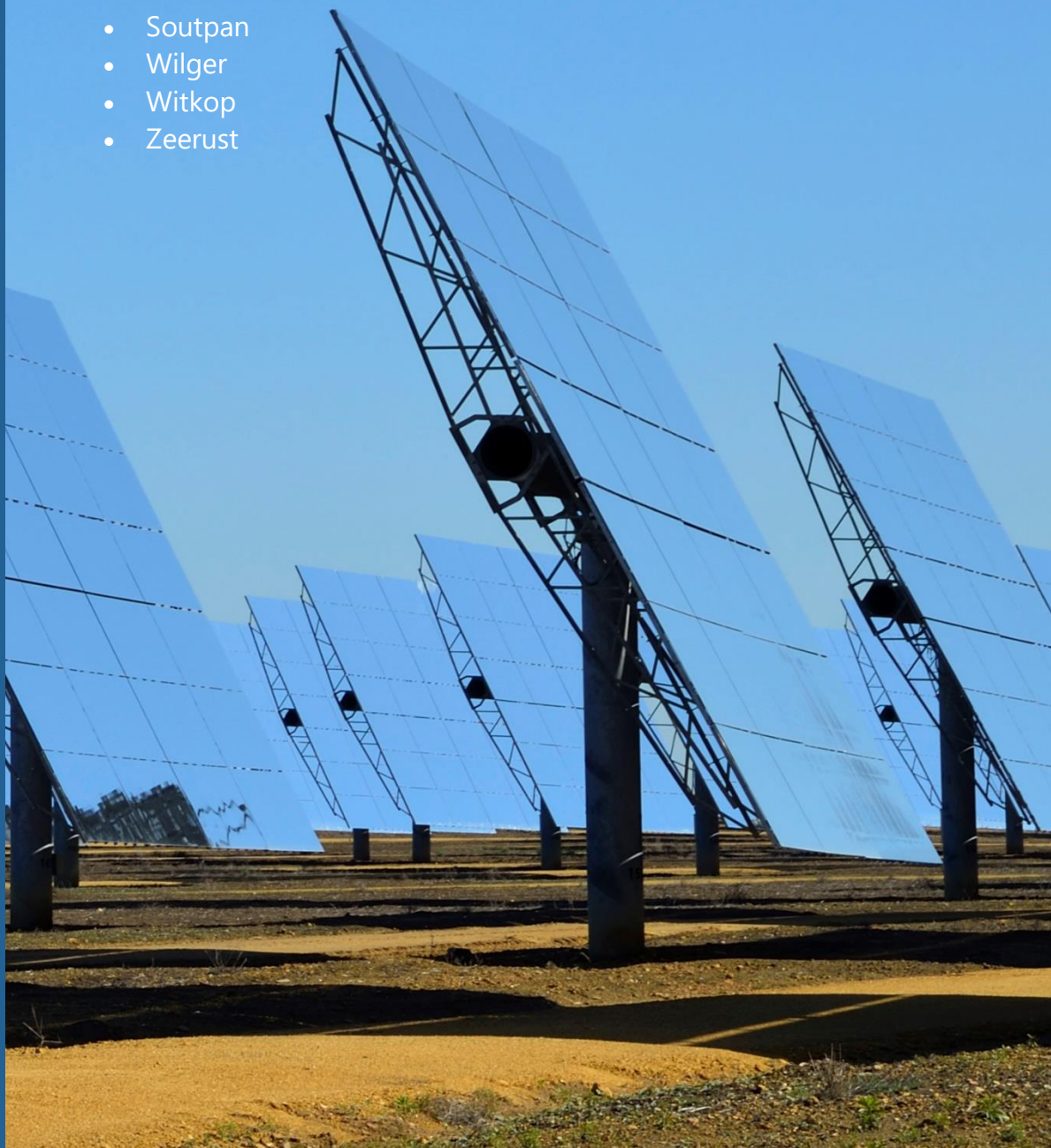
6 OEs

8 LTA

3 FESIR

3 EIA

- Arriesfontein
- Boshof
- Coega
- De Aar 1
- De Aar 3
- DeWildt
- FMO Bokpoort
- Hydra
- 4 sites Kruger NP
- Nokukhanya
- San Solar
- Soutpan
- Wilger
- Witkop
- Zeerust





Key projects



Project: Lethabo, Majuba, Arnot, Tutuka, Duvha PV Projects
Location: South Africa
Client: Eskom
Expertise: PV Owners Engineer
Role: Owner's engineer and feasibility study development



Project: Omburu PV 20 MW
Location: NamPower
Client: NamPower
Expertise: Owner's engineer; Construction supervision and contract management
Role: Owner's engineer; Successful development and procurement support, Construction supervision and contract management. And Operations Monitoring



Project: Zeerust 75MW PV & DeWildt 50MW PV
Location: Zeerust
Client: ACED
Expertise: Owners Engineers
Role: Owners Engineers and construction supervision, commissioning, O&M monitoring.



Project: Nkhotakota Solar PV
Location: Malawi
Client: Mott MacDonald, US DFC
Expertise: Lenders Technical Advisor
Role: Technical engineering, health and safety, environmental and social safeguarding



CSP

600⁺ MW

Storage 39.5
hours

7 CSP Projects

Type of
contract

1 OEs

6 LTA



Concentrated Solar Power (CSP)

These are some of our CSP project highlights. More details are available upon request.

Khi Solar One
KaXu Solar One
Bokpoort CSP
Xina CSP South Africa
Kathu Solar Park
Ilanga 1
Redstone Concentrated Solar Thermal Power





Key projects



Project: Redstone CSP
Location: South Africa
Client: Various Lenders and ACWA
Expertise: Lender Technical Advisor
Role: Technical engineering, health and safety, environmental and social safeguarding specialist construction monitoring
Photo credit: ACWA



Project: Khi Solar One
Location: South Africa
Client: Various Lenders
Expertise: Lender Technical Advisor
Role: Technical engineering, health and safety, environmental and social safeguarding specialist construction monitoring
Photo credit: Helios



Project: Bokpoort CSP
Location: South Africa
Client: Various Lenders
Expertise: Lender Technical Advisor
Role: Technical engineering, health and safety, environmental and social safeguarding specialist construction monitoring
Photo credit: ACWA



Project: Kathu Solar Park
Location: South Africa
Client: Various Lenders
Expertise: Lender Technical Advisors
Role: Technical engineering, health and safety, environmental and social safeguarding specialist construction monitoring



Renewable energy: Wind



Gerald Francis
Wind and C,O&M Project Principal

With more than 20 years experience, Gerald brings a wealth of practical experience to our Wind team. He gained extensive experience in Europe before returning to South Africa where he has continued to spearhead and lead the renewable wind projects being implemented in the country. In addition, he was an honorary guest and speaker at the inauguration of Saratec and has continued to train wind turbine technicians in South Africa. Hence, he continues to invest in the next generation of wind specialists. As wind construction, maintenance, and operational project principal, he provides hands-on oversight and leads technical teams in delivering applications, infrastructure upgrades, and advanced wind farm technology solutions.

Gerald has delivered projects from financial close through to COD and operations. He follows a customer-focused and results-driven approach to Wind Farm construction and management with strong problem solving and solution-building skills.



The background of the entire page is a photograph of two wind turbines. The turbines are dark silhouettes against a vibrant sunset sky with shades of orange, yellow, and purple. The sun is low on the horizon, creating a strong glow. The turbines are positioned on the left and right sides of the frame, with their blades extending across the image.

The team provides the following:

- Technical due diligence
- Wind farm construction and operations review as Lenders Technical Advisors (LTA)
- Owner's Engineer wind farm construction
- Wind farm operations and maintenance monitoring
- availability

We also assist clients in procurement, employers requirements, and commercial aspects of achieving financial close.

Our team assists clients throughout the project journey. This includes but is not limited to the following:

- Liaison with appointed project assurance representatives to assure the overall direction and integrity of the project
- Maintaining an awareness of potential interdependencies with other projects and their impact.
- Adopting and applying appropriate technical and quality strategies and standards.
- Oversee Turbine erection and assemble to ensure compliance with OEM Specification.
- Turbine document review prior to Unit Run Tests
- Attend weekly and monthly Project meetings
- Review SCADA data for WTG Run tests ensuring compliance to relevant Exhibit of EPC contract.
- Correlation of data for IE for COD
- Assist Client with requirements for COD i.e., RETEC, CWC for SBA, IE requirements
- Oversee Technical aspects of various Due Diligence Audits
- Identifying and obtaining support and advice required for the management, planning and control of the project
- Managing project administration



Our REIPPPP Round 1 to Round 4 Wind Projects



Our role as Owners Engineer

MPAMOT forms a partnership with clients to provide support to positively impact the project quality, performance, and owner's interests throughout the project lifecycle.

Inception Phase

- Site screening and prioritisation
- Technology optioneering
- GIS Constraints mapping
- Techno economic feasibility
- Energy Analysis

Development

- Preliminary design
- Electrical and civil layout
- Permitting
- Development of risk register
- Bid optimisation and development
- Development of master project programme

Pre-construction

- Development of project & equipment specification
- Pre-qualification support
- Tender development & management
- Tender evaluation
- Contract negotiation support
- Financial Close Support

Construction

- Contract management
- Stakeholder and interface management
- Design review
- Site construction supervision
- Technical inspections on site
- Witness key tests on site
- Acceptance test administration
- Take over supervision
- Factory acceptance supervision

Our role as Lenders Technical Advisors

MPAMOT is consistently the number one lender technical advisors for renewable energy project financing.





WIND

2613,5

MW

23+ Wind Projects

Type of contract

11 OEs

12 LTA

Various EHS



Project: Roggeveld Wind Farm
Location: South Africa
Client: Red Rocket
Expertise: Owner's Engineer
Role: Mott MacDonald and MPAMOT were appointed as the Owner's Engineer for the construction phase of the Project



Project: Lake Turkana Wind Farm
Location: Kenya
Client: x Lake Turkana Wind Power
Expertise: Independent Engineer
Role: Independent Engineer under the Power Purchase Agreement (PPA) supporting the project owner and off-taker during the construction phase of the largest wind project in Africa.



Project: Windpark Groen
Location: Netherlands
Client: Mott MacDonald
Expertise: Human Rights impact assessment review
Role: Specialist social safeguarding



Project: Hondtocht 3 Wind Farm
Location: Netherlands
Client: Mott MacDonald
Expertise: Human rights impact assessment review
Role: Social specialist oversight



ENERGY PORTFOLIO

Generation, transmission, and
distribution





Key projects



Project: Takoradi 2 Power Plant

Location: Ghana

Client: Mott MacDonald

Expertise: Lender technical advisors

Role: Technical engineering, health and safety, environmental and social safeguarding operations monitoring



Project: Tema Power Plant

Location: Ghana

Client: Mott MacDonald

Expertise: Lender technical advisors

Role: Technical engineering, health and safety, environmental and social safeguarding operations monitoring



Project: Bridges Power Plant

Location: Ghana

Client: Mott MacDonald

Expertise: Lender technical advisors

Role: Technical engineering, health and safety, environmental and social safeguarding operations monitoring



Project: Triumph Power Plant

Location: Kenya

Client: Mott MacDonald

Expertise: Lender technical advisors

Role: Technical engineering, health and safety, environmental and social safeguarding operations monitoring



ENERGY PORTFOLIO

Health, safety, and security
compliance and safeguarding





Why health, safety, and security safeguarding?

The health, safety and security of the project team, contractors, suppliers, and neighboring communities are of paramount importance. MPAMOT follows a zero-harm policy and places the health, safety, and security of all team members first. Our in-house team provide health, safety, and security safeguarding review on all our renewable projects. We consider compliance to the local legislative framework as well as IFC Performance standard 1 and 4 that addresses community health, safety, and security as well.

Our team considers the following:

- Emergency response plans
- Fire and explosion hazards
- Physical hazards (e.g., cuts, falls, rotating/moving equipment, vibration)
- Ergonomic hazards (e.g., lifting, repetitive work, work posture injuries)
- Chemical hazards
- Biohazards
- Radiation hazards
- Electrical hazards
- Work zone air quality
- Work zone noise level
- Eye hazards
- Workplace temperature and humidity
- Working at heights
- Working in confined spaces
- Industrial vehicle driving and site traffic
- Transportation of workers

With regards to community health, safety, and security we consider the following:

- Contamination of surface water bodies (rivers, lakes, estuaries, etc.)
- Ambient air quality/odor from industrial emissions
- Solid waste disposal
- Hazardous waste disposal
- Usage of chemicals and hazardous materials
- Ground or surface water depletion
- High ambient noise level due to industrial operations
- Ground water contamination
- Air emissions and noise from transportation
- Traffic congestion
- Cultural heritage site/historical monuments/ecologically sensitive sites
- Land acquisition and usage
- Buildings and infrastructure development/decommissioning
- Security personnel





ENERGY PORTFOLIO

Environmental compliance and
safeguarding



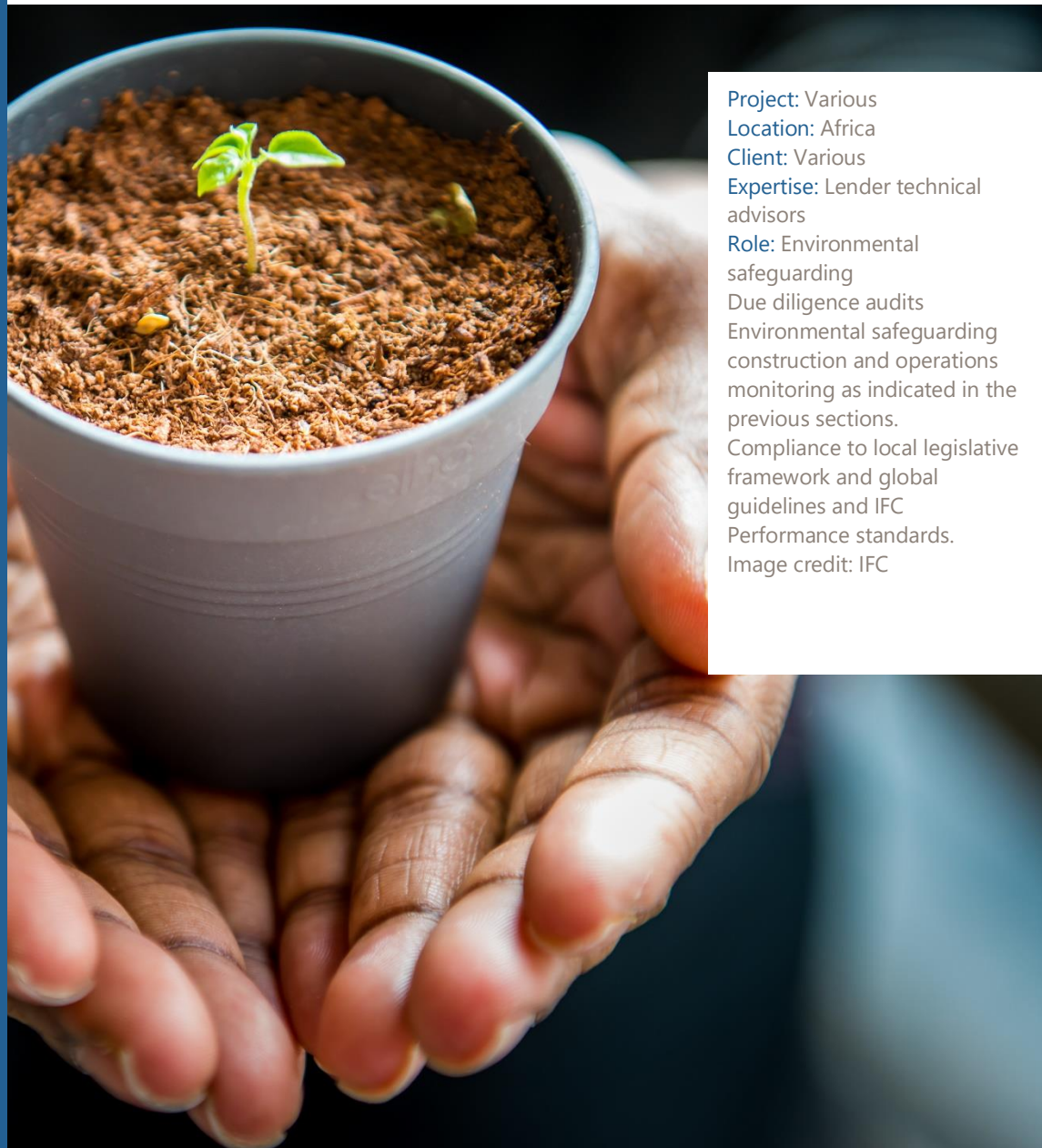


Why environmental safeguarding?

Our team reviews environmental risk as well as resource efficiency and biodiversity. Specifically, we consider compliance with the local legislative frameworks and project permitting requirements as well as the IFC performance standards 1, 3 and 6.

Our team considers all aspects relating to but not limited to the following

- Raw materials consumption
- Energy consumption
- Water consumption
- Wastewater quantity
- Wastewater quality
- Air emissions
- Solid waste generation
- Hazardous waste generation
- Usage of chemicals
- Usage of hazardous materials
- Noise generation
- Land conversion



Project: Various
Location: Africa
Client: Various
Expertise: Lender technical advisors
Role: Environmental safeguarding
Due diligence audits
Environmental safeguarding construction and operations monitoring as indicated in the previous sections.
Compliance to local legislative framework and global guidelines and IFC Performance standards.
Image credit: IFC



ENERGY PORTFOLIO

Social safeguarding





- Labour and workforce compliance
- Community economic development
- Supplier development
- Stakeholder engagement
- Vulnerability, human rights, gender studies, gender-based violence and harassment
- Sustainable development goals
- Resettlement action planning



Why is social safeguarding critical to project success?

Compliance with the local legislative framework as well as the international labour convention directives, Guidelines, IFC performance standards and Equator Principles is critical to attract and retain funding and ensuring project completion and operation. More importantly, without social compliance there is no social license to operate.



Project: Nkhotakota Solar PV
Location: Malawi
Client: Mott MacDonald, US DFC
Expertise: Lenders technical advisor
Role: Social safeguarding, and construction monitoring of community economic development, community grievance redress and livelihood restoration.

Project: Redstone CSP
Location: South Africa
Client: Various Lenders
Expertise: Lender Technical Advisors
Role: Social safeguarding specialist construction monitoring with specific attention to labour and workforce compliance.
 Photo credit: ACWA

Project: Takoradi 2 Power Plant
Location: Ghana
Client: Mott MacDonald
Expertise: Lender technical advisors
Role: Technical engineering, health and safety, environmental and social safeguarding operations monitoring
 Photo credit: Takoradi

Project: Nkhotakota Solar PV
Location: Malawi
Client: Mott MacDonald, US DFC
Expertise: Lenders Technical advisor
Role: Social safeguarding, and construction monitoring. Considering local legislative framework, IFC Performance standard 2, International labour conventions to ensure compliance and to mitigate any risk.



Project, programme, and construction management

Our diverse and multi-disciplinary team specialise in project, programme, and construction management.

We enable our clients to manage a wide range of contractors and monitor construction to ensure projects deliver on time and within budget.

Our advanced scheduling team is able to track critical paths and interdependencies between various aspects such as logistics, equipment, and workforce compliance.

As an ISO certified organisation, we follow a stringent business information management system and

In addition, we closely monitor health, safety, environmental and social aspects on projects.



Contact us

We welcome your comments, thoughts and suggestions on how we can partner to increase our value to all our stakeholders. Contact us by email, phone or follow us on social media.

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