



**Murray
& Roberts**

**POWER, INDUSTRIAL
& WATER PLATFORM**

CONTRACTOR OF CHOICE



POWER, INDUSTRIAL & WATER PLATFORM

The Murray & Roberts Group is a multinational engineering and contracting group that applies its project life cycle capabilities to optimise clients' fixed capital investments. The Group achieves this by focusing its expertise and capacity on delivering sustainable project engineering, procurement, construction, commissioning, operations and maintenance solutions. The Group delivers its capabilities into the resources, industrial, energy, water and specialised infrastructure market sectors.

Part of the Murray & Roberts Group, the Power, Industrial & Water platform provides complete project life cycle services from development to engineering, procurement, construction, commissioning, and operations & maintenance in the power generation, transmission & distribution, water, oil & gas, petrochemical, resources & industrial markets; primarily in South Africa, but also in Sub-Saharan Africa.

OUR BUSINESSES

Sub-Saharan Africa

Murray & Roberts Projects

Murray & Roberts Water

OptiPower

Wade Walker E&I

Wade Walker Solar



Johannesburg

Cape Town

Market focus

Sub-Saharan Africa

Regional capabilities: power, industrial and water markets.

- Detailed engineering
- Procurement
- Construction
- Commissioning & maintenance



SUSTAINABILITY

SAFETY

People are our most valuable asset and the safety of employees and stakeholders is non-negotiable.

The platform prioritises the implementation of fatal risk management programmes to prevent serious incidents and fatalities on projects.

Stop.Think.Act.24/7 is a widely-recognised Murray & Roberts health and safety brand developed to educate and motivate employees to be responsible for their own and their colleagues' safety in the work environment and also at home. "Act" emphasises the importance of taking action to correct unsafe conditions and behaviours, as well as recognising positive behaviour, while "24/7" highlights the need for safety awareness at all times.

The **Zero Harm through Effective Leadership Programme** aims to increase leadership visibility and to continuously develop a culture of safety.

Our safety goal is **Zero Harm**. Safety and performance work in unison and every employee's commitment to accountability and responsibility to ensure safety is a tenet of our safety philosophy.

All businesses within the Power, Industrial & Water platform are ISO 45001, ISO 9001 AND ISO 14001 certified. The platform also maintains the prestigious South African Institute of Welding ISO 3834 accreditation.

HEALTH

The health and wellness of our employees is a priority. We have adopted a holistic approach to health by providing a comprehensive wellness programme to employees and their dependents. We implement healthcare education and awareness initiatives across project sites to encourage healthy lifestyle choices and behaviours.

ENVIRONMENT

We recognise that climate change poses significant risks to the natural ecosystem and sustainability of business. The world's growing demand for energy is likely to continue to increase greenhouse gas emissions and exacerbate climate change, unless environmentally benign energy alternatives are adopted on a large scale. We support the Paris Agreement on climate change and its long-term goal to limit the global average temperature increase which requires a collaborative approach amongst all stakeholders, including policy makers and business.

Whilst climate change presents a risk to business and society, it also presents opportunities. Our response to this challenge is guided by our ultimate objective of sustainable value creation. We recognise the fact that although our operations have an inherently low carbon footprint, opportunities lie in our ability to assist our clients in transitioning their operations to a low carbon future. Our aim is to be part of the solution, which we believe can only be delivered through a collective effort.

TRAINING AND DEVELOPEMENT

Murray & Roberts offers industry best practice in technical and supervisory training across a wide field of disciplines and it is an integral part of our commitment to train and upskill local communities. Our training programmes are critical to the platform's project delivery success and provide skills training and livelihood to the local communities on our projects. The platform works closely with clients, local community forums and leaders to manage localisation expectations and to provide support for local suppliers.

MURRAY & ROBERTS PROJECTS

Murray & Roberts Projects is an EPC contractor, serving the Sub-Saharan markets. We provide a portfolio of services, utilising multi-disciplinary engineering, procurement, and construction in-house expertise together with strategic global partnerships.

Murray & Roberts Projects has capabilities across the project life cycle, ranging from conceptual design, pre-feasibility and feasibility studies, basic and detailed engineering, procurement, construction, commissioning and start up, operations and maintenance (including asset renewal and refurbishment) and asset retirement.

We provide services across the following sectors:

- Power
- Oil & Gas/Petrochemical
- Hydrogen/Hydrogen derivatives
- Coal powered O&M and Decommissioning
- Electrical & Instrumentation
- Solar
- Transmission & Distribution
- Resources & Industrial

Power

Murray & Roberts Projects delivers solutions to power utilities, independent power producers, industrial plants, mines and clients across technologies including PV solar, wind biomass, waste, gas and nuclear.

Oil & Gas/Petrochemical

Our capabilities include downstream projects, including special applications such as modular mini-refineries and the revamping and installation of refinery units. We support large projects regionally including turnkey bulk fuel storage terminals.

Electrical & Instrumentation

Murray & Roberts Projects delivers services in the electrical & instrumentation, engineering, design, and construction sectors, serving the mining, water treatment, petrochemical, iron and steel, sustainable energy, and power markets.

Solar

We provide integrated sustainable energy solutions within the PV sector to residential, commercial, industrial, and public sectors.

Transmission & Distribution

Our primary focus is on Electrical Balance of Plant and overhead line connection for renewable energy projects. We offer speciality skills to utilities for mega infrastructure development projects as well as private generation projects.

Resources & Industrial

We provide an integrated approach to structural, mechanical, platework and piping solutions to the mining, minerals beneficiation, petrochemical and energy sectors as well as the pulp and paper, and sugar industries. Murray & Roberts Projects delivers contract management solutions from shop detailing phase to final on-site commissioning and handover.

PROJECTS



Medupi & Kusile Power Stations

Client: Hitachi/Eskom

Location: South Africa

Scope: Detailed engineering, fabrication, construction management, erection & site support of boiler units.

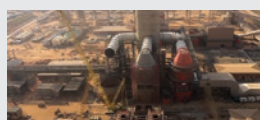


New Multi-Product Pipeline

Client: Transnet

Location: South Africa

Scope: Heidelberg Tank Farm – engineering, fabrication & erection of 10 tanks.



Wet Flue Gas Desulphurisation

Client: General Electric (Alstom)

Location: South Africa

Scope: WFGD Absorber & Duct fabrication, installation and erection.



MGO Storage & Distribution

Client: Ghana Oil Company

Location: Takoradi, Ghana

Scope: Construction and detailed engineering of 4.5 million capacity marine gas oil tank terminal.

MURRAY & ROBERTS WATER

Murray & Roberts Water has the capability and expertise to deliver integrated water and waste water treatment solutions in the following market sectors:

- Mine Water Treatment
- Sea Water Desalination
- Industrial Effluent Treatment
- Municipal Water and Waste Water Treatment

Murray & Roberts Water provides complete water and waste water treatment solutions through the selection and integration of appropriate technology combined with a suite of flexible commercial models.

Potential commercial models include:

- Design Build
- Design Build Operate
- Design Build Operate Transfer
- Rental
- Public Private Partnerships

ORGANICA WASTE WATER TECHNOLOGY

Localised wastewater treatment specialist Organica brings a highly imaginative approach to wastewater treatment in urban and suburban areas. Organica's treatment facilities utilise active biofilms on natural (plant) and/or engineered (patented biofiber media) root structures, all housed in a fully-enclosed, odourless facility. The result is a solution which offers 50-75% reduced physical footprint compared to conventional wastewater treatment solutions, with up to 30% reduction in operational costs, all in the form of a pleasant botanical garden-like environment that enables the wastewater treatment plant to be located virtually anywhere, thus substantially lowering infrastructure costs to connect to customers and enhancing land value around the facility.

Murray & Roberts Water holds an exclusive license agreement for the Organica technology in South Africa and non-exclusively for the SADC region.

PROJECTS



Organica Bluehouse Waste Water Treatment Plant

Client: GE Engineering

Location: South Africa

Scope: Design, supply, construct, commission and operate and maintain for a twelve month period including publication of performance results to the broader water industry.



Ahafo Mine Water Treatment Plant

Client: Newmont Ghana Gold Limited

Location: Ghana

Scope: Design, supply, install and commission a skid-mounted reverse osmosis plant to treat contaminated mine water.



Bakubung Waste Water Treatment Plant

Client: Bakubung Minerals (Propriety) Limited

Location: South Africa

Scope: Design, supply, construction and commissioning of a membrane bioreactor sewage treatment plant including the main sewer pipeline and maintenance support.



Vincent Pallotti & Kingsbury

Client: Life Healthcare

Location: South Africa

Scope: Design, supply, install, commission and operate and maintain containerised borehole water treatment plants at both hospitals.



OPTIPOWER

OptiPower is a leading energy infrastructure project delivery company that has delivered fit for purpose solutions across Africa for more than 20 years. We provide turnkey engineering, procurement and construction solutions for high and medium voltage power lines, high and medium voltage substations, overhead and below ground fibre optic lines, and renewable energy projects

Part of the Murray & Roberts Group, OptiPower has a global network of resources including innovative and pioneering solutions and a skilled talent pool.

Our capabilities span the project life cycle:

ENGINEERING

We integrated concept, FEED and detail design engineering to optimise assets.

CONSTRUCTION

We deliver turnkey EPC, and construction only projects.

OPERATION

We provide asset operations, maintenance, and optimisation solutions.

Renewable Energy

- Reticulation of electrical and communication infrastructure
- Installation of solar panels and mounting infrastructure
- Upgrading of existing plants
- Refurbishment of existing plants
- Assessment and recommendations for improving quality of supply
- Quantity surveying
- Engineering, procurement and construction services for grid connection and electrical balance of plant

Maintenance Solutions

- Steel member replacement
- Spacer Damper replacement
- Replacement of Line Hardware
- Upgrade Earth Wire to OPGW
- Stay Refurbishments / Replacements

Fibre Optics

- Installation of all fibre optic types under live line and dead conditions
- Specialist splicing and testing
- Emergency repair work
- Design work
- Equal potential plotting
- Fault locating
- Patching
- Commissioning fibre optic networks

Transmission Lines

- Construction of all power lines from 11kV to 765kV
- Refurbishment
- Conductor replacement
- Insulator replacement
- Foundation refurbishment
- Steel member replacement
- Guy anchor link refurbishment and replacement
- Spacer damper replacement
- Specialist stringing works
- Earth wire and OPGW replacement
- Installation of midspan flying insulator sets

Substations

- Substation design
- Quantity surveying
- Construction of substations from 11kV to 400kV
- Upgrading existing substations
- Refurbishment
- Assessment and recommendations for improving quality of supply
- Scada design



WADE WALKER

E&I

Wade Walker delivers electrical and instrumentation, engineering, design and construction services to the mining, water treatment, petrochemical, iron and steel and energy and power sectors. Since 1981, clients have trusted Wade Walker's knowledge and experience in implementing on surface and underground solutions across sub-Saharan Africa.

Our capabilities include:

- MV substations
- High and medium voltage protection schemes
- Emergency power, UPS's
- MV/LV starters, reticulation systems and power lines
- MCC's
- Industrial plant Certificate of Compliance validation
- Plant reticulation, cable racking and routing
- Small power, lighting
- Earthing and lightening protection
- PLC and SCADA programming
- Preparation of control & functional specifications
- Profibus, ASI bus, fieldbus and industrial networks
- Fibre optic cable installation, splicing and testing
- Commissioning expertise and training
- Quality assurance and factory acceptance testing of switchgear, transformers, protection, motors
- Construction management

PROJECTS



Medupi Power Station
Client: General Electric
Location: South Africa
Scope: Electrical and Instrumentation



Husab Uranium Process Plant
Client: Swakop Uranium Limited
Location: Namibia
Scope: Electrical and Instrumentation



Tsumeb Sulphuric Acid Plant
Client: Dundee Precious Metals
Location: Namibia
Scope: Electrical and Instrumentation



Sasol Secunda
Client: Air Liquide
Location: South Africa
Scope: Electrical and Instrumentation



WADE WALKER SOLAR

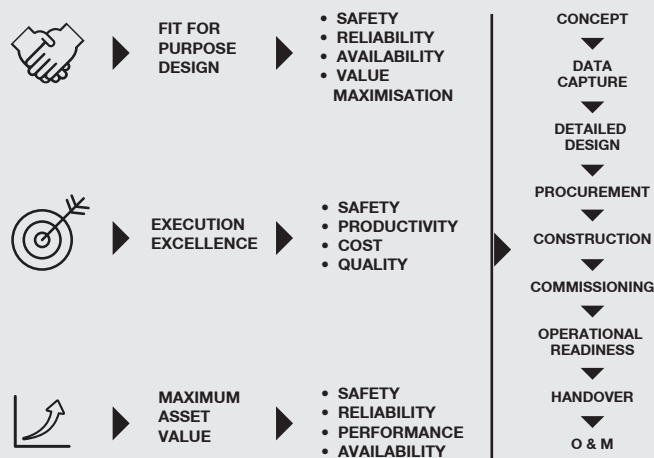
Wade Walker Solar delivers integrated sustainable energy solutions. We develop, plan, build and operate photovoltaic systems for the residential, commercial, industrial and public sectors.

Wade Walker Solar prides itself on quality engineering, procurement and construction services and is a member of the South African Photovoltaic Industry Association and is PV Green Card registered.

Wade Walker Solar delivers:

- Electrical, instrumentation, control and integration solutions
- Solar photovoltaic industrial
- Solar photovoltaic rooftop
- Solar photovoltaic ground mount
- Solar photovoltaic carports
- Hybrid renewable energy solutions

Our market offering includes



A contractual agreement with a fixed tariff over a period. No capital outlay and no ongoing maintenance costs with savings from day one.

Claim 100% depreciation of system cost under Section 12B of the Income Tax Act reducing your tax liability if you are a commercial property. You have the option to include maintenance and insurance after one year.

Bespoke financial design combining a PPA/Lease option with a reduced capital contribution.



Murray & Roberts

POWER, INDUSTRIAL & WATER PLATFORM

Murray & Roberts Projects

☎ + 27 11 456 1000
✉ powerenergy@murrob.com
🌐 www.powerenergy.murrob.com

Murray & Roberts Water

☎ + 27 11 456 1000
✉ info.water@murrob.com
🌐 www.water.murrob.com

Optipower

☎ + 27 11 456 1000
✉ info@optipower.co.za
🌐 www.optipower.co.za

Wade Walker E&I

☎ + 27 11 456 1000
✉ info@wadewalker.co.za
🌐 www.wadewalker.co.za

Wade Walker Solar

☎ + 27 11 456 1000
✉ info@wwsolar.co.za
🌐 www.wwsolar.co.za

**The Interchange,
22 Skeen Boulevard,
Bedfordview; 2007,
South Africa**



www.murrob.com

