



POWER, INDUSTRIAL & WATER PLATFORM PRESENTATION

INVESTOR DAY

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22 JUNE 2022



PRESENTATION OVERVIEW

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Projects Overview

Market Analysis

Business Capability

Key Opportunities & Risks

Presentation Takeaways



PROJECTS OVERVIEW

GOLOMOTI UTILITY PV SOLAR PLANT – MALAWI

PROJECTS

TRANSMISSION & DISTRIBUTION

**OPTIPOWER NSELENI
IMPALA & MTUBATUBA**

**OPTIPOWER EDWALENI
132KV LINE**

OPTIPOWER MOTHEO COPPER



Installation of 132kV
overhead lines

**COMPLETION
SEPTEMBER 23**

Edwaleni II to Stonehenge
132kV Line and Associated
Substation line Feeder Bays
Construction

**COMPLETION
Q2 2024**

Installation of 132kV
overhead lines

**COMPLETION
AUGUST 22**

PROJECTS

EPC, MAINTENANCE, STRUCTURAL, MECHANICAL & PIPING

**MRP
BOST GHANA**



MRP KUSILE COMPLETION



MRP ESKOM MEDUPI MILLS



FEED study for LPG storage
terminals - Ghana

**COMPLETION
NOVEMBER 22**

Completion of boiler erection
and outage works at Kusile
power station

**COMPLETION
FEBRUARY 22**

Maintenance and in-service
rebuilt of boiler mills

**COMPLETION
JUNE 24**

PROJECTS

UTILITY SCALE RENEWABLE ENERGY

**OPTIPOWER GOLOMOTI
20 MW PV SOLAR FACILITY**



**OPTIPOWER RED ROCKET
84MW WEF EARLY WORKS**



**OPTIPOWER EDF MTS EARLY
WORKS**



Installation of electrical
Balance of Plant incl. BESS
for a solar PV farm

**COMPLETION
MARCH 22**

92km 132kV Overhead
Transmission Line and 84MW
Wind Farm

**COMPLETION
Q2 2024**

Self build of 500MVA Main
Transformer Substation

**COMPLETION
Q2 2024**

PROJECTS

WATER & COMMERCIAL SCALE PV

MRW ORGANICA V&A



**WADE WALKER SOLAR
BENTLEY PARK**



Waste Water Treatment Plant
for the V&A

**COMPLETION
Q2 2022
THEN 10 YEAR O&M**

726kW PV Hybrid System with
800kW battery backup

**COMPLETION
Q2 2022**



MARKET ANALYSIS

ORGANICA WASTEWATER TREATMENT PLANT – SOUTH AFRICA

MARKET ANALYSIS

KEY FOCUS PROGRAMME - INTEGRATED RESOURCES PLAN

Department of Minerals Resources and Energy has gazetted its Integrated Resources Plan 2019 for the short to medium term procurement of:

1. 2600 MW Renewable Energy from PV Solar and Wind – Bid Window 5 – Preferred Bidders selected – Projects execution to commence September 2022.
 2. 2600 MW Renewable Energy from PV Solar and Wind – Bid Window 6 – Launched – Submission August 2022 – Execution September 2023.
 3. 513 MW Storage – August 2022 – RFP.
 4. 1500 MW Thermal Coal – December 2022 – RFP – Murray & Roberts will not pursue thermal coal new build – programme stalled.
 5. 3000 MW Gas to Power – December 2022 – RFP.
 6. 1600 MW Renewable Energy from PV Solar and Wind – TBA – RFP.
 7. 2400 MW Nuclear Power – December 2022 – RFP.
- All of the above are seeking private investments through Independent Power Producers. The market will lack the capacity for EPCs to undertake all of the works, as programmes are now running concurrently with the Private Sector Users (100MW cap) e.g. Mines and Energy Intensive Users.
 - MRPIW is positioning both as a PV Solar EPC and as a standalone Electrical Balance of Plant / High Voltage Substations and Interconnection contractor with multiple IPPs and international EPCs / OEMs.



Typical PV Plant



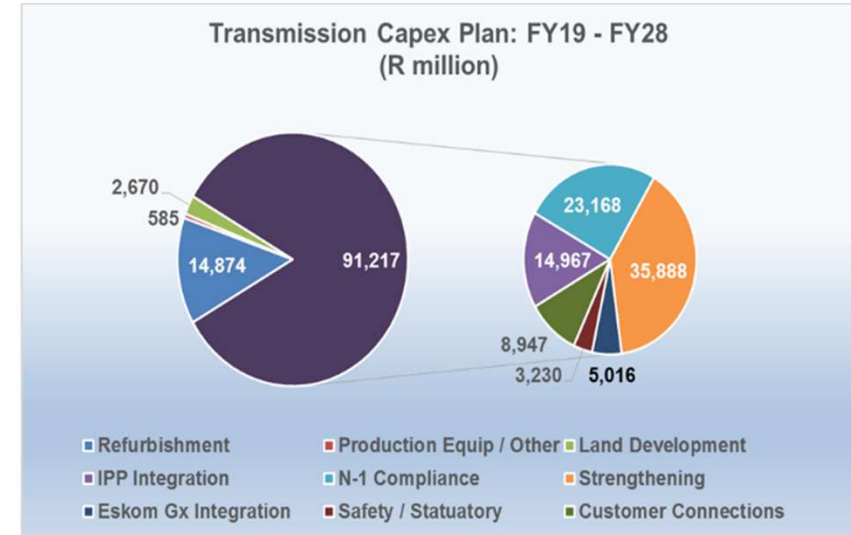
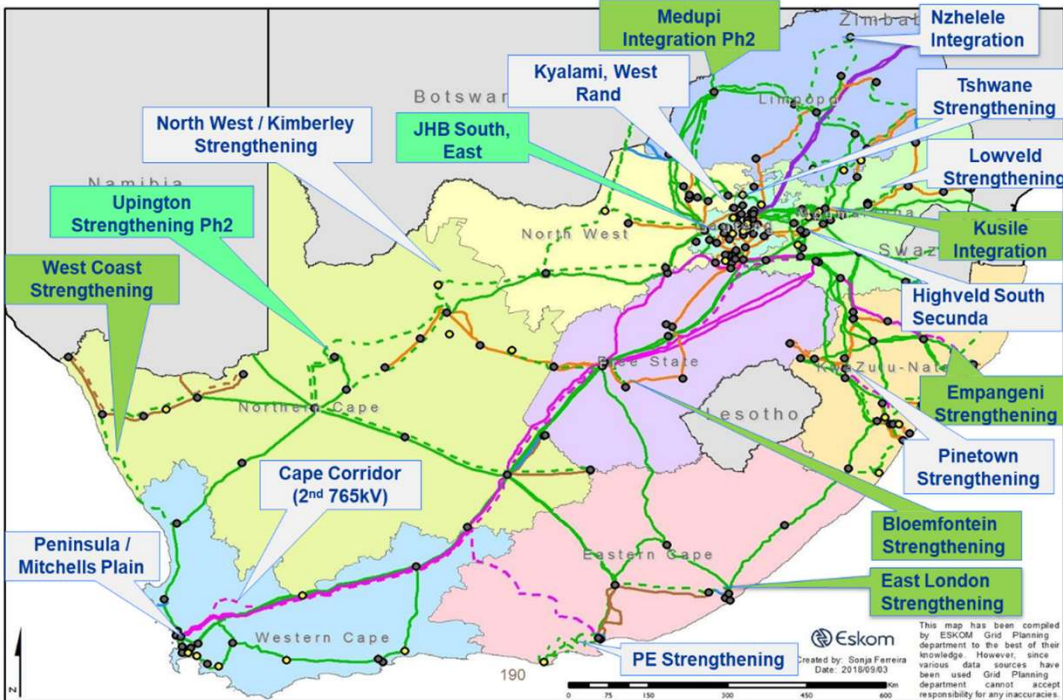
Typical Wind Farm



Typical Combined Cycle Gas Turbine

MARKET ANALYSIS

KEY FOCUS PROGRAMME - TRANSMISSION LINES



Transmission Assets: National View	New Assets expected in		Total New Assets
	2019 - 2023	2024 - 2028	
Power lines (km)			
765kV	98	300	398
400kV	2235	3422	5657
275kV	114	99	213
220kV	94	0	94
132kV	90	83	173
Total length (km)	2631	3904	6535
Transformers			
Number of units	43	72	115
Total capacity (MVA)	16630	29270	45900

Eskom roll out has been delayed considerably with actual installation of 400km of 400kV and 80km of 765kV lines to date.

The new Generation Capacity Connection Assessment Report for 2023 shows a dire state of capacity availability and the need to increase transformer infrastructure to support new generation.

MARKET ANALYSIS

KEY FOCUS PROGRAMME - BATTERY ENERGY STORAGE SYSTEMS

Eskom have launched 3 packages for Battery Energy Storage Systems at their existing generation plants:

1. Package 1: Skaapvlei Sub-station, Sere Windfarm. BESS 80MW/320MWh EPC + 5 year O&M – OptiPower preferred subcontractor to Pinggao.
2. Package 2:
 - a. Lot A: Eskom Melkhout (35MW/140MWh) Substation. Coega Local Municipality, Eastern Cape, South Africa
 - b. Lot B: Eskom Pongola (40MW/160MWh) and Elandskop (8MW/32MWh) Substation, Pongola Municipality Local Municipality and Msunduzi Local Municipality Respectively, KwaZulu-Natal, South Africa
3. Package 3:
 - a. Lot A: Eskom Paleisheuwel (9.5MW/45MWh) and Graafwater (5MW/30MWh) Substations in Cederberg Local Municipality, Western Cape, South Africa;
 - b. Lot B: Eskom Hex (20MW/100MWh) Substation in Breede Valley Local Municipality, Western Cape, South Africa

We are in a good position with the preferred EPC contractor for the substation works (OptiPower).

Eskom to launch Phase 2 of a further 160MW/608MWh of the programme on finalisation of award of Phase 1. This forms part of the IFC loan agreement to Eskom and needs to be completed.






BUSINESS CAPABILITY


MEERKAT SKA PROJECT – SOUTH AFRICA


OPTIPOWER PROJECTS

TRANSMISSION, DISTRIBUTION & RENEWABLES

DIVISION / COMPANY	MARKET OUTLOOK	KEY FOCUS
	<p>SOUTH AFRICA</p> <ul style="list-style-type: none"> • Lots of power infrastructure investment coming in South Africa, with a big shift to renewables • However, the Eskom Transmission capex spend has halved since 2017 – procurement delays. Huge backlog. • REIPPP is large and appears to have momentum, with 5GW contracted and 3GW nearing close • This sector of the SA construction industry has struggled, especially companies with high dependence on SA market – expected to turn in FY2023. <p>OUTSIDE OF SOUTH AFRICA - SADC</p> <ul style="list-style-type: none"> • Opportunities in the following Interconnector Transmission Line Projects: <ul style="list-style-type: none"> • ANNA: Angola – Namibia 400kV OHL, • Malawi - Zambia 400kV OHL • ZIZABONA: Zambia, Botswana, Namibia and Zimbabwe 400kV OHL • World Bank funded projects • Independent Power Producers (IPPs) (Wind & Solar) 	<ul style="list-style-type: none"> • Renewables – Public and Private Sector programmes in South Africa – represents larger part of OptiPower’s portfolio • Develop portfolio of IPP’s operating in SADC • Focus on Retention and Recruitment of key personnel for successful projects execution • Increase business development activity in Mining, Metros, and Municipality Sectors • Identify potential in-country partners in the SADC countries where we intend to participate • BESS Projects for Eskom • Transmission Line projects with Eskom – keep engaged and position for unbundling of Transmission – Engineer , Procure and Construct (EPC) opportunities – strategic Engineering partnership with Zutari


DIVISION / COMPANY	MARKET OUTLOOK	KEY FOCUS
 <p>Murray & Roberts Projects Engineers and Constructors</p>	<p>POWER:</p> <ul style="list-style-type: none"> • Increased demand for energy in South Africa and Sub Saharan Africa (SSA) • Significant drive and investment for carbon reduction and greater energy mix from renewables in Africa by 2040 • Reduction in financing for thermal energy viz. coal but Gas to Power generation still very much in the Integrated Resources Plan. <p>OIL & GAS:</p> <ul style="list-style-type: none"> • Oil & Gas projects has been muted due to unrest in Mozambique and lower demand due to Covid19 • Refining production in South Africa has been subdued. Import storage terminals are expected to take precedence. • Majors such as Sasol, Total Energies seeking greener fuel options including renewables • Green Hydrogen production gaining momentum at early pre-feasibility and feasibility stages. <p>RESOURCES AND INDUSTRIAL:</p> <ul style="list-style-type: none"> • The commodity revenue mix has been stable with a commodities super cycle resulting in majors expediting expansion projects • Mining houses seeking greener fuel options including renewables to offset carbon emissions as well as mitigate load shedding risks • Community / Labour Unrest continues to be a major risk in South Africa 	<ul style="list-style-type: none"> • REIPPP Programme – Engineer , Procure and Construct (EPC) role with Partner(s) for utility scale PV Solar • Target private sector clients for corporate PPAs at utility scale for renewable developments – Developer/EPC role with Partner/s • Other strategic EPC opportunities (regionally) with Partner/s e.g. Storage Terminals , Biomass • Strategic FEED to EPC on selected opportunities in SSA on Exclusive basis • Resources & Industrial - Structural , Mechanical and Piping (SMP) Construction • Maintenance for Eskom fleet • Diversify maintenance opportunities through strategic JVs • Opportunistic projects regionally – Power, Resources & Industrial , and Petrochemicals in accordance with Group risk profile

DIVISION / COMPANY	MARKET OUTLOOK	KEY FOCUS
 <p>Murray & Roberts Water Engineers and Constructors</p>	<ul style="list-style-type: none"> • Tough market conditions persist resulting from lack of available Public Sector funding • R333bn funding gap over 10years – National Water & Sanitation Masterplan • City of Cape Town (CoCT)- implementation of Drought Resilience Strategy pipeline of projects has commenced • eThekwini Municipality Waste Water Treatment PPP projects have been initiated • Subdued Private sector investment until confidence in sector is restored • Positive developments – establishment of a National Water Resources Agency, National Treasury streamlining PPP process, DBSA establishing PPP office, ongoing narrative of public sector engaging private sector 	<p>SHORT TERM:</p> <ul style="list-style-type: none"> • Focus on excellence in delivery of awarded projects – Relocation of Organica demo plant to V&A. • Bid and win CoCT Potsdam MBR project. Rebid Athlone C. • Respond and win eThekwini Municipality’s PPP project for uMhloti & uMkhomaas WWTP’s <p>MEDIUM TO LONGER TERM:</p> <ul style="list-style-type: none"> • Leverage Organica plant in commercial operation at V&A to secure additional Organica opportunities • Bid and win further work coming out of CoCT – Cape Flats Regional Sludge Handling Facility / Athlone D-works • Participate in other developing PPP’s which provides an opportunity to offer Organica solution and generate annuity income • Leverage track-record from CoCT contracts to bid and win strategic projects in other provinces / metro’s

DIVISION / COMPANY	MARKET OUTLOOK	KEY FOCUS
	<ul style="list-style-type: none"> • Electrical & Instrumentation Balance of Plant (E&I EBOP) generally follows the market trends in the Power, Resources, Industrial and Petrochemical sectors – Wade Walker has opportunities linked to the mining surface plant capital spend currently underway. • Brownfield opportunities in the mining sector Stay In Business (SIB) portfolio exist for Wade Walker. • We are seeing Requests For Quotations typically as standalone E&I construction requirements and are bidding as Wade Walker. • Competition in this sector is fierce with several capable medium sized E&I contactors still active despite the pressure the sector has experienced over the last few years. 	<ul style="list-style-type: none"> • Activity returning to African Mining Market (e.g. West Africa & Zimbabwe) – Focus on these clients and move into preferred position across Africa – historically successful markets for Wade Walker. • Focus on E&I BOP (in collaboration with OptiPower) for power generation projects in the Renewable Energy sector in South Africa and Africa - IPP's. • As Murray & Roberts Projects secures EPC opportunities, Wade Walker will be able to execute the E&I scope of the project. • Mining companies SIB and expansion projects specifically in SA Platinum Group Metals sector.

WADE WALKER SOLAR

COMMERCIAL & INDUSTRIAL SCALE PV SOLAR

DIVISION / COMPANY	MARKET OUTLOOK	KEY FOCUS
	<ul style="list-style-type: none"> Commercial Photo Voltaic (PV) solar roof installations have gained momentum in South Africa as the legislation is more relaxed to allow self generation up to 10MW (cap now raised to 100MW) and the increasing risks of load shedding and increasing electricity tariffs Multiple very small players, but few niche larger contractors who can offer full EPC + Finance solutions Opportunity exists to take up space on the supply chain as there are limited local suppliers and distributors 	<p>WW SOLAR (SOLAR PV DESIGNER AND INSTALLER)</p> <ul style="list-style-type: none"> Restructured the business to provide clear roles and bolster design and estimating capability. Geographical expansion – piggy-back on Aarden Solar satellite office expansion. Partnering with project developers and other strategic partners to focus on opportunities that are well progressed. Secure a portfolio appointment from the likes of a property developer or other industrial user that has multiple sites where installations can be rolled-out in a structured manner over time. E.g. follow on work for Impala and Broll Properties <p>AARDEN SOLAR (SOLAR PV SUPPLY CHAIN COMPANY)</p> <ul style="list-style-type: none"> Grow current market share from 1.7% to 2.6% in FY2023 and to 3% in FY2025 Develop technical back-up and support – attract new clients by demonstrating industry & product knowledge and provide technical support, product training and repairs. Improve processes / systems Geographical expansion – systematically open additional satellite offices with small warehouse in new geographical locations to expand client base

KEY OPPORTUNITIES

- The current order book and near prospects are in the Renewable Energy and Transmission / Distribution sector. Close of Bid Window 5 has been delayed but there is now firm timelines on Financial Close. Several Private sector utility scale projects are heading towards Financial Close. Bid Window 6 costing is currently being prepared
- Utility scale PV Solar projects - the platform has established JV partnerships to provide Utility scale PV solar to the Renewable Energy Independent Power Producer programme and private sector clients on fully wrapped EPC basis
- Utility scale Wind Energy projects – the OptiPower business has Early Works contracts on two Bid Window 5 projects and further near-term opportunities in Civil Balance of Plant / Electrical Balance of Plant partnership directly to the IPPs
- OptiPower is a preferred specialist High Voltage contractor to the incumbent EPC for Eskom's Battery Energy Storage Systems (BESS) projects. OptiPower successfully completed its first utility scale BESS installation this year at Golomoti
- The PGM mining sectors Stay in Business and brownfield expansion programme gives Murray & Roberts Projects and Wade Walker a visible pipeline of SMEIP projects coming to market currently
- Wade Walker Solar continues to establish a track record and gain market share in the PV Solar Commercial and Industrial space

KEY RISKS

- The platform's main market is the public sector and SOE's e.g. transmission and waste water treatment , where investments in projects have been very slow and delayed in past years
- The platform is reliant on market conditions (macro) to reach sufficient scale of order book/pipeline. Current market has been insufficient to support a sustainable business, but opportunities are now realising
- Breaking into other market sectors to extend service offering to other areas is difficult (e.g. power station maintenance work is historically serviced by local entities)
- The water sector remains subdued and underfunded, with meaningful opportunities only in the medium to long term in potential Public Private Partnerships
- Challenge to compete in sub-Saharan against global companies, specifically transmission lines (low cost). This risk is managed via specific targeting of opportunities in SADC

PRESENTATION TAKEAWAYS

- Platform to focus on achieving consolidation and growth over a three-year horizon of FY2023 to FY2025. For the past three years the market was insufficient to support a sustainable business, but this is showing positive signs specifically in Renewable Energy. (REIPPP and Private Users)
- **OptiPower Projects:** Presents the strongest pipeline of opportunities for transmission line and high voltage substations.
 - Able to provide electrical balance of plant services for utility scale renewables (wind and solar), battery energy storage systems and embedded generation
- **Murray & Roberts Projects :** The Platforms EPC integrator and maintenance , structural , mechanical , and piping contractor.
 - Ongoing mechanical maintenance and outages at Kusile and Medupi. EPC integrator for utility scale solar PV. SMP construction work for mines. EPC opportunities on fuel storage terminals
- **Murray & Roberts Water:** The business is currently commissioning the relocation of the Organica WWTP at the V&A and is the first commercialised use of the technology, but does not make the water business sustainable.
 - The City of Cape Town project pipeline continues to experience delays to implementation. PPP progress is slow to mature and delays in projects coming to market
- **Wade Walker Solar:** The company is targeting 1 – 10MW commercial & industrial solar PV (panels, inverters, batteries) solutions. Start-up business/small scale.
 - EPC model for roof and ground mount facilities. Supply chain participation in JV with Aarden Solar – this business is gaining market share. Portfolio of EPC & Power Purchase Agreement opportunities with key clients e.g. Impala and Broll properties

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