

FOR IMMEDIATE RELEASE

Integrated Solutions Key To Growing Africa's Power Generation

As African countries work to develop their power generation capacity in the most cost effective ways, the key will be to find integrated solutions that attract investment throughout the value chain.

According to Alastair Gerrard, integrated solutions executive at Zest WEG Group, the energy sector on the continent is seeing a growing number of power-related projects funded by recognised lenders and financiers. The African Development Bank, for example, has committed to fund \$12-billion for energy development in Africa over the next five years.

“Energy investment needs to target the whole value chain, including local content and supplier development as well as local skills development and the building of manufacturing capabilities,” says Gerrard. “This focus will lead to improved skill levels and more self-sustainable economies, which can contribute towards the projected return-on-investment in the projects themselves; the approach will also promote further investment on the continent.”

He emphasised that project developers in the public and private sector therefore need to partner with companies that understand these requirements and have the capability to provide cost effective and reliable power generation solutions.

“At Zest WEG Group, we are acutely aware of the needs, challenges and dynamics of the African continent,” he says. “We are continuously looking at new and innovative ways to contribute towards the stimulation of investment in all markets, including the power generation sector.”

Such innovation is particularly important in an environment where electrical infrastructure is not always available or well-maintained. These factors often preclude the development of large scale power generation projects. The energy opportunities that are presented therefore require extensive analysis, in which the needs must be clearly understood, and all constraints and challenges unpacked before the most appropriate technologies are selected.

“In this context, solutions must be carefully customised to suit the need, and may require a combination of different resources to fuel a power plant, making up a hybrid power generation

solution such as diesel combined with solar,” he says. “These hybrid systems then need to be supported by the right electrical infrastructure.”

As specialists in integrated energy solutions, the Zest WEG Group can meet these requirements through the products it supplies, the equipment it manufactures and the services it provides.

A recent project was to provide a 12,5 MW continuous power diesel generation facility – to be potentially expanded to 20 MW – to a graphite mine in Mozambique. The complete integrated solution included containerised power generators, an ‘electrical house’ (E-house) with medium voltage board and control room, with generator synchronisation and plant control system. Also provided were all the supporting ancillary systems including the fuel and oil systems, the cooling system, and the air filtration and pressurisation system.

“The majority of the main power plant equipment was sourced within the Zest WEG Group,” says Gerrard, “while the plant installation was also conducted by our construction company within the group.”

Reflecting its diverse expertise in engaging with various energy resources, the Zest WEG Group designed and commissioned several 380 kW containerised biogas generators, complete with radiator cooling systems, synchronisation switchgear and heat recovery systems, at two different sites for a public sector customer in South Africa. This integrated solution also included step-up transformers, medium voltage integration switchgear, a containerised control room and plant auxiliary distribution board as well as the electrical installation of all equipment supplied.

It also developed, installed and commissioned a steam turbo generator set solution for a large KwaZulu-Natal customer, using a 48 MW multi-extraction, condensing steam turbine, complete with a 57 MVA, 11 kV two pole generator. Ancillary equipment included the condensing system, lubrication oil system, turbine control panel, generator protection and synchronisation panel and battery systems and chargers.

As part of the project, the Zest WEG Group provided a long term service contract for a five year period, and was required to guarantee 98% availability of the system throughout the warranty period.

Gerrard highlighted the group's cutting-edge technology and a strong portfolio of skills and experience as a basis from which to provide custom-engineered and fit-for-purpose solutions.

"With 38 years of experience in Africa, we have a team of qualified experts dedicated to the development of the business on the continent," he says. "Our footprint is a testament to our commitment. Apart from our head office and manufacturing facilities in South Africa, we have a fully-fledged branch in Ghana, registered entities in several African countries and a wide network of distributors and agents across Africa."

The group has invested significantly in acquiring and upgrading four manufacturing facilities in South Africa, raising the local content of its respective products.

"Our knowledge of the African environment ensures that the products we manufacture are well suited to handle the conditions that we commonly encounter," he notes.

INTEGRATED PIC 01 : A complete integrated 12,5 MW continuous diesel power generation plant in Mozambique, designed for harsh operating conditions associated with graphite mining. (Night shot)

INTEGRATED PIC 02 : A complete integrated 12,5 MW continuous diesel power generation plant in Mozambique, designed for harsh operating conditions associated with graphite mining. (Day shot)

INTEGRATED PIC 03 : Containerised gas generator set, complete with controls and heat recovery system, used to produce energy from treated biogas in the waste water treatment industry.

INTEGRATED PIC 04 : A 48 MW multi-extraction condensing steam turbo generator set, with associated auxiliary systems, used for co-generation in the pulp and paper market.

INTEGRATED PIC 05 : Increasing local content and promoting skills development is vital to the growth of the economy. Zest WEG Group has made significant investments in its South African based manufacturing facilities.

INTEGRATED PIC 06 : Packaging and assembly of custom-engineered generator set solutions underway at our manufacturing facility located in Cape Town.

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