

Tapping into gas-to-power technologies for economic grow

Growing the economy, creating jobs and taking care of the environment are all high on South Africa's agenda. Harnessing the country's abundant natural resources through well thought out and designed infrastructure projects would help achieve these objectives.



Photo: Black & Veatch

In addition, broader access to electricity can boost industrial activity and support previously underserved regions. There are also opportunities to profit from increased exports of resources such as natural gas and electricity to other regions where energy deficits persist. The governments Inclusive Growth Action Plan identifies the energy sector as a key focus area. Taking the lead from the National Development Plan's (NDP) Vision 2030, this plan identifies the finalisation of the Integrated Resource Plan (IRP) expected to take place in early 2018.

"Finalising the IRP, particularly as it pertains to gas-to-power plant development activity, has the potential to boost the local economy and stimulate trade amongst key industries. Successful deployment of such projects will require training and skills development to properly build and maintain these facilities and achieve the country's long-term energy goals," says Webb Meko, business development director for sub-Saharan Africa at Black & Veatch.

New territory for South Africa

"Liquefied natural gas, or LNG facilities - and the capability to build new infrastructure to support exports - are new territory for South Africa and the local workforce. Global gas supplies have increased over prior years, and demand continues to grow worldwide. Integrated gas-to-power projects must be developed under the guidance of knowledgeable consulting, engineering, procurement and construction experts for schedule, budget, performance, quality, and safety."

"Some lessons can be borrowed from other large infrastructure projects, but gas-to-power plants call for different technical skill-sets, including configuration and associated technologies. In addition, knowledge about LNG technology, cryogenic systems, vaporisation, utility integration, control systems and safety are essential for efficient and economical project design and execution."

This specialised expertise will be beneficial for the country for the future, especially with the likelihood of gas becoming more integrated into Africa's future energy portfolio. Gas-to-power projects require the collaboration of many stakeholders – including regulators and local officials, developers, investors, and engineering, procurement and construction (EPC) providers.

Meko draws a parallel in the company's current project work on what will be the largest natural gas power station in South America. With many South American nations facing similar demand for reliable baseload power, the 1,516MW combined cycle power Porto de Sergipe project in northeastern Brazil will help meet mounting energy needs. The project will include construction of a new floating natural gas storage and regasification facility. The complexity of the project necessitates coordination with contractors, technology providers and development partners eBRASIL and Golar Power.

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