

zeus SYNGAS REFINING report

GasTechno Targeting Nigerian Methanol Stove Market

GasTechno West Africa Ltd. (GTWA), a Nigerian subsidiary of Gas Technologies LLC (GTL), has exclusive rights for use of the proprietary GasTechno® process within Nigeria. According to GTL and multiple third-party studies, the process has significant cost savings versus other gas-to-chemical technologies and works with dry natural gas as well as biogas and landfill gas.

The plan for Nigeria is to install the process with an NGL plant to produce LPG and condensate on the front end and methanol on the back end. GTWA will produce and market affordable cooking fuel for the existing LPG industry as well as a USAID-funded methanol stove plan for the Niger Delta region. In the long term, GTWA anticipates that the domestic production of affordable methanol will not only encourage the further development of the methanol-stove market, but will also support the development of the entire Nigerian chemical industry as methanol is a key feedstock of a number of chemical processes.

The company will raise \$1.25 million in the first equity-investment round and contribute it towards down payment on the GasTechno® Master License Agreement, secure commitment of a joint venture in two gas-processing facilities, and negotiate long-term gas contracts for these facilities. Overall project financing for the first facility will be sought in two phases, with the first phase being the purchase and installation of an NGL plant and the second phase being for the purchase and installation of the GasTechno® process.

Finding Domestic GTWA Product Markets

GTWA contributions to these joint ventures will be individual site licenses for GTL's technology. It plans to enter into three joint ventures in the first ten years with a 70-tpd methanol facility procured in year two, a 140-tpd unit in year five, and a 430-tpd plant in year eight.

The firm will attract JV investors for a pilot facility; leverage the company's inclusion in the Gas Master Plan; raise \$3,000,000 in the second equity-investment round; procure equipment from the US; install the facility; and use revenues to develop the domestic methanol market.

It has the expertise to design, procure, install, and operate a natural-gas facility in Nigeria. Capital expenses for the facility will range from \$10 million to \$100 million based on the subsequent equipment capacity to be secured and working capital to cover expenses incurred before the facility is at a profitable operating capacity and off-loading of product begins.

Taking Three-Pronged Marketing Approach

The GTWA facility will produce LPG, condensate, formalin, methanol, ethanol, and carbon credits with methanol and formalin having the greatest potential for future market development. Company officials will take a three-pronged approach to marketing its methanol. Methanol will almost exclusively be sold to international oil companies and small-volume consumers and methanol stoves will be promoted and subsidized as a kerosene alternative. Secondly, GTWA intends to sell methanol as a cooking fuel and work with Nigerian firms willing to invest in facilities that will use methanol as feedstock.

The company will begin investing in a local market and distribution system for methanol as a cooking fuel and promoting methanol as a superior substitute for kerosene and wood, while its processing operations reduce air pollution by capturing currently flared gas.