

PetroSA Joint Venture Wins International Technology Award

PetroSA and its two European partners have been awarded a top global prize for a major technology breakthrough in converting gas to fuels.

PetroSA, StatoilHydro and Lurgi, jointly known as GTL.F1, were acknowledged by the international gas-to-liquids fraternity in London on May 13 when they received the CWC World GTL Award 2008 for "Innovation in the Development of the GTL Industry".

The breakthrough technology, under test in Mossel Bay since 2004, allows for the conversion of gas to the clearest wax to date, without the need for secondary clean-up.

Various automotive fuels can now more easily be produced.

This is a major breakthrough as similar gas-to-liquid plants around the world have struggled with the high level of impurities in the wax product.

"The implications for worldwide adoption are enormous and have vast financial implications for PetroSA and its partners. This technology could break the technological impasse affecting multi-billion dollar gas-to-fuel projects in other parts of the world," PetroSA's New Ventures: Midstream Vice-President, Joern Falbe, said at the prize-giving ceremony.

Falbe, Technology Development Manager Henry de Wet and Gareth Shaw were represented PetroSA at the prestigious event.

"Through its pioneering role, PetroSA and its technology partners are now regarded as the world leader in this business," Falbe added.

The Technology Development team in Mossel Bay has been instrumental in the success.

"The Project Manager for the FT semi-commercial unit, Patrick Taylor, has been working tirelessly with the GTL Refinery Production and Engineering Teams in Mossel Bay, making innovative plant modifications and skilfully operating the unit," says Henry de Wet.

"This international award crowns the innovative work of our technology development team and deserves a round of applause," he added.

Mossel Bay is the only site in the world where three of the GTL technologies are in operation -- HTFT (High Temperature Fischer Tropsch), LTFT (Low Temperature Fischer Tropsch) and COD (conversion of Olefins to Distillate).

As well as being the first GTL plant in the world, the Mossel Bay Refinery has been the largest for 15 years since commissioning in 1992.

The Fischer-Tropsch (FT) process is the conversion of synthesis gas to liquid hydrocarbons and oxygenated hydrocarbons – petrol, diesel, kerosene and other fuels.

Companies developing and applying the technology use different combinations of catalysts, reactor types and process conditions.

The FT reaction is accelerated through catalysis and the reactions take place in a reactor under controlled process conditions.

Iron and Cobalt catalysts are mostly applied in commercial applications.

Reactor types used are circulating fluidised bed (CFB), fixed fluidised bed (FFB), fixed bed and slurry bubble column reactors.

The reactor operating temperature distinguishes the process conditions, so-called High or Low temperature FT.

The FT technology commercially applied at the GTL Refinery in Mossel Bay, under licence from Sasol, is an Iron-based catalyst used in a CFB reactor at a high temperature.

This iron-based technology produces a short-chain, olefinic hydrocarbon product stream with a high selectivity for oxygenated products.

This process is suited for petrol and chemicals production with lower volumes of diesel produced.

The GTL.F1 FT technology, winning this prestigious award for innovation, is a cobalt-based catalyst in a slurry bubble column reactor operating at a low temperature.

This LTFT technology produces mainly longer chain paraffinic products in the wax range which is converted to diesel.

The market expects at least 10 GTL plants to be built in the next 10 years at a value of \$8-10 billion each.

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