

MHTL Commissions Methanol to Power Project



Methanol to Power

Methanol Holdings (Trinidad) Limited has been exploring new uses for methanol with a view of creating new markets. One such initiative is the **Methanol to Power Project**, a research project which is being pursued in collaboration with the University of Trinidad and Tobago (UTT).

▶ On July 25th 2007, MHTL commissioned its Methanol to Power project at the Point Lisas Industrial Estate. This project, which is jointly being done with the University of Trinidad and Tobago (UTT), involves the use of methanol as a fuel in power generation. A Demonstration Power Plant which can generate up to 8.5 MegaWatts of power has been established to provide the electricity requirements of two of MHTL's methanol plants.



The Methanol to Power project stemmed from the Government's desire to provide affordable energy to some of our neighbouring Caribbean islands. MHTL saw the potential in conducting this project as it offered an alternative energy supply, which could also be considered for this niche market especially since methanol is an ultra-clean source of power when compared to other fuels and could be supplied more affordably than by other methods.



Mr. Joseph Cassidy acting in his capacity as Deputy Chairman of MHTL shared some details regarding the evolution of the project. He stated that this project offers an opportunity to create a "Virtual Pipeline" in the provision of energy to the Caribbean utilizing MHTL's current fleet of 10 methanol tankers for transport. Mr. Cassidy noted that the project's success would allow Trinidad to provide the Caribbean islands, especially those which cannot economically be served by either gas pipeline or LNG, with electricity at competitive, stable and predictable prices.



1. Dr. Lenny Saith
Minister of Energy and Energy Industries

"This Methanol To Power initiative fits securely into the Government's Vision of using the Energy Sector to provide a platform for development of our people, local enterprise, the capital market, innovation and technology."
"The appeal of the Methanol To Power initiative therefore lies in its significantly lower capital requirements for project viability enabling both a speedy and cost effective implementation. The Project presents an alternative for our Caricom neighbours in their quest to minimize their energy costs."



2. Dr. Kenneth Julien
Chairman of the University of Trinidad and Tobago & Chairman of the Natural Gas Export Task Force

"This Project fits in very neatly with the mandate of UTT but also on the other hand fits in directly, with Government's position and policy and strategy, namely, as a big producer of methanol and ammonia, we should be actively looking for new uses of those products."



3. Mr. Erwin Keutner
Member of the Management Board of MAN Ferrostaal

"The Methanol To Power Project started just over 2 years ago when MHTL asked MAN Ferrostaal together with PROMAN ... for a technically feasible proposal for a methanol fueled, gas turbine-driven, generator to be put into operation in as short a time as possible."



4. Mr. Rampersad Motilal
Managing Director of MHTL

"We expect early favorable results from this Project. Indeed, although the full research period is actually two years we expect within a period of six months to get reliable data to give us clear evidence of the viability of the Project."



5. Mr. Joe Cassidy
Deputy Chairman of MHTL

"At the appropriate point in time it is our intention, in association with UTT, to invite the energy leaders from all over the Caribbean to come to Point Lisas and see for themselves what has been achieved here and more importantly what it is possible to achieve going forward."

At the ceremony, Mr. Rampersad Motilal, MHTL's CEO, re-emphasized that this project was yet another example of MHTL re-investing shareholders' funds locally with another such investment being MHTL's construction of its Ammonia-Urea Ammonium Nitrate-Melamine (AUM) Project. The CEO stated that this formula of continuous reinvestment has worked well for both MHTL and the nation, as it has created opportunities to invest profitably in the further development of the country.

Dr. Kenneth Julien, Chairman of UTT, praised MHTL for pursuing the project and noted the benefits the project could provide to the Caribbean. He further indicated that this project would be UTT's Natural Gas Institute of the Americas first major project and recognized that as a big producer of methanol and ammonia, Trinidad and Tobago needed to look for new uses of these products.

Minister of Energy and Energy Industries, Dr. Lenny Saith stated that the Methanol to Power initiative meets the Government's developmental targets as it demonstrates a commitment for the country to move beyond being an end-user of energy technology and into the elite domain of being a creator and innovator of new technology and systems. He congratulated both MHTL and UTT for their forward thinking and action.

▶ What is the Methanol to Power Project?

The Methanol to Power Project involves the building of a Demonstration Power Plant (DPP) at Point Lisas. The UTT is a partner with MHTL on this project, which will be the first major, research initiative of UTT's Natural Gas Institute of the Americas.

The DPP has already been constructed on the site of one of MHTL's methanol plants and consists of a standard gas turbine which has been modified to use methanol instead of natural gas. The commercial scale methanol fuelled 8.5 MW turbine/generator is manufactured by MAN Turbo (Figure 1) This generator will run at full load for up to two years and supply electricity to the two of MHTL's methanol plants over the study period.

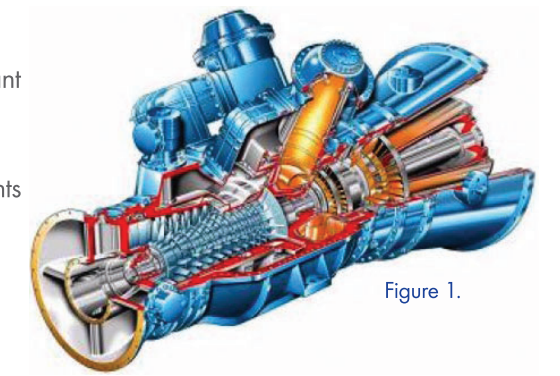


Figure 1.

▶ MHTL - UTT Research & Development Programme

MHTL's collaboration with UTT's Natural Gas Institute of the Americas on the project will involve research on the following:

- The feasibility of combined heat and power generation
- The establishment of a specification for fuel grade methanol
- A feasibility on the Methanol to Power technology
- An economic feasibility that will involve the detailed costing of the "methanol value chain" versus other hydrocarbon alternatives, the examination of factors which could impact the project's viability and a detailed study of the potential niche markets (e.g. Caribbean islands) for the use of methanol as a fuel

▶ The Methanol To Power Project

Capital Cost - US\$ 12 million
Offshore EPC Contractor - MAN Ferrostaal
Onshore EPC Contractor - Proman Trinidad
Operators - Industrial Plant Services Limited (IPSL)

▶ Advantages of Methanol as a Fuel for the Caribbean Islands

- Favorable economics
- Cost is based on gas rather than oil
- Requires less capital than other energy options such as a gas pipeline or LNG re-gasification station
- Can supply islands that cannot be supplied by the proposed gas pipe line
- Easily transportable on methanol vessels
- Island by Island arrangement or "milk-run" delivery
- Fast implementation time
- Stable, reliable and competitive alternative energy source



- 1. Natural gas from offshore platforms is delivered to MHTL via pipelines and used to produce methanol
- 2. Methanol is then shipped by MHTL to the Caribbean islands and delivered into storage tanks
- 3. Methanol is then delivered from storage tanks to Power Plants via pipelines
- 4. At Power Plants, methanol is converted into electricity and transmitted to households

