

# NEWS RELEASE [www.jogmec.go.jp](http://www.jogmec.go.jp)



## Japan Oil, Gas & Metals National Corporation

Division in Charge: Oil and Gas Upstream Business Unit

GTL Business Promotion Team: FAX:+81-3-6758-8065

Business Strategy Department : FAX:+81-3-6758-8052

PR in Charge: Public Relation Division

General Coordination Department : FAX:+81-3-6758-8008

## JOGMEC conducts the joint study for JAPAN-GTL Process of gas utilization with Empresa Nacional de Hidrocarbonetos, E.P of Mozambique and Mitsui & Co., Ltd.

At the "Mozambique - Japan Investment Forum" in Maputo, January 12<sup>th</sup>, 2014 - Japan Oil, Gas and Metals National Corporation (JOGMEC), Empresa Nacional de Hidrocarbonetos, E.P of Mozambique (ENH) and Mitsui & Co., Ltd. (MITSUI) signed a Joint Study Agreement (JSA) to apply JAPAN-GTL Process to the natural gas produced from offshore Mozambique. At the local site in March, the work for the application has been conducted based on the JSA.

At the "Mozambique - Japan Investment Forum" in Maputo, January 12<sup>th</sup>, 2014, attended by Japanese Prime Minister H.E. Mr. Shinzo Abe and President of Mozambique H.E. Mr. Armando Guebuza, JOGMEC, ENH and MITSUI signed a JSA to apply JAPAN-GTL Process with the aim of the utilization of the gas produced from offshore Mozambique.



Signing Ceremony of JSA at the Mozambique - Japan Investment Forum  
 (Witnesses from left) H.E. Mr. Shinzo Abe (Japanese Prime Minister)  
 and H.E. Mr. Armando Guebuza (President of Mozambique)  
 (Signors) Mr. Masami Iijima (CEO of MITSUI), Mr. Hirobumi Kawano (President of JOGMEC)  
 and Mr. Joaquim Caronga (Executive Board Member of ENH)

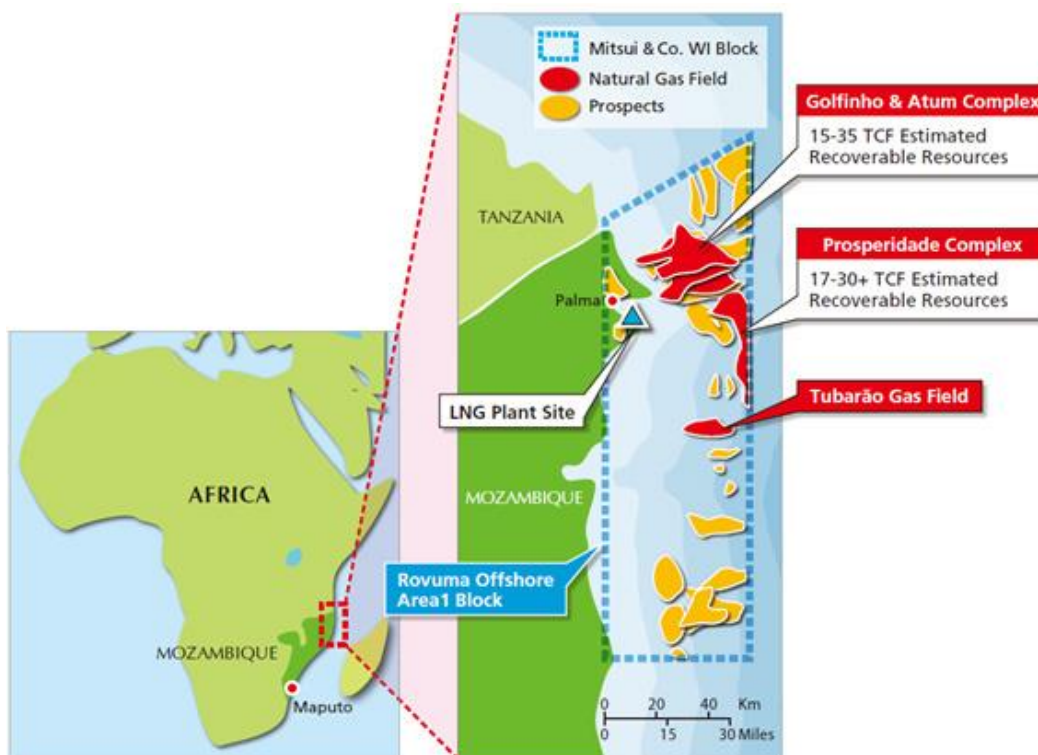
JOGMEC and MITSUI have begun studying how to progress specifically with the joint study. JOGMEC visits Mozambique early March to launch the work at the local site under the cooperation of ENH. In future JOGMEC plans to proceed with the work of the application to the local site in collaboration with stakeholders.

Establishing the applicability of JAPAN-GTL Process, it is expected that the Joint Study contributes for commercializing JAPAN-GTL Process and more strengthening the relationships between Mozambique and Japanese companies along with JOGMEC for our contribution to natural gas utilization in Mozambique.

Recently Mozambique draws great deal of global attention for the discovery of large-scale offshore gas fields. JOGMEC provides equity capital to Mitsui E&P Mozambique Area 1 Ltd., which is the subsidiary company of MITSUI and holds participating interests in Rovuma Offshore Area 1 Block, Mozambique. The front-end engineering and design (FEED) for the Mozambique LNG project from the gas fields has been working on and LNG produced from the project is expected to be exported to foreign countries including Japan. Besides LNG project, the domestic utilization of the natural gas is also considered with expectation to contribute to society and economic growth of Mozambique.

**(\*1) Natural gas produced from offshore Mozambique (by courtesy of MITSUI HP)**

Since 2010, ten deep-water exploration wells have been drilled, out of which seven have confirmed the existence of gas. The estimated recoverable resources within the block for Prosperidade Complex is between 17 to 30-plus trillion cubic feet (Tcf) of natural gas and for Golfinho/Atum Complex it is between 15 to 35 Tcf of natural gas (as of the end of November 2012), which makes it one of the largest gas finds in the world. Exploration work will continue in the block, which is believed to still hold additional hydrocarbon resources.



**Fig1 Map of the Rovuma Offshore Area 1 Block, Republic of Mozambique (by courtesy of MITSUI HP)**

## (\*2) JAPAN-GTL Process

### 1. Outline of JAPAN-GTL Process

GTL is short for Gas-To-Liquids. The technology allows for production of petroleum products such as naphtha, kerosene, and diesel oils from natural gas through chemical reactions. JAPAN-GTL is different from the overseas technologies advanced by Sasol in South Africa and Shell, and it features it would be a groundbreaking technology for the first time ever to allow for natural gas containing carbon dioxide (CO<sub>2</sub>) to be used directly as raw material, so that it is to reduce CO<sub>2</sub> to the air and decrease the environmental load (Ref Fig.1). This technology focusing on the FT synthetic process can also be applied to produce clean fuels (zero sulfur and zero aromatics) from coal as well as natural gas, shale gas and coal bed methane (CBM).

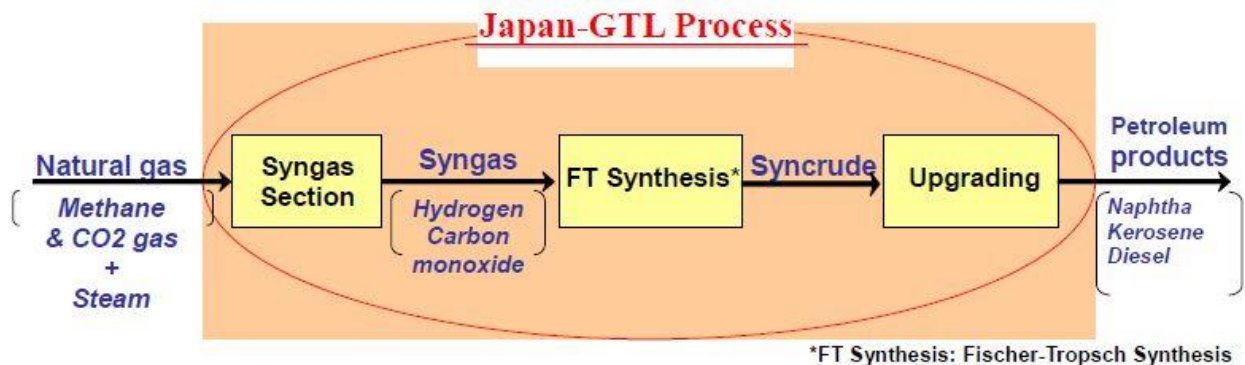


Fig.2 Production flow of Japan-GTL process

### 2. R&D for JAPAN-GTL Process

The JAPAN-GTL Process was developed and established by JOGMEC working in conjunction with six (6) Project Companies for INPEX CORPORATION, JX Nippon Oil & Energy Corporation, Japan Petroleum Exploration Co., Ltd, COSMO OIL CO., LTD., NIPPON STEEL & SUMIKIN ENGINEERING CO., LTD, and CHIYODA CORPORATION, for a term of 2006 to 2011 through the "JAPAN-GTL Demonstration Test Project" including the construction of the "GTL Demonstration Plant" (Ref Fig.2) with a capacity of 500BPD (80kL).

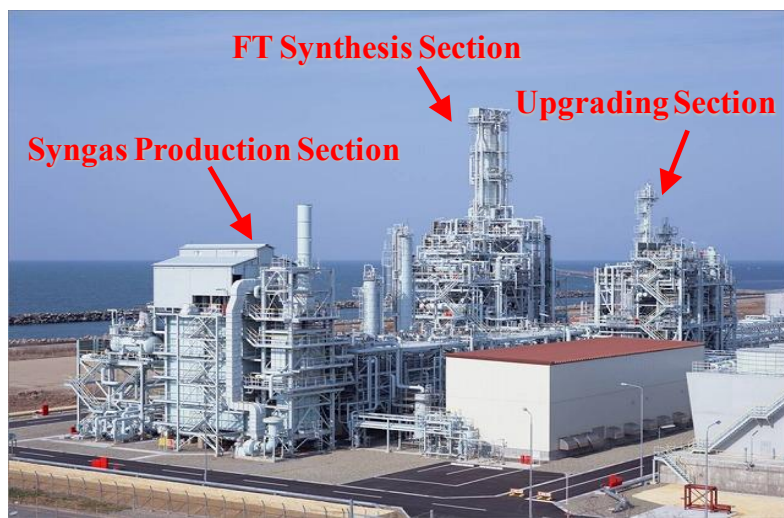


Fig.3 GTL Demonstration Plant (500BPD)

### 3. Outline of “JAPAN-GTL CONSORTIUM”

JOGMEC and the Project Companies are now focused on the use and commercial success of the JAPAN-GTL Process and set up the “JAPAN-GTL CONSORTIUM” on October 1st, 2012 and established a web site (<http://japan-gtl.com>) to promote the major functions of the dissemination of information relating to the JAPAN-GTL Process, the collaborative promotion of the JAPAN-GTL Process and technological support, in connection with the JAPAN-GTL Process at the same time.



Reference : JOGMEC GTL Business Promotion Team

Email : [japan-gtl@jogmec.go.jp](mailto:japan-gtl@jogmec.go.jp)

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