



Natural Gas Sector in Yemen

Overview

According to the *Oil and Gas Journal*, as of January 1, 2010, Yemen has 16.9 trillion cubic feet (Tcf) of proven natural gas reserves. Most of Yemen's natural gas reserves are concentrated in the Marib-Jawf fields, with 10 Tcf of proved reserves according to Yemen LNG. Success in developing the liquefied natural gas (LNG) sector is likely to increase opportunities for further natural gas exploration and production. LNG exports are projected to offset Yemen's falling oil export revenues in 2011, when Yemen's LNG project reaches full capacity.

Production

According to Global Insight, Yemen produced an estimated 365 billion cubic feet (Bcf) in 2009 and domestically consumed 36.5 Bcf. Prior to 2009, Yemen produced only associated natural gas, practically all of which was reinjected to provide enhanced oil recovery. A long-term LNG sales contract with Korea Gas Corp., signed in 2005, provided both the impetus and the investment needed to begin developing Yemen's natural gas reserves for the export market. Yemen also signed contracts with Swiss GDF Suez Company and lead developer, Total, whose LNG shares are slated to be shipped to the United States. All three contracts run for twenty years.

The Yemen News Agency (SABA) in December 2009 reported that the government was engaged in negotiating changes to approved production sharing agreements with oil companies operating in the country aimed at encouraging natural gas exploration, production, and development. Agreements contain, for the first time, the principle of gas production and use sharing.

Liquefied Natural Gas

According to Cedigaz, Yemen exported 18.9 million cubic feet (MMcf) of LNG in 2009. Yemen's first LNG plant went online in October 2009, at the port of Balhaf on the Gulf of Aden. The first cargo of 5.1 MMcf (147,000 cubic meters), was shipped to South Korea at the beginning of November 2009, almost a year behind schedule. Several more LNG shipments were made in December 2009, to Spain, Mexico, and South Korea. Other LNG deliveries have since been



made to China, Texas, and most recently, Boston. An estimated 5 MMcf of LNG arrived at GDF Suez' Everett terminal in Boston on February 23, 2010.

Yemen LNG has 4 tankers with a total capacity of 13 MMcf. A second liquefaction unit, currently under construction, is expected to become operational towards the end of 2010, according to Yemen LNG. Yemen will be able to export 6.7 million metric tons of LNG when the project reaches full capacity in 2011.

The Balhaf terminal receives natural gas from Block 18 in the Marib Basin via a 200-mile, 900,000 cubic feet per day capacity pipeline. Block 18 is operated by the Yemeni government. About 9.2 Tcf of gas reserves have been earmarked to feed the LNG liquefaction plant. SABA recently reported that Yemen has the ability to export over 200 MMcf of LNG per year.

Yemen LNG is the company behind the export program. Its principal operator is the French oil and gas giant Total, which holds 39 percent interest in the project, followed by the independent American oil company Hunt Oil, which holds 17 percent. Three South Korean companies and local Yemeni investors make up the remainder of the backers.

Much investment in coming years is expected to be ploughed into the country's natural gas infrastructure. As reported by SABA, one of the largest construction projects in the country's history was announced in November 2009. The Yemen Gas City Company is planning a US\$20 billion industrial city in Hodiedah. Powered by gas, the industrial complex will house petrochemical and heavy manufacturing plants, as well as cement plants and power stations. A memorandum of understanding for the project has been signed by the UAE's Dana Gas and Crescent Petroleum. (1)

For the sake of ultimate utilization of the abundant natural gas reserves, in 1997 the Liquefied Natural Gas Project Agreement was signed to implement the project on three stages. The MOM represented by the Yemeni Gas Company has a share of 16.73%. The first stage concerning studies and marketing was completed in 2005 while the second being the construction and establishment of plants and other facilities would be finished during 2008. Then at the outset of 2009 comes the stage for commercial production, which would last for 25 years. This project is one of the giant establishments in the world. This is because it would generate giant returns to the national economy. It would generate



different opportunities: such as social development projects, job opportunities to reduce the rate of unemployment and many other opportunities.

Beside this giant project, there are other gas investment opportunities. These include the following:

- Utilizing natural gas domestically as a fuel for factories and transportation means and power generation and water treatment purposes;
- Exploiting it as fuel for cooking, heating, especially in planned cities instead of using LPG which should preferably be transported to villages and remote areas to be used as fuel for illumination instead of wood and kerosene.
- Utilizing natural gas in petrochemical industry and fertilizers' manufacturing;
- Improving and developing the necessary infrastructure needed for constructing factories using gas as fuel and/or constructing of a gas pipeline network to cover the whole country.

Beyond the shadow of a doubt, expanding the use of natural gas to replace other fuels would be a very magnificent accomplishment and giant investment serving the welfare of the society. This would not only decrease environmental contamination but also would protect the health of the individuals and society as a whole. (2)

The Liquefied Petroleum Gas (LPG):

Actually, gas plays a very crucial role in enhancing the growth of the national economy. It is a stimulant factor for domestic industries and households' and service purposes and a guarantee for engendering financial resources geared for achieving a socio-economic development in Yemen. Because of all that, the MOM has and is still doing its best to promote this sector.

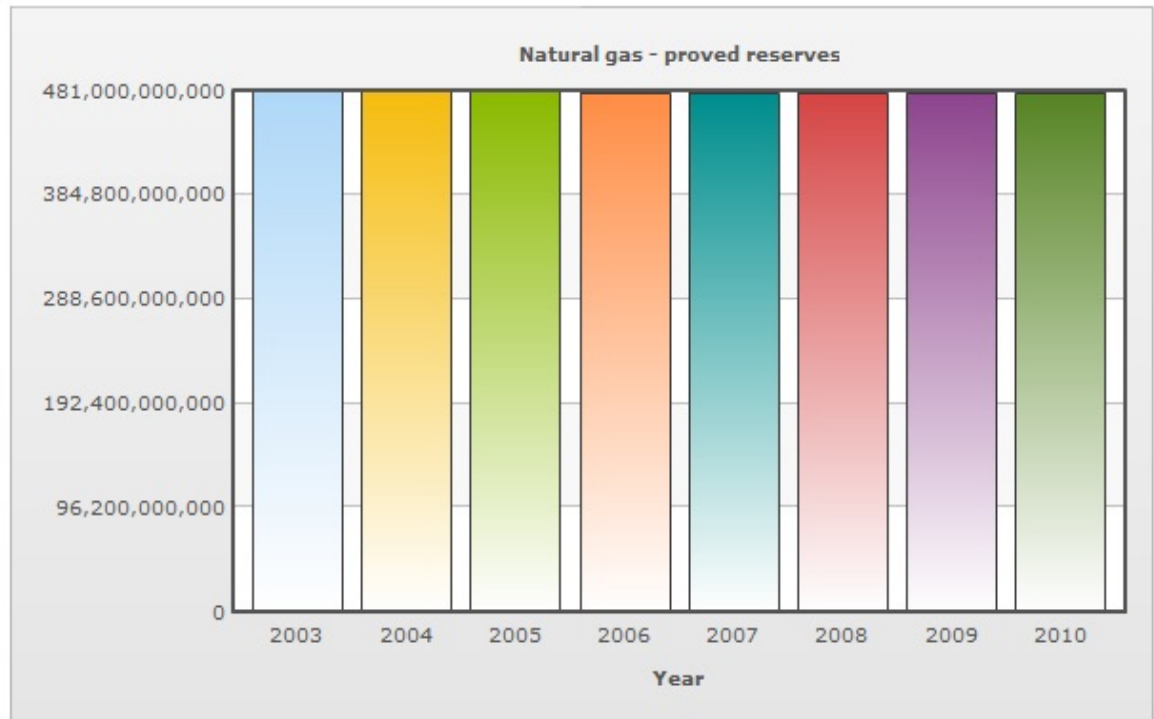
The discovery of great gas quantities stimulated the MOM to increase gas utilization. Thus, the MOM is working on encouraging investment in this sector through constructing LPG (liquefied petroleum gas) production plants and making available all requirements, tools, apparatus etc for transporting LPG. The aim is to make gas substitute traditional energy resources, such as wood, petrol and kerosene.

(1) <http://www.eia.doe.gov/emeu/cabs/Yemen/NaturalGas.html>

(2) <http://www.mom.gov.ye/english/CHANSYGAS.html>

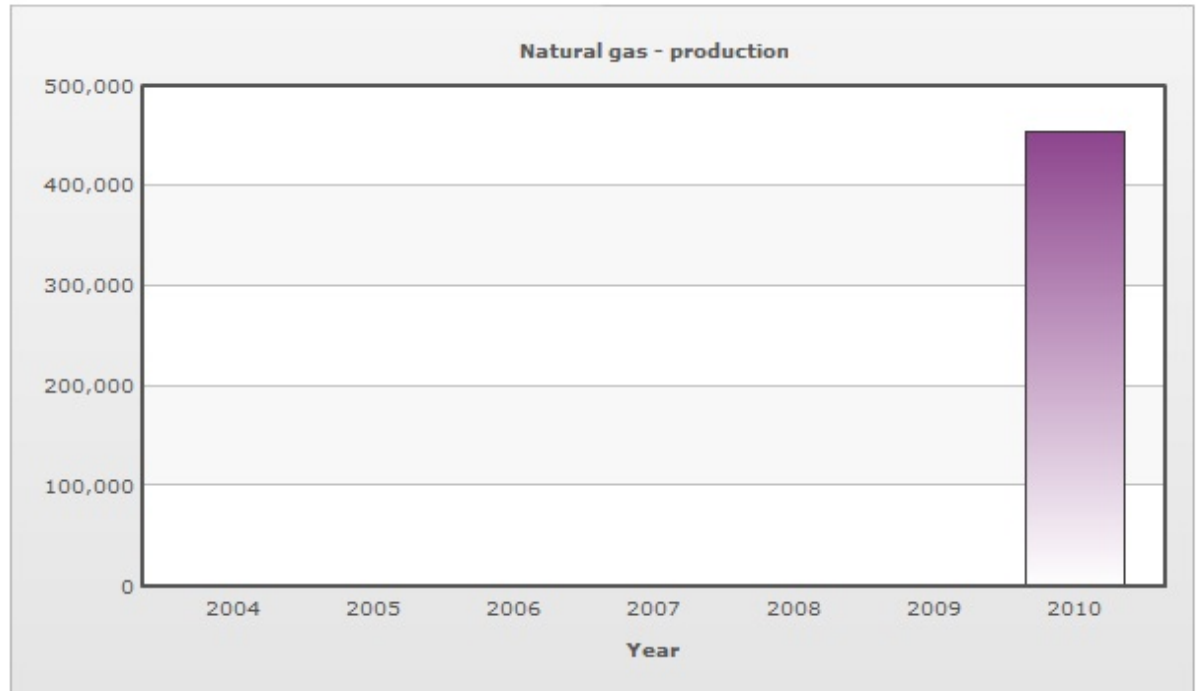
Graphs and Charts

Natural gas - proved reserves: 478.5 billion cu m (1 January 2009 est.)



(Source: http://www.indexmundi.com/yemen/natural_gas_proved_reserves.html)

Natural gas - production: 454,700 cu m (2009 est.)



(Source: http://www.indexmundi.com/yemen/natural_gas_production.html)

Find out more by visiting: www.giay.org
Emailing us at: info@giay.org
Or calling our headquarters at: (+967) 01 262 962 /3