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## **TANZANIAN EXECUTIVES EXAMINE BEST PRACTICES IN LNG POLICY AND MANAGEMENT**

### **EXECUTIVE EXCHANGE ON GAS PIPELINE MANAGEMENT AND LNG POLICY FOR TANZANIA OIL AND GAS SECTOR TO HOUSTON, TEXAS AND WASHINGTON, DC**

**HOUSTON, TEXAS AND WASHINGTON, DC** – Supported by the U.S. Agency for International Development (USAID), participants representing the various Tanzanian agencies and companies charged with implementing and regulating natural gas exploration, production, transmission, and distribution took part in a five-day executive exchange, as part of the U.S. Energy Association (USEA)'s U.S.-Tanzania Utility Partnership. The four-member Tanzanian delegation met with U.S. energy companies, and government representatives from the U.S. Department of Energy, and the Federal Energy Regulatory Commission. They also visited Cheniere's Sabine Pass LNG Terminal.



Participants Mr. Ole-Lolubo, Mr. Charles Omujuni, Eng. Joyce Kisamo, Mr. Rwelamila and from USAID, Mr. Swai visit Cheniere's Sabine Pass LNG Terminal.

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## BACKGROUND: THE U.S. – TANZANIA PARTNERSHIP PROGRAM

Tanzania is one of the six initial focus countries of Power Africa, an initiative U.S. President Barack Obama launched in the summer of 2013, which aims to double electricity access in sub-Saharan Africa by 2018. Recent natural gas discoveries in Tanzania, initial investments in its transmission infrastructure, and the country's goal, to double electricity access from 15% in 2010 to 30% by 2015, are collectively driving the country's electricity policy.

### TANZANIA'S NATURAL GAS INFRASTRUCTURE

Tanzania's recently discovered onshore and offshore natural gas reserves are known as the newest frontier in global natural gas. The country is eager to break into the Liquefied Natural Gas (LNG) export market and is currently working on developing plans with international investors for an LNG liquefaction terminal that has the potential to be one of the largest investment projects in Tanzania. The Tanzanian government thus released the National Natural Gas Policy in late 2013. The policy is the base for the future National Natural Gas Act, which is expected to give the Energy and Water Utilities Regulatory Authority (EWURA) increased regulatory power to regulate the natural gas sector and develop the appropriate standards, codes, and methodologies. Additionally, the government of Tanzania is developing a National Gas Utilization Master Plan, which will outline the priorities for natural gas usage, as well as a Local Content Policy for the Tanzanian oil and gas industry.

In terms of new natural gas infrastructure, Tanzania completed a 532-kilometer pipeline of 36-inch diameter from Mtwara to Dar Es Salaam. Concurrently, Tanzania Electric Supply Company Limited (TANESCO) is building a gas-fired power plant in Kinyerezi in Dar Es Salaam— Kinyerezi I, with a capacity of 150MW, is expected to be completed early 2015. Kinyerezi II, III and IV (all preliminary phases) are slated to add 240MW, 300MW, and 450MW respectively. Having completed the technical infrastructure, Tanzania and EWURA now face the challenge of developing a new natural gas regulatory framework.

### PRIMARY EXCHANGE OBJECTIVES

In an effort to develop the framework, USAID's Tanzania office requested an executive exchange to the United States to meet with key stakeholders in the U.S. natural gas sector. The exchange was the second event in a series of capacity-building exchanges and workshops to support the various agencies and companies in Tanzania charged with implementing, regulating, and/or oversight of gas exploration, production, transmission, and distribution. Topics discussed included:

- Investment and strategic planning;
- Market analysis of natural gas pipelines;
- Management and administration of upstream/ downstream; and
- Planning, operations, and management of LNG terminals.

### SITE VISIT: SABINE PASS LNG TERMINAL

The Tanzanian delegation began their exchange with a visit to Cheniere's Sabine Pass LNG Terminal in Cameron, Louisiana. Adjacent to an existing regasification facility, the Sabine Pass LNG terminal is in the process of constructing a liquefaction project for up to five trains capable of producing a yearly capacity of 4.5 mtpa of LNG per train. The five trains are in varying stages of construction. The delegation saw the full construction process, with the first train already in operation. While the group was touring the facility they saw a shipment of LNG departing.



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## LNG POLICY AND MANAGEMENT

While in Houston, the delegation met with Bechtel and Royal Dutch Shell. With Bechtel, the group discussed construction of LNG terminals, both regasification and liquefaction terminals. They talked about the African countries that implement local content requirements on construction contracts with Bechtel. Delegates learned about how terminal siting can affect pipeline cost and impact the construction timeline.



Following their meeting with Bechtel, the delegation met with several executives from Shell to discuss the roadmap for deepwater development and the LNG value chain. As Tanzania looks to develop its deepwater gas field and build a corresponding LNG liquefaction terminal, the delegation was interested in the timeline and cost of developing both the field and the terminal, and whether there's a long-term market to support a liquefaction plant.



Executives from USEA member-American Petroleum Institute (API) welcomed the delegation to Washington, D.C with an overview of the association, the U.S. natural gas midstream infrastructure and the extensive network of U.S. gas pipelines. The delegation also met with Pipeline and Hazardous Materials Safety Administration (PHMSA). They were eager to discuss pipeline construction and safety standards because of the pipeline projects under development in Tanzania. The Energy and Water Utilities Regulatory Authority (EWURA) representatives in the delegation found particular value in meeting with PHMSA and recognized the need for further development of pipeline safety guidelines for Tanzania.

Lawyers from Hunton & Williams LLP met with the delegation to discuss the LNG project contract chain and market pricing of LNG. They talked about how to secure long-term contracts in Tanzania and the impediments to securing these, such as shifting market dynamics in natural gas. The delegation continued the discussion at the World Bank with one of its energy specialists who gave an overview of the current LNG market and quickly shifted to how Tanzania would fit into the global LNG picture. As a medium-sized player in the LNG market, and with Mozambique a likely competitor, the specialist said Tanzania needs to move swiftly. Because of the global glut of natural gas and the relatively low price of the commodity, it has been difficult

to get new LNG projects off the ground; construction of liquefaction plants is capital-intensive. Many existing LNG projects began with long-term contracts in place; it was easier to secure financing and investors with the price of natural gas relatively high at the time.

The delegation met with various U.S. government agencies, including the Department of Energy (DOE), the Federal Energy Regulatory Commission (FERC), and the Department of Commerce's Commercial Law Development Program (CLDP). The DOE representatives said significant contracts need to be in place in order to secure financing for LNG projects, but that Tanzania is well placed geographically to deliver LNG to the Asian markets, with demand forecasted to rise over the next 5-10 years. The discussion at the CLDP focused on the commerciality of projects--how the timetable, markets, production and transportation facilities, and legal and regulatory concerns can affect the commercial viability of an LNG project.

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A Dominion representative made a presentation about the Cove Point LNG Terminal currently under construction. The delegation visited and toured the site, while the presentation gave an overview of the development process from the engineering, procurement and construction (EPC) contract to the operational phase. LNG liquefaction terminals in the U.S. have all been sited at previously existing regasification facilities. So the cost to construct a liquefaction plant in the states has been lower. Tanzania will not have that luxury; it will be building its liquefaction plant on a green site with no previous infrastructure.

The delegation's visit concluded with a roundtable discussion with experts from the LNG sector about the role of LNG in the United States, the current natural gas market, and the security, environmental, and maritime considerations. The roundtable allowed the delegation to get all their remaining questions answered and issues discussed.

### **SITE VISIT: WASHINGTON GAS ROCKVILLE GATE STATION**



The delegation also toured the Washington Gas gate station in Rockville, Maryland. Gate stations are frequently used by utilities to 1) reduce gas pressure in the pipeline from transmission levels to distribution levels, 2) add an odorant to the gas so that consumers will be able to smell it, and 3) measure the gas being received by the utility. The delegation learned about operational and safety standards at the station.

### **UTILITY EXCHANGE PROGRAM PARTICIPANTS**

#### **EWURA**

1. Mr. Charles Omujuni, Director of Natural Gas
2. Mr. Thobias Rwelamila, Manager of Gas Distribution
3. Mr. Ephata Ole-Lolubo, Principal Economist

#### **BUREAU OF OIL AND GAS, OFFICE OF THE PRESIDENT**

4. Eng. Joyce Kisamo, Technical Advisor

#### **USAID/Tanzania**

Mr. Rogness Swai, Energy Project Development Specialist

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## UTILITY EXCHANGE PROGRAM ORGANIZATIONS AND COMPANIES

1. Cheniere
2. Bechtel
3. Shell
4. American Petroleum Institute
5. Hunton & Williams LLP
6. U.S. Department on Energy
7. Federal Energy Regulatory Commission
8. World Bank
9. Pipeline and Hazardous Materials Safety Administration
10. Washington Gas
11. Dominion
12. U.S. Department of Commerce, Commercial Law Development Program
13. Duane Morris LLP
14. Center for LNG, Natural Gas Supply Association
15. ClearView Energy Partners, LLC

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