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Tanzanian Regulators Make Strides in Unlocking Energy Sector Potential through Safe Expansion of Natural Gas Utilization



January 2021 – Regulators from the Tanzanian Energy and Water Utilities Regulatory Authority (EWURA) are working hard to safely expand the use of locally-produced natural gas, which is growing in importance as a sustainable energy source and an economic stimulator. With support from the United States Agency for International Development (USAID)

and Power Africa, the National Association of Regulatory Utility Commissioners (NARUC) partners with EWURA to promote the country's economic growth, reduce constraints to private sector investment, and increase reliable energy supply through effective regulation.

Most recently, NARUC has provided technical assistance by offering regulators the opportunity to learn about best practices in monitoring and evaluating natural gas service quality and performance standards both in the U.S. and internationally. As a result of this support, EWURA has taken measures to embrace a safety culture and glean knowledge on gas safety regulation that will both help its staff perform their responsibilities and contribute to forging an energy mix that ensures reliable availability of power for all.

Working to Achieve Energy Sector Goals Set by the Power System Master Plan

For many years, Tanzania was thought to have modest natural gas reserves. However, since 2010, renewed exploration has led to major discoveries of vast offshore deposits that have increased current estimated reserves to over 50 trillion cubic feet (TCF).ⁱ As Tanzania's natural gas industry continues to develop, EWURA is working alongside NARUC to ensure appropriate service quality policies and procedures are adopted that will promote stability and efficiency.

Natural gas and hydroelectric plants currently provide over 80% of Tanzania's power production, with natural gas providing 60% of total power in the main grid.ⁱⁱ Recently, however, severe droughts have induced government efforts to decrease dependency on hydropower in order to maintain energy security. Accordingly, the Government of Tanzania's Power System Master Plan (PSMP 2016-2040) aims to bring about socio-economic development and incentivize foreign direct investment by increasing electricity access, improving key infrastructure, and attaining a stable power supply. Compared to the current energy mix, the plan estimates that natural gas will be the biggest contributor by 2040, making up 40% of power generation while 35% will come from coal-fired thermal power, 20% from hydropower, and 5% from others including renewables.ⁱⁱⁱ

By expanding its gas-to-power generation capacity and the diversification of its power sources, Tanzania will be better positioned to reach its goal of increasing electricity access from roughly 36% of the population in 2018^{iv} to at least 75% by 2033.^v It can also benefit economically by amplifying the availability and reliability of energy and by saving money through reducing its dependence on imported fuels for energy production.

Moreover, replacing more expensive fuel sources with natural gas and taking advantage of growing resource potential will enable Tanzania to provide more affordable access to electricity, thereby

boosting the productivity needed to generate jobs, support businesses, and improve living conditions for households across the country.

The Importance of Establishing Service Quality Standards

With more industries and residences gaining access to natural gas than ever before, it is the regulator's responsibility to monitor service quality and determine compliance with technical, safety, and performance standards. In accordance with the Petroleum Act, Cap 392 of 2015, EWURA regulators are entrusted with functions that include protecting the public from dangers arising from the processing, transportation, storage, conveyance, shipping, supply, or use of natural gas.^{vi}

Importantly, Section 207 of the Petroleum Act requires EWURA to develop and carry out a program of gradual adoption and adaptation of current international standards, technical specifications, and codes of practice. By bringing together expert volunteers and regulators, NARUC supports EWURA in accomplishing this task through facilitating important discussions around topics such as data reporting and providing opportunities for stakeholder engagement.

In relation to data reporting, the ability to easily gather data from service providers on the location of both new and existing pipelines is integral to preventing dangerous accidents, such as oil spills, leaks, or explosions. Additionally, convening stakeholders to discuss the details of operations and service procedures allows regulators and utilities to establish trust and rapport through the development of shared specific and measurable short-term and long-term goals.

For example, following NARUC assistance, EWURA staff and service providers have taken steps to establish a detailed emergency action plan to follow in the case of a pipeline-related accident and provide additional training to utilities on incident investigation. Embracing a safety culture within the natural gas industry is also a mutual priority, and will require maintained communication and collaboration on principles such as problem identification and resolution, continuous learning, and work processes to support effective safety performance.^{vii}

Moving Towards a Safer Natural Gas Industry

EWURA staff have also deepened their knowledge on natural gas systems and operations through NARUC's sponsorship of their participation in professional training programs on gas pipeline safety regulation and service quality enforcement. Notably, in August 2018, EWURA staff in the natural gas division started the process of earning certifications from the Gas Technology Institute in the U.S. as industry-wide recognized Certified Natural Gas Transmission Professionals and Registered Natural Gas Distribution Professionals.

The resulting skills and knowledge they attain through these certifications will assist them in their day-to-day operations, including field inspections, performance standards review, and approvals of construction permit applications. Not only will they have a more comprehensive understanding of transmission and distribution systems, they will also be able to serve as in-house trainers for newer staff in natural gas regulation and consistently elevate the level of professionalism and commitment to providing natural gas service safely and effectively within their commission.

As Tanzania endeavors to maximize the benefits of its natural gas resources, the development and enactment of service quality and performance standards is central to accelerating the country's socio-economic transformation and creating an enabling environment for a vibrant and competitive natural gas industry. NARUC will continue to support EWURA as it plans for future development and carries out its natural gas sector regulation responsibilities.

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ⁱ Mohammed, Omar. "Tanzania launches 240 MW power plant in bid to ease shortages." Reuters. <https://uk.reuters.com/article/tanzania-energy/tanzania-launches-240-mw-power-plant-in-bid-to-ease-shortages-idUKL5N1RI3VA>

ⁱⁱ "Tanzania Energy Sector." Get-Invest. <https://www.get-invest.eu/market-information/tanzania/energy-sector/>

ⁱⁱⁱ "Power System Master Plan 2016 Update." United Republic of Tanzania Ministry of Energy and Minerals. <https://www.infoafrica.it/wp-content/uploads/2017/02/Power-System-Master-Plan-PSMP-2016-Update.pdf>

^{iv} "Access to electricity (% of population) – Tanzania." <https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=TZ>

^v "Tanzania Energy Sector."

^{vi} "Update on Tanzania's Petroleum General Regulations." Clyde & Co. <https://www.clydeco.com/en/insights/2020/07/update-on-tanzania-s-petroleum-general-regulations>

^{vii} Rubinger, Jack. "The oil & gas industry requires cultures of safety," ISHN. <https://www.ishn.com/articles/97685-the-oil-gas-industry-requires-cultures-of-safety>