



**PIVOTING PROJECTS —
NGC leverages technology and is set
to deliver first international project in
Ghana in 2022**



PIVOTING THE BUSINESS



NGC'S PROJECT IN GHANA WILL SUPPORT A MORE STABLE GAS SUPPLY TO AN IMPORTANT POWER GENERATION PLANT.



In 2020, the Company had several ongoing construction and upgrade projects, which were forced into temporary suspension. Even more significantly, NGC was also due to embark on a new design-build project in Ghana – the first international venture of its kind for the state company.

While the COVID-19 pandemic was a spanner in the works for most industries and sectors, activities which involved travel or close gathering of persons, or which were dependent on disrupted supply chains, were deeply impacted. Among these were many engineering and construction projects which were stalled or suspended due to legislated or logistical restrictions.

The National Gas Company of Trinidad and Tobago Limited (NGC) was one of the many companies facing project setbacks due to the pandemic. In 2020, the Company had several ongoing construction and upgrade projects, which were forced into temporary suspension. Even more significantly, NGC was also due to embark on a new design-build project in Ghana – the first international venture of its kind for the state company.

Prevailing circumstances notwithstanding, and while domestic lockdowns put local projects on hold, NGC determined that it was still possible to deliver the project

in Ghana through a combination of technology, resourcefulness and manpower flexibility. This determination has led to yet another success story for NGC, for which it was shortlisted as a finalist in the 2021 Inter-American Development Bank (IDB) President's Awards for Innovation and Service Excellence in the Public Sector.

Project background

In 2007, the Honourable Patrick Manning, then Prime Minister of the Republic of Trinidad and Tobago, made an unprecedented announcement at the 8th Annual Meeting of the African Union, that Trinidad and Tobago would make its technical expertise available free of charge to certain energy-producing West African nations.¹ This 'Africa Initiative' – as it came to be called – prompted a series of exchanges, study tours and delegation visits over the next decade, as those West African nations sought to learn from the Trinidad and Tobago experience.

¹ <https://ngc.co.tt/wp-content/uploads/2018/08/gasco-news-july-2018-vol28-no2.pdf>

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NGC and its subsidiaries were among the entities hosting tours and sharing expertise with visiting energy delegations. It was eventually determined that there were significant opportunities for the NGC Group to play a more active role in the development of emerging industries on the African continent. A Technical Services Agreement (TSA) was signed with the Tanzania Petroleum Development Corporation in 2011, and subsequent Memoranda of Understanding (MOUs) were signed with NGC's counterparty state companies in Ghana and Mozambique, all with the aim of supporting projects in their respective jurisdictions. Facilitating and strengthening these agreements were government-to-government collaboration and diplomatic outreach through Trinidad and Tobago's consular network.

Within this collaborative framework, and in furtherance of NGC's thrust to commercialise its expertise in gas-based development, NGC entered into a technical services contract with Integrated Logistics Bureau Limited (ILBL) of Ghana in 2020.

The scope of this contract was the design, procurement, construction, installation and commissioning of a

pressure regulator skid package for the existing Takoradi Distribution Station (TDS) in Ghana owned and operated by the Ghana National Gas Company (GNGC).

Pressure regulating stations are utilised by natural gas transmission companies. Natural gas is usually transported through pipelines at high pressure. However, at supply points to end users of the natural gas, that pressure must be stepped down or regulated to meet the requirements of the specific user and its facilities. Pressure regulating stations are therefore strategically important to service delivery and natural gas supply reliability. In the case of the TDS, supply through the facility feeds an important power generation plant. NGC's contract with ILBL to deliver a pressure regulator skid package at the TDS was therefore a critical one to ILBL and its client GNGC.

Prior to the onset of the pandemic, delivery of such a project in Ghana would have involved site visits to assess as-built conditions, collaboration with and working with ILBL's teams and other stakeholders on the ground in Ghana to finalise design specifications and direct oversight and management of local contractors during the construction

installation and commissioning phases.

COVID-19 made all this challenging and could have derailed the project completely, were NGC not agile enough to adapt to the new reality and initiate remote management of the project.

Pivoting project management
In December 2020, with COVID-19 restrictions making travel between Trinidad and Tobago and Ghana impossible, NGC's Projects Team turned to virtual platforms to execute those tasks that would usually require on-site presence.

The team used virtual meeting tools and relevant software applications to gather data, review designs, and collaborate with their Ghanaian counterparts who were on-site and eventually complete a design that secured the necessary approvals. The project leveraged technology to progress engineering workflows, using 3D computer aided design to communicate the design and test options for improvement. Microsoft SharePoint was used to share technical drawings with the client and to facilitate documentation of comments, input, review, and quality control. Site data was



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supplemented by online videos, which served to provide another level of quality assurance on the as-built specifications that would guide the project.

One of the key project drivers was to coordinate all activities to support a planned turnaround in the third Quarter of 2021. To ensure the project was kept on schedule, the teams from both NGC and Ghana had to conduct regular virtual meetings from different time zones to transition from design to procurement and construction. This demanded flexibility in working hours for team members, and true dedication to the project outcomes. Cultural bridges were also required to foster mutual understanding and optimal work relationships. Additionally, the Supply Chain team worked on different options to identify sources of materials and expediting options to achieve onsite target dates. This was complicated by changes in scope arising from the progression of detailed engineering design activities.

Notwithstanding these and other challenges related to remote management, the project is progressing with fluidity due to willingness of all stakeholders, including ILBL and GNGC, to work together collaboratively and adjust schedule expectations. The project is ongoing and is currently in the construction phase, with NGC providing virtual oversight of the Ghanaian contractors through online platforms. To date the regulator station inlet and outlet piping, regulator station process piping and skid frame have already been constructed in Trinidad and Tobago and have been shipped to Ghana. The estimated completion date for the project is now forecasted to be Q3 2022.

Positive takeaways

NGC has several positives to take away from this project thus far.



SECTION OF PRESSURE REGULATOR SKID PACKAGE AT FABRICATION YARD

In the past, NGC has purchased third party services to manage some of its major projects. Over the years, having built up some requisite capabilities in-house, the Company recognised the value to be derived from marketing this expertise. This has consequently been one of the avenues for income generation being actively explored in recent years. Once completed, the TDS project will represent the first time that NGC has executed a project of this type outside Trinidad and Tobago, and it will provide a template for future international projects.

For NGC, this experience is strengthening its project management capability, particularly in an evolving industry where blended work environments are becoming the norm. Whilst this project is not large, our project and supply chain management teams are gaining invaluable firsthand experience in terms of gathering and analysing technical data remotely and with greater efficiency; navigating cultural divides while managing team dynamics in online settings; and leveraging technology in place of traditional project management tools and methods to achieve desired outcomes. NGC's project team's agility was further tested in the latter part of 2021 as

global supply chains were disrupted and the project team had to respond to uncertainties in the deliveries of valves and other mechanical equipment, which required significant interfaces and engagement with our client and the Ghanaian regulators. Refinement of these skillsets will enhance NGC's value proposition to potential partners and build a case to support any future bids to manage projects in other countries – whether in person, remotely or a combination of both. Building on the confidence arising from this project, NGC has sought additional international opportunities by tendering for projects that could benefit from similar types of services, and this will remain part of the Company's portfolio of service offerings moving forward.

Importantly, the TDS project is firmly establishing NGC as an international energy player, building its brand capital and opening the door for other companies in The NGC Group to enter international energy service markets. The attendant outcomes of internationalisation, brand recognition and portfolio diversification are strategic goals that will help secure The Group's long-term sustainability in the transitioning global energy industry. ■