

STRENGTHENING THE GAS VALUE CHAIN

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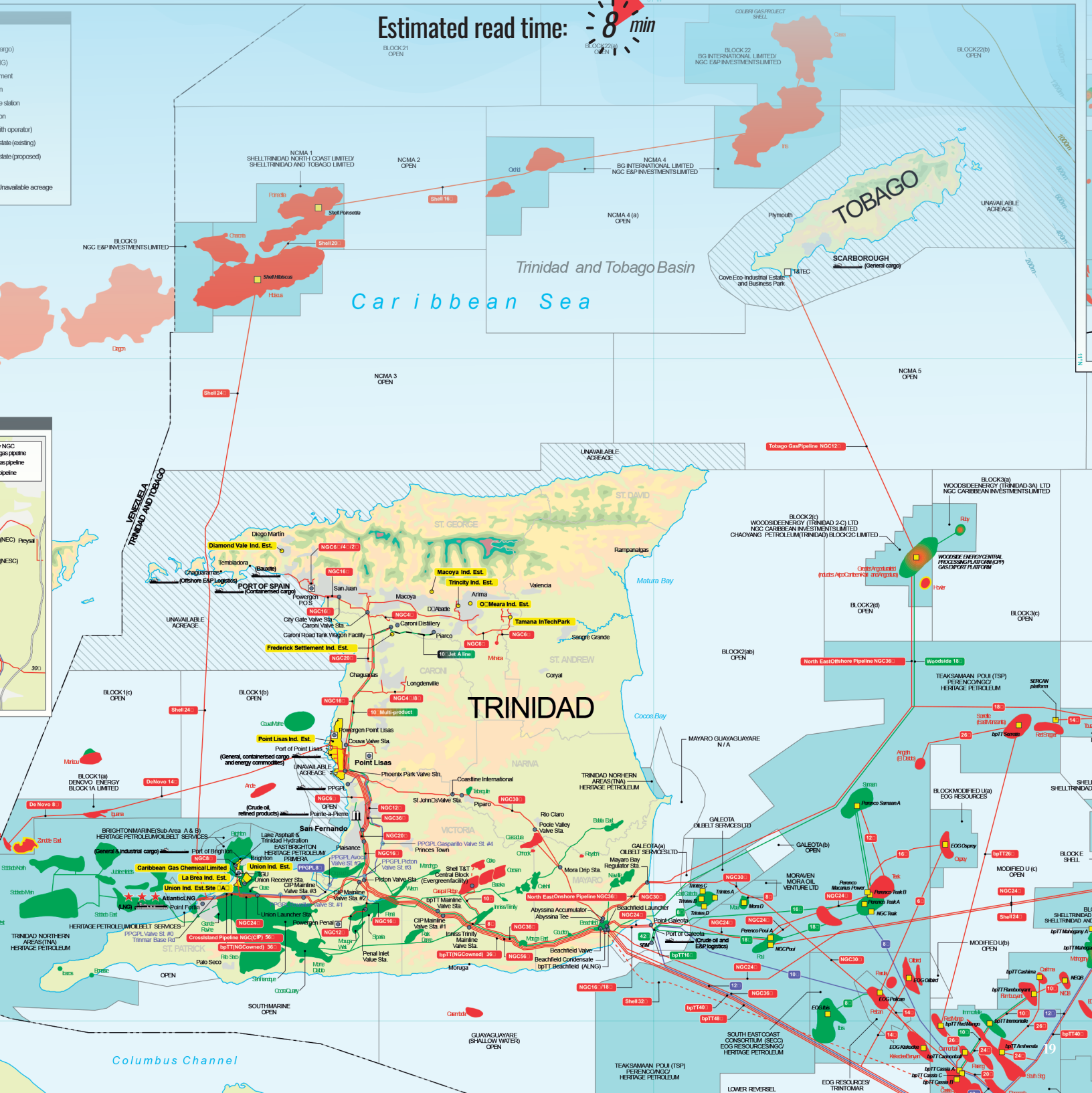
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Trinidad and Tobago NGL Limited (TTNGL)

A valued player in our nation's natural gas-based energy sector, NGC, and by extension, TheNGC Group of Companies, has a proven business model for maximising resources: a model with applicability far beyond the shores of Trinidad and Tobago.

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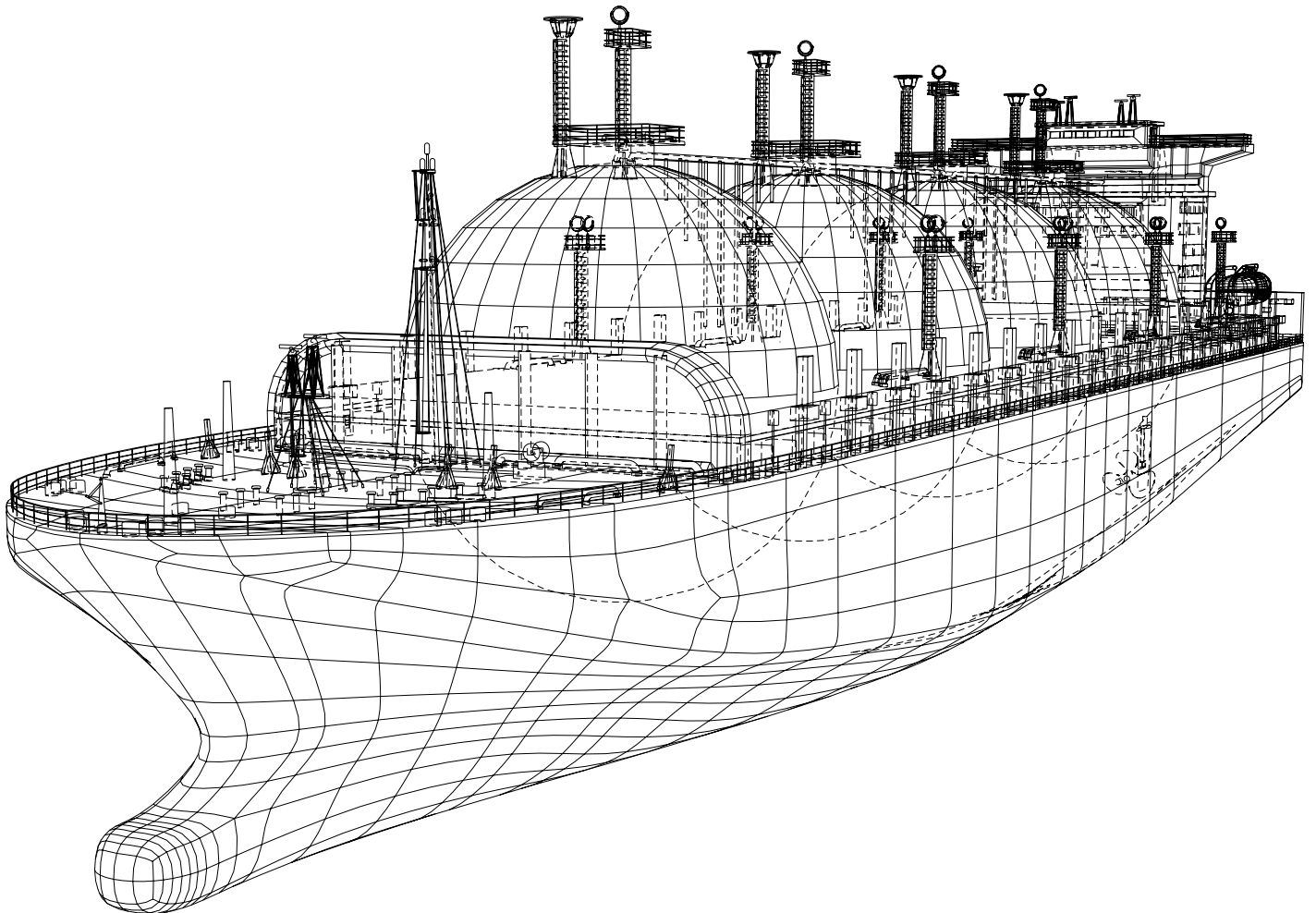


KEY TAKEAWAYS

NGC has been strengthening the gas value chain to ensure its sustainability across the long term.

The company has been focusing on securing supply, expanding and upgrading its network and developing the downstream sector.

NGC has been in the business of natural gas purchase, aggregation, sale and distribution for almost 50 years. Despite diversification of its portfolio over the years, its core gas-based activities have remained the beating heart of its operations. In fact, the company has reinforced its focus on this axis of the business, deepening its participation in gas markets and strengthening the gas value chain to ensure its sustainability across the long term.



WHY FOCUS ON NATURAL GAS?



Trinidad and Tobago's industrial hubs and power generation sector are powered by natural gas. A strong gas value chain is therefore critical to the sustainability of both, and to the national economy, which is heavily dependent on revenues from LNG and energy commodities.



In light of market and geopolitical factors, the demand for gas over the medium term is projected to remain strong. This means that gas will continue to be a robust revenue source for producing countries such as Trinidad and Tobago.



Natural gas can support climate action. Even as the world transitions towards low-carbon energy, harnessing natural gas - the cleanest burning fossil fuel - is considered a low-hanging opportunity to reduce carbon output in the interim.



There is a healthy market supply of LNG both within and outside the Americas. Strong supply and a short supply chain increase the availability of this energy source, and therefore strengthen energy security in consuming countries.



For several reasons - including fiscal disincentives to the use of carbon-heavy fuels - LNG can be a cheaper option than imported oil in the long term to satisfy regional energy demand. Cheaper energy can liberate capital for development projects and reduce the cost of living for citizens.

HOW IS NGC STRENGTHENING THE GAS VALUE CHAIN?

1. SECURING SUPPLY

Cross-border gas

Trinidad and Tobago's gas basins are maturing. To supplement domestic reserves and ensure supply stability over the medium to long term, NGC has been working alongside the MEEI and other stakeholders to explore opportunities for importing gas from across the border. Neighbouring Venezuela has vast offshore reserves of gas, with some fields straddling its maritime border with Trinidad. Through significant diplomatic effort and technical negotiations, important progress has been made in recent years towards the integration of supply from some of these reserves into the local market.

- **Dragon** - The Dragon field lies in Venezuelan waters about 25 miles north of its Paria peninsula. It is estimated to contain 3.2-4.2 trillion cubic feet (Tcf) of natural gas. The development of the Dragon Field is a complex, cross-border exploration and production arrangement, involving close collaboration between the governments of Trinidad and Tobago and Venezuela, along with



L to R - Verlier Quan Vie, Vice President Commercial, NGC; Mark Loquan, President, NGC; Dr. Joseph Ishmael Khan, Chairman, NGC; The Hon. Stuart Young, Min. of Energy and Energy Industries; Eugene Okpere, outgoing Senior Vice President and Country Chair, Shell Trinidad and Tobago; Adam Lowmass, incoming Senior Vice President and Country Chair, Shell Trinidad and Tobago; Stephane Picarle, General Manager, Commercial, Shell Trinidad and Tobago

NGC and international energy partner Shell.

After several years, this collaboration culminated in the issuance of the Dragon Field Exploration and Production Licence to NGC and Shell in December 2023, for the export of 100% of the natural gas from the Dragon Field to Trinidad and Tobago. This development represented a key milestone in the project, which is

tentatively projected to deliver first gas by 2027.

- **Manatee** - The Loran-Manatee gas field is a large reservoir straddling the maritime boundary between Venezuela and Trinidad. In 2019, the governments of both countries executed an agreement to allow each to independently develop its share of the hydrocarbons located in the cross-border field.



Shell and NGC have since been working towards monetisation of the Manatee field’s natural gas reserves – Shell as the operator responsible for development and production, and NGC as the entity that will facilitate receipt and processing of the gas at its Beachfield facility. The Manatee reserve is estimated to hold around 2.7 Tcf of gas, and production from the field is slated to commence in 2027.



- **Cocuina** – The cross-border Cocuina-Manakin gas field is located offshore Venezuela in Plataforma Deltana Block 4. In July 2024, the MEEI announced the signing of the Cocuina Field Exploration and Production Licence, which will enable joint development of this field. NGC Exploration and Production Limited (NGC E&P) – a wholly owned subsidiary of NGC – and bp Exploration (Caribbean) Limited (bpECL) have been named as co-licensees. The field could potentially produce approximately 400 million cubic feet of gas per day.

Molecular optimisation

In the context of Trinidad and Tobago’s maturing gas reserves, every molecule of gas saved or added contributes to supply stability. A major part of NGC’s work programme has therefore been centred on molecular optimisation.

- **No gas left behind** – For several years, NGC has been lobbying for the monetisation of small and marginal fields. In 2018, using seismic and other relevant data from the Ministry of Energy and Energy Industries (MEEI), NGC undertook an internal feasibility study of specific small and marginal fields. Based on the findings of this study, NGC submitted recommendations to the MEEI around how the government can get the right operators into

these fields. Since then, NGC has continued to work with industry stakeholders to help bring such fields into production. The Zandolie field, brought online in 2022 by DeNovo Energy Limited, is one example of a marginal field that has been contributing to domestic volumes.

- **Making power more efficient** – In Trinidad and Tobago, electricity remains a subsidised public utility, and there are notable inefficiencies in how power is produced and consumed in the country. NGC has been working closely with the state utility company and independent power producers to address some of the inefficiencies which are contributing to wasted molecules and value leakage. Since consumers share some of the responsibility, the company’s efforts include a broad-based public education campaign around energy efficiency. NGC Group subsidiary National Energy is also spearheading a Super ESCO (Energy Service Company) project to improve efficiency at the industrial level.

Upstream investments

Intent on diversifying its business portfolio, NGC has been seeking opportunities to expand its presence and participation in upstream exploration and production. Most recently, in 2023, NGC E&P Investments Limited—a wholly owned

subsidiary of NGC—completed the acquisition of Heritage Petroleum Company Limited’s (Heritage’s) participating interest in the Offshore Blocks NCMA 4 (20%), Block 22 (10%) and Block 9 (100%), located in Trinidad’s North Coast Marine Area (NCMA). It also acquired Heritage’s 19.5% shareholding in Point Fortin LNG Exports Limited (PFLE). Gas from these blocks is sold to NGC for the domestic market and to PFLE for the LNG export market.

This collective acquisition will enable NGC to collaborate more closely with its joint venture partners along the natural gas value chain and will position the company for strategic growth from any future upstream development in the vicinity of these blocks.

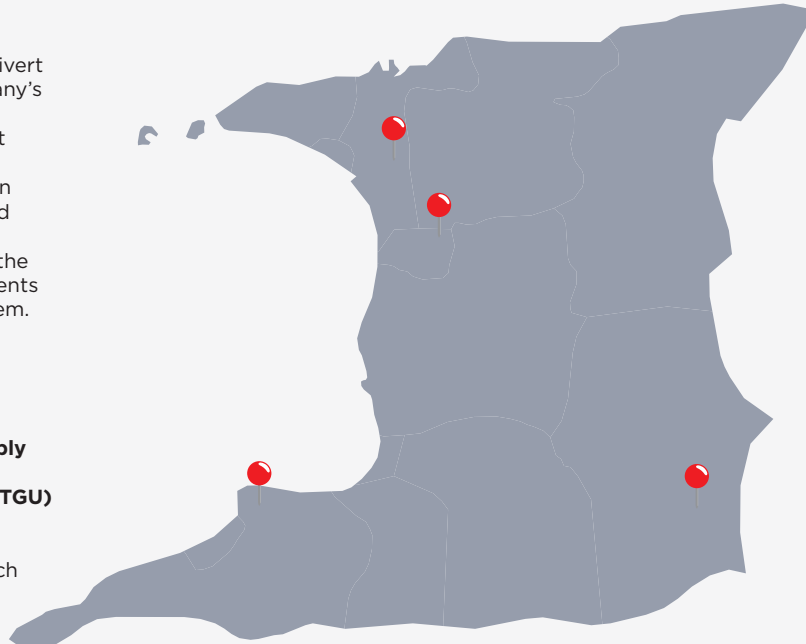
2. EXPANDING AND UPGRADING THE NETWORK

NGC’s transportation and distribution pipeline network is the backbone of its gas merchandising business. Maintenance and expansion of this network are critical to ensuring the company can fulfil its role in the midstream of the gas value chain. In the past two years, the company has completed several infrastructure upgrade and expansion projects to connect new customers, improve service to existing ones and tie new gas fields into the system.

These include:

16-inch Low-Pressure Switch Over (LPSO)

This project aimed to divert segments of the company’s existing 16-inch low-pressure pipeline at four locations between Barataria and Wrightson Road, Port of Spain, and upgrade customers previously serviced by the diverted pipeline segments to a high-pressure system.



Charlieville Diversion

NGC replaced a portion of the existing 16-inch Charlieville pipeline with a 24-inch pipeline, increasing safety and reliability along the network.

George Aboud and Sons Limited (GASL) pipeline

NGC commissioned a new 4-inch natural gas pipeline to GASL, further expanding its supply network and customer base.

The Alternate Gas Supply (TAGS) to the Trinidad Generation Unlimited (TGU) power plant

NGC undertook construction of a 20-inch pipeline and metering station to provide an emergency gas supply to TGU in La Brea. This new infrastructure allows NGC operational flexibility to maintain safe and reliable supply of natural gas to TGU’s power plant, which provides more than 50% of Trinidad and Tobago’s electricity needs.

Coho and Cascadura tie-in infrastructure

NGC completed construction of pipelines and associated facilities to tie the Coho and Cascadura fields into NGC’s existing transmission network. This enabled production from onshore gas fields for the first time in 20 years.

3. DOWNSTREAM DEVELOPMENT

Contract negotiations

A healthy downstream sector is just as critical to the strength of the value chain. NGC has been methodically negotiating contracts with its customers, to support continued operations at the many petrochemical, manufacturing and commercial facilities supplied by its network. In 2023 alone, six contracts were renewed to cover several ammonia, methanol and urea plants on the Point Lisas Industrial Estate.

LNG

As part of its effort to internationalise its brand and operations, NGC

has been looking to expand its participation in the LNG market.

- **Atlantic** - 2023 marked the culmination of almost five years of work to finalise the restructuring of Atlantic LNG. In December, the MEEI announced that an agreement for a new unitised commercial structure for Atlantic was successfully executed. The landmark commercial arrangement for the facility has effectively boosted the country’s stake in the LNG business, as NGC now has an increased equity share in the company. This higher participating interest better positions NGC to grow as an international player in the LNG space, and leverage strong LNG demand to generate greater value for Trinidad and Tobago.

- **Small-scale LNG** - NGC has been exploring the feasibility of micro and small-scale LNG projects in the Caribbean for some years, because the company believes there are real and valuable opportunities in that space. Through different partnerships and agreements, the company is working assiduously to bring such projects to fruition, and potentially expand the use of LNG across the Caribbean.

FOR THE FUTURE

Natural gas is projected to remain an important fuel in the energy transition, with new opportunities for established gas players such as NGC. By strengthening the domestic gas value chain to ensure its long-term sustainability, NGC is securing a place not just for itself, but for Trinidad and Tobago, in that future. ■