Sustaining the T&T Natural Gas Industry
The Role of NGC in Value Creation

Mark Loquan – President, NGC
Energy Chamber of Trinidad and Tobago Luncheon
Cara Suites

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Global Trends
“Lower for Longer”

Oil Prices

Global Gas Pricing

Indicative LNG Prices

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Argus Methanol Outlook 31st August 2017
“Renewables are the fastest growing fuel source, quadrupling over the next 20 years, supported by continuing gains in competitiveness”
With Australia poised to become world’s largest exporter, US now a net (shale) exporter and East Africa production to come on stream, oversupply to 2020 will force LNG prices down.
Production from shale gas and associated gas from tight oil plays is the largest contributor to natural gas production growth, accounting for nearly two-thirds of total U.S. production by 2040.
Improved outlook for domestic supply due to recent discoveries, but will not restore peak levels.

Source: Argus Methanol & IHS Chemical | 08th September 2017

Rystad Energy U Cube Dec 2016, July 2017

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About the NGC Group of Companies

With a starting capital of TT$75,000 and a single 16” pipeline, over the last 40 years, this 100%-owned state enterprise now holds over US$6 Billion in investments across the energy value chain.

Having established Trinidad and Tobago as a global player in the Natural Gas industry, NGC and its subsidiaries now aspire to expand beyond domestic borders.

Our Mission

To *create exceptional value from natural gas* and related energy businesses through our *people* and *strategic partnerships*.
Solid Foundation

- Group Governance
- Group Alignment
- Group Strategic Plan
- Hire New President
- TROC Agreement
- CGCL Re-negotiation
- Claims Arbitration
- Cost Containment
- Vendor Forum
- Legacy Projects

G. Brooks
K. Allum
M. Ganness
A. Jupiter
S. Mahabir
Global Trends

Develop Organization
- To match the new level of dynamism required of NGC to maneuver in a more complex, internationally competitive arena
  - Refresh Role Mandate
  - Formalize NGC Grp Structure to leverage strengths

Secure Current Business
- To safeguard current business returns in challenging supply and demand environment
  - Secure gas supply
  - Contract Optimization
  - Operational Excellence

Grow Locally & Internationally
- To diversify by expanding into adjacent part of the energy value chain locally, and investing to capture value from global discontinuities
  - Geographic Diversification
  - Increase Commodity Trading

Strengthen National Contribution
- To deepen our contribution to the country through both financial and non-financial activities
  - FDI/Econ Stimulation
  - Alternative Energy
  - Lower Carbon Footprint

Main Take Aways
National Contribution
Grow Locally & Internationally:
- Market Potential

Secure the Current Business

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Develop the Organisation

Collaborating for Competitiveness

- 0 Employee Recordables
- 70% reduction in PVA
- STOW Sign-on
- Annual Report and Financials published
- PAEC appearance

- TTUOG; PLEA
- Executives on Energy Chamber, AMCHAM
- Hosted and/or visited 9 countries (Car, LA, Africa), MOUs/TSAs

Walking the Safety Talk
- Building Group Bonds

- New EMT
- Strategic Hires (Geology, LNG, HSE, Procurement)

- Group Synergies: Policies, Systems, Savings
- Revamped AIM
- ICT Strategy
- Intel Capability

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Close out of Two Major Legacy Projects

**Phoenix Park Valve Station Upgrade:**
Flare Lit June 28, 2017

**Liquids Fuel Pipeline:**
First Transmission Q4 2017

- **PPVS** 2006
- **LFP** 2007

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Improvement in upstream production and capacity will stabilize but not add incremental volumes to domestic supply until 2019 or later.

2017 Q2
20% 1a Acquisition
First Gas expected
2018 Q4

2017 Q2
BP: TROC on stream, improved production

2016
Perenco takes over Repsol interest in TSP & increases production

2017
BHP: Debottlenecking of existing Infrastructure

2017
Angelin Sanctioned BP, EOG: Renewals Completed; wef 2019

2016/2017
EOG: Sercan capacity & stability but will not increase Domestic Supply

2019/2020
Shell: TBA

2017
BP: Juniper to improve capacity & stability but will not increase Domestic Supply

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NGC as Domestic Aggregator and Investor will seek out strategic partnerships to bring untapped potential into production.

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Field & Reserves Profile

- **100 to 300 bcf**: 18 fields
- **300 to 500 bcf**: 3 fields
- **Above 1,000 bcf**: 2 fields
- **500 to 1,000 bcf**: 2 fields

**Total: 52 fields**

**Development WIP:**

- Establish an inventory & ranked portfolio of marginal fields/small pools
- Opportunities identified on east, north & west coasts
- Reserves range ~ 30 -700 bcf
- Target production: 1st gas 2018 – 2024
- Fiscal/price/infrastructure sensitivities
- Value chain benefits
- Stakeholder collaboration

Source: MIEI
Secure the Current Business
Gas Importation

Main Take Aways

National Contribution

Grow Locally & Internationally:
Market Potential

Global Trends

Domestic Supply

Secure the Current Business

Gas Importation

2016/17
Dragon G2G and HOA in place
First Gas expected from 2020

Network Expansion
Sets the stage for future expansion across the border

Post-2023?
Cross-Border Supply subject to negotiations with PDVSA, Shell

Mobile Technology (FSRU, FLNG, CGL)
aka
The Myth of “Cheap Alternative Supply”

Cost found to be prohibitive and uncompetitive for PetChem

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**Contract Renewals**
- More expensive Gas
- Shorter Duration
- Renewal for lower volumes
- Efficient process for contract negotiations

**Molecular Efficiency**
- Ideally gas should be processed through the most efficient units
- NGC/T&TEC must Drive Energy Efficiency, to bring down consumption

**Power Share**
- National focus on renewables required
- Possible solution to T&TEC arrears being discussed
- New model required for Power tranches

**Share of Risks**
- National Allocation Model not yet defined
- Contracts being optimized for fairer sharing of risks
- Deeper value chain analysis

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Further Downstream Investment

Non-Gas Investment Projects

Port & Marine Services

LIC Sector (Re-branding & Expansion)

Grow Locally & Internationally: Domestic Potential

Gateway to renewed Commercial Activity
Low / No-Gas Development

Earlier conversations needed to identify pipeline of Local, Regional and International opportunities

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Caribbean/CARICOM
- Emerging Oil & Gas Sectors
- Services: E&P Logistics; Port & Marine
- LPG Marketing & Sales

South and Central America
- Technical Co-operation (Renewables)
- Education

West Africa
- Plant Optimization
- Pipeline Construction
- Education

East Africa
- Infrastructure
- Aggregation
- Downstream Production
- Energy Services
- Education

**Proven Reserves (Tcf), 2016**

- Ghana: 0.8
- Trinidad: 10.6
- Tanzania: 0.2
- Mozambique: 100
- Venezuela: 195

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Deepening Partnerships
Greater Accountability
Employee Engagement

National Heroes

Habitat for Humanity

Bocas Lit Fest

San Fest

Cricket

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Energy Leadership
Strengthening the Brand

Main Takeaways
Global Trends
Domestic Supply
Current Business
Gas Importation
Grow Locally & Internationally:
Global Market Potential
National Contribution

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Energy Leadership
Securing the Future

APO Oversubscribed
• Safety and Asset Integrity will continue to have priority
• Building of people and institutional capacity will continue to be critical

• 2018, year of challenges, but collaboration will see us through
  • Better synchronization with upstream and downstream
  • Focus on improving reliability and reducing upstream disruptions
  • T&TEC solution an areas being discussed
• Better use of molecules through plant efficiency
• A clear focus on energy efficiency and renewables

• International growth will require better alignment between governments, state entities, private sector, diplomatic corps, chambers
• Innovation is required in domestic energy sector

• National awareness and energy education to be stronger
• More “Local Direct Investment”
• We must awaken the Trini Spirit!
Different Notes One Sound
QUESTIONS?