



# *Clean Energy Conference – Projects and Initiatives for a Clean Energy Future*

## *The Compressed Natural Gas Initiative*

9<sup>th</sup> June 2017



**MEMBERS OF THE NGC GROUP OF COMPANIES**

# Recent Headlines – Moving to Cleaner Options

- 1. City of Lawton’s switch to CNG results in fewer maintenance issues, lowered fuel expenses** *“It also reduced equipment maintenance costs as issues with exhaust systems and diesel particulate filters has been greatly reduced or completely eliminated with the switch to CNG.”*
- 2. Green CNG Bus Fleet for Texans** *“The change to cleaner, “greener” buses is part of VIA’s multi-year plan to significantly reduce vehicle emissions, decrease operating costs, and allow VIA to carry out planned service enhancements. Once complete, the transformed fleet will bring a 97-percent reduction of nitrogen oxide (NOx) emissions and further the agency’s role as an industry leader in environmental stewardship.”*
- 3. UPS Makes Massive \$90M Investment in Nat-Gas Vehicles, Refueling Infrastructure** *“In 2016, we used more than 61 million gallons of natural gas in our ground fleet..... This helped us to avoid the use of conventional gas and diesel and decreased CO2 emissions by 100,000 metric tons.”*
- 4. London slips down quality of life rankings due to toxic air and traffic.** *“Nitrogen dioxide emissions from diesel cars are a key contributor to the capital’s poor air quality, which has seen City Hall advising the public to avoid strenuous activity on the worst-affected days.”*

- Our Focus and Why CNG
- T&T Vehicle Universe
- Demand Strategies
- Current Grants & Incentives
- Fuel options – CNG, Hybrids & Electrics
- CNG reducing emissions
- CNG & Private sector
- CNG Institutional Framework
- Closing remarks

# NGC CNG's Focus

NGC CNG's main pillars are to **expand and improve** the **supply** network with the purchase of new equipment for the compression, storage and dispensing of CNG and also to provide targeted incentives (separate from GORTT incentives) to various market segments to help **create and sustain demand.**

## STATUS

- 10 supply points at the end of 2016.
- 13 additional supply points could be added in 2017.
- Total of 30 supply points at the end of 2018.

**Approved Market Incentives** to facilitate conversion programmes throughout 2017.

# Why CNG?

## Macro-economic benefit for the country

- An estimated \$19.1 Billion has been spent on the subsidy over the past 5 years.
- With the removal of the subsidy, the GoRTT can redirect the subsidy and invest in other parts of the economy to help create industry.
- The sale of the displaced liquid fuels to foreign markets will also generate foreign income and assist with the foreign exchange challenge.

## Carbon Footprint

- CNG is the cleanest fossil fuel generating less pollution and fewer greenhouse gasses than its counterparts.
- On average CNG emits about 30% less carbon dioxide than gasoline or diesel
- Reduced, associated health impact in densely populated and trafficked communities because of lowered particulate levels.

## Significant lowered costs

- CNG is now 56% less expensive than Diesel (\$2.30), 72% cheaper than Super (\$3.58) and 82% cheaper than Premium (\$5.75).
- Even at an unsubsidized price, CNG **will always be** the most affordable fuel.

## Lowered mtce costs

- The combustion chamber parts function at peak output for longer periods before requiring service.
- The engine oil also remains clean which minimises engine wear and requires less frequent changes.



# Trinidad and Tobago's Vehicle Universe

NGC CNG  
Company Limited

MARKET SEGMENT	APPROXIMATE UNIVERSE	FUEL TYPE
Maxi Taxis Small	3,500	Diesel
Maxi Taxis Large	1,500	Diesel
Commercial Light Duty Vehicles	60,000	Diesel
Commercial Medium Duty Vehicles	15,000	Diesel
Commercial Heavy Duty Vehicles	7,500	Diesel
Private School Buses	900	Diesel
PTSC (Public Transport) Buses	300	Diesel
Taxis	40,000	Diesel and Gasoline
Passenger Vehicles	670,000	Diesel and Gasoline
<b>TOTAL</b>	<b>798,700</b>	



# Strategy for increasing demand

MARKET SEGMENTS	FISCAL INCENTIVES	NGC CNG INCENTIVES
Private Owners	<ul style="list-style-type: none"> <li>VAT and MVT Exemptions for OEM CNG vehicle purchases.</li> <li>Fiscal Incentive to encourage conversion (25% tax credit on the cost of converting a vehicle to use CNG up to a conversion cost limit of \$10,000.00 per vehicle).</li> </ul>	
Taxis		<ul style="list-style-type: none"> <li>Fuel Rebate Incentives for Taxis</li> </ul>
Maxi Taxi	<ul style="list-style-type: none"> <li>VAT and MVT Exemptions for OEM CNG vehicle purchases.</li> </ul>	<ul style="list-style-type: none"> <li>Maxi Taxi Grant to encourage the purchase of OEM CNG Maxi Taxis</li> <li>Maxi Taxi Grant towards the conversion cost of 0km-4year old Maxi Taxis</li> <li>NGC CNG Fuel Rebate for DDF conversions on Maxi Taxis older than 4 years</li> </ul>
Commercial	<ul style="list-style-type: none"> <li>Capital uplift of 130% for wear and tear allowance on the cost of converting a vehicle to use CNG</li> </ul>	<ul style="list-style-type: none"> <li>Grant towards the DDF conversion of Heavy Duty and Extra Heavy Duty Fleet</li> </ul>
School Bus	<ul style="list-style-type: none"> <li>VAT and MVT Exemptions for OEM CNG vehicle purchases</li> </ul>	<ul style="list-style-type: none"> <li>Fuel Rebate to encourage the purchase of OEM &amp; Conversions</li> </ul>
Converters	<ul style="list-style-type: none"> <li>Fiscal Incentive allowing capital uplift of 130% for wear and tear allowance on the cost of plant, machinery and equipment needed to provide CNG installations.</li> <li>Duty Free CNG Kits</li> </ul>	<ul style="list-style-type: none"> <li>Converter Incentive specific to vehicle type, quantities and timeframe</li> </ul>



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## Calling all Registered TAXI DRIVERS, MAXI DRIVERS AND SCHOOL BUS DRIVERS Switch and Save with CNG!

**The NGC CNG Company Ltd. is offering the following grants and incentives towards your purchase of a CNG vehicle or conversion to CNG**

**Taxi Conversion Incentive**



**Maxi Taxi Conversion Incentive**

**PSTATT\*\* Conversion Incentive**




**\*Get up to TT\$5,000 in FREE CNG when you convert your registered Taxi to CNG.**

**\*Get TT\$15,000 in FREE CNG for the purchase of an OEM CNG Omnibus.**

**\*Get TT\$7,500 in FREE CNG for the conversion of a school bus to CNG.**

**\*Maxis Taxis less than 4 years old can get a Cash Grant of TT\$30,000 (Large Maxi) or TT\$20,000 (Small Maxi) towards the cost of converting to CNG.**

**\*Maxi Taxis 4 years and older that convert to CNG can get TT\$30,000 (Large Maxi) or TT\$20,000 (Small Maxi) in FREE CNG.**

**Instructions to applicants:**  
Interested applicants are invited to download an application form via the Company's website – [www.cng.co.tt](http://www.cng.co.tt) and visit the Company and meet with a Receiving Officer in order to submit the completed application form and all required information.

Completed application forms should be delivered to a Receiving Officer between the hours of 8:00am to 4:00pm – Monday to Friday at NGC CNG's Office located at the corner of Rivulet & Factory Roads, Brechin Castle, Couva.  
**(Telephone: 636 4662 Ext. 3412, 3415, 3401).**

\*\*Special terms & conditions apply.  
\*\*Private School Transport Association of Trinidad and Tobago

**GET THE NGC CNG APP**




to calculate your savings and view the listing of CNG service stations



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## Expression of Interest: COMPRESSED NATURAL GAS

### Commercial Light, Heavy and Extra Heavy Motor Vehicles Incentives in Trinidad and Tobago

NGC CNG Company Limited (NGC CNG) is currently seeking to offer incentives ("Grant") to suitably qualified local companies interested in the purchase of Compressed Natural Gas (CNG) technology or modification of their Commercial Light Duty, Heavy and Extra Heavy motor vehicular fleet to use CNG. NGC CNG wishes to invite suitably qualified local companies to submit in writing an "Expression of Interest" (EOI) in relation to the intended offer of Grant. A limited amount of vehicles will be offered Grants under the program.

- Background**  
NGC CNG proposes to offer Grants for the conversion of Commercial Vehicles as follows:
  - Light Duty Motor Vehicle ("LDV") with a Maximum Gross Weight (MGW) up to 2.95 tonne; and
  - Heavy Motor Vehicles ("HMV") with a MGW between 2.95-15.24 tonne and
  - Extra Heavy Motor Vehicles ("EHMV") with a MGW more than 15 tonne)

Commercial LDVs, HMVs and EHMVs shall have the same meaning as specified in the Motor Vehicles and Road Traffic Act, Chap. 48:50.
- Purpose**  
To augment the purchase, retrofitting and/or modification of LDVs, HMVs and EHMVs to use CNG.
- Target group**  
Different Grants are being offered to four (4) target groups in decreasing order of priority as follows:
  - State (Public Sector);
  - Light Industrial Commercial (LIC) Sector;
  - Private Companies serving the Public Interest; and
  - Private Companies with Private Interest.
- Scope of Grant**  
The Grant may be utilized for:
  - The purchase of CNG technology as approved by the Minister of Energy and Energy Industries; or
  - The retrofitting or modification of LDV, HMV and EHMV fleets by authorized service providers for owners who wish to use CNG as a source of fuel.
- Organization Details**  
Interested parties are required to submit the following:
  - Company name and address;
  - Company profile/history;
  - Legal status (limited liability, sole proprietorship, partnership etc.);
  - Value Added Tax (VAT) registration number and date;
  - Company contact information;
  - Copy of Certificate of Incorporation;
  - Current and expected monthly fuel consumption of Commercial LDV, HMV and/or EHMV fleet;
  - Size and composition of Commercial LDV, HMV and/or EHMV fleet;
  - Proposed CNG conversion/adoption schedule;
  - Proof of vehicle ownership; and
  - An outline proposal of the nature of financial assistance required or being requested.
- Minimum pre-qualification criteria**  
For guidance, NGC CNG intends to gauge the merits of the EOI responses based on the following minimum pre-qualification criteria which includes but is not limited to as follows:
  - Total CNG sales potential;
  - Accessibility of parties to a CNG filling location;
  - Level of assistance sought; and
  - Economic viability for NGC CNG with the proposed arrangement.
- Submission of EOI**  
Interested parties should submit their EOI in a sealed envelope labeled: **"Expression of Interest – Commercial Light Duty, Heavy Duty and Extra Heavy Duty Motor Vehicles Incentives in**

**Trinidad and Tobago"**, which should be delivered to:  
NGC CNG Company Limited  
c/o The National Gas Company of Trinidad and Tobago Limited  
Olinco Drive,  
Pl. Lisas Industrial Estate, Couva,  
Trinidad and Tobago, W.I.

The closing date and time for receipt of the EOI is Friday 9th June, 2017 at 4.00pm.

**Indicative savings and return on investment can be calculated by downloading the NGC CNG app from the App Store or Google Play store.**

**Note:**  
This EOI is an invitation to receive responses from prospective parties in keeping with the terms and conditions expressed herein. NGC CNG is not bound to accept any of the EOI responses received and reserves the right to cancel this EOI at any time and for any reason.

NGC CNG will consider all EOI responses received, and may enter into further discussions with parties which satisfy the requirements of this EOI in order to determine eligibility for the offer of the Grant.

**Failure by a party to provide information that is essential in the evaluation of this EOI may result in rejection of that party's EOI.**

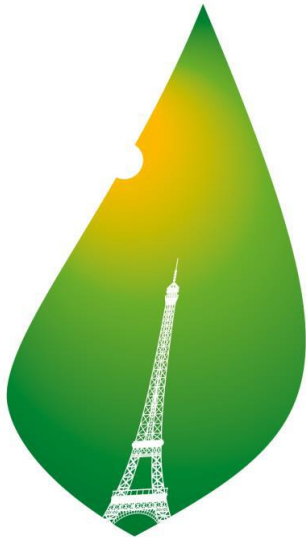
**For further information, contact us at 636-4662 Ext 3407 or email [cnginfo@ngc.co.tt](mailto:cnginfo@ngc.co.tt).**

**Find out more about NGC CNG at [www.cng.co.tt](http://www.cng.co.tt).**

A subsidiary of  **THE NATIONAL GAS COMPANY OF TRINIDAD AND TOBAGO LIMITED**



# Fuel Options for T&T – CNG.

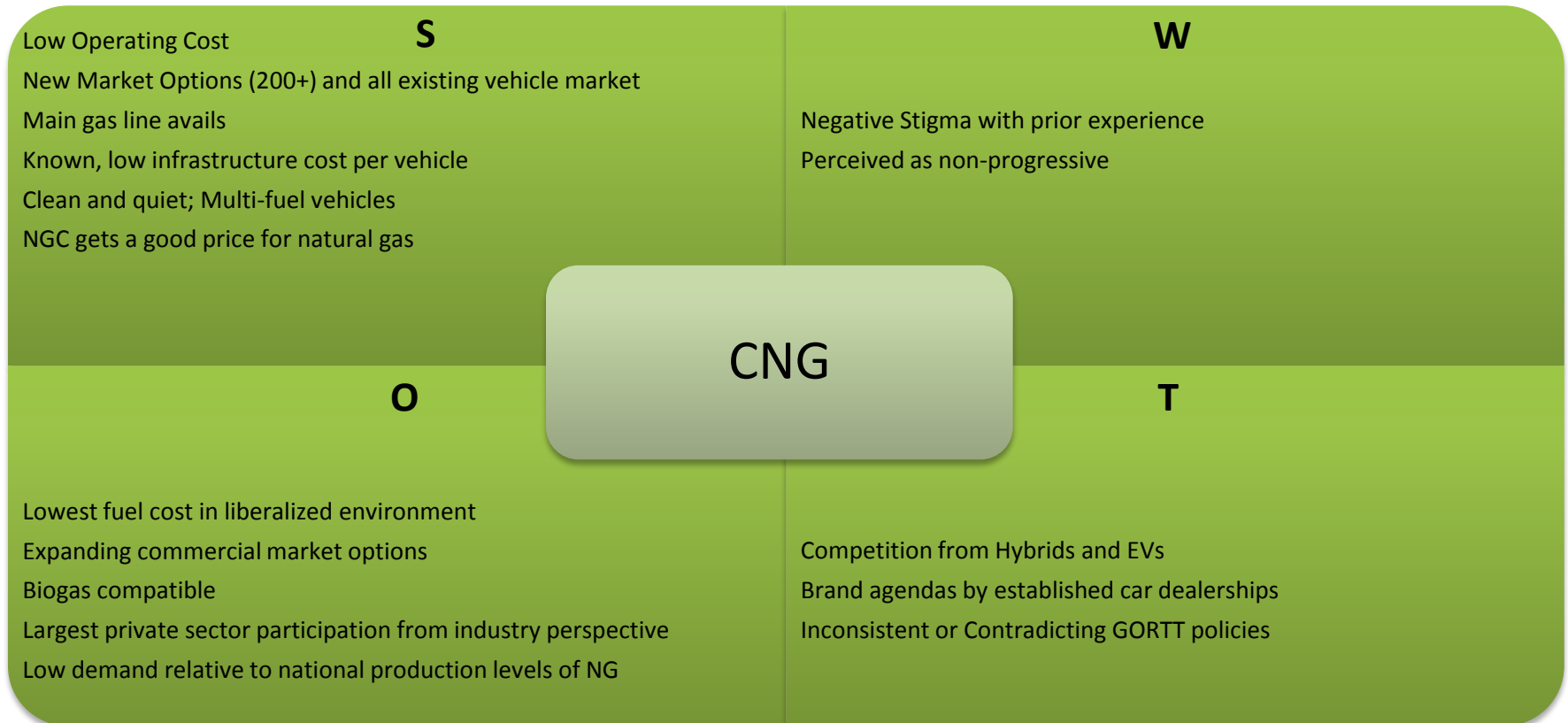


COP21 • CMP11  
**PARIS 2015**  
UN CLIMATE CHANGE CONFERENCE

- Trinidad and Tobago commits to unconditionally reduce its public transportation emissions by **30%** or one million, seven hundred thousand tonnes(1,700,000) CO<sub>2</sub> compared to 2013 levels by December 31, 2030.
- This reduction is based on the CNG programme.
- CNG is the **ONLY** technology which can work with the existing stock of vehicles.

# Fuel Options in T&T – CNG

## Alternative Fuels Prospects in T&T



# Fuel Options in T&T - Hybrids

## Alternative Fuels Prospects in T&T

30% Lower Operating Cost

**S**

New Market

Currently incentivised

No infrastructure cost per vehicle

Perceived as progressive

Buyer experience

**W**

Experience pool for competent and available service garages

Limited offerings

Vehicle pricing

Hybrids (Not plug-ins)

**O**

Lowers fuel cost

Expanding vehicle market options

**T**

Removal of GORTT procurement incentives

Maintenance cost for spares and services

Restrictions to lines of support

## Alternative Fuels Prospects in T&T

**S**

Low Operating Cost  
Currently incentivised  
Perceived as progressive  
Quiet and no direct emissions while operating

**W**

Buyer experience  
Experience pool for competent and available service garages  
Limited offerings  
Derives all energy from subsidized natural gas only (& 50% low eff. Plants)  
Vehicle pricing  
Long time to charge and no charging stations  
Currently more natural gas will be needed to move 1 km compared with CNG

**O**

Can or should couple with Renewable Power Generation  
Expanding vehicle market options  
Can fill existing power generation surplus

Electric (incl. plug-in  
Hybrids)

**T**

Removal of GORTT procurement incentives  
Maintenance cost for spares and services  
Restrictions to lines of support  
Exacerbates subsidy of Natural Gas; NGC does not get fair price for NG  
Power Distribution Infrastructure scope and cost  
Overloading power peak demands

# CNG – Reducing emissions

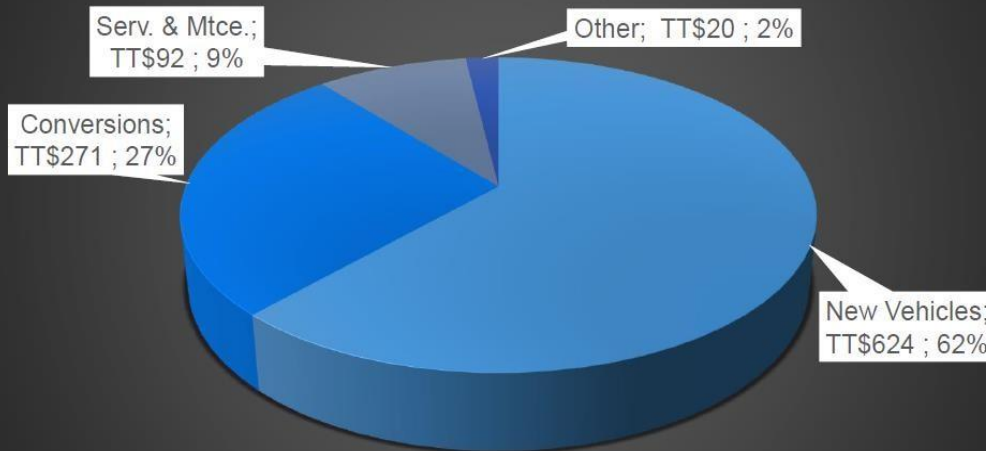
NGC CNG's vehicle and litre sales targets correspond to a 30% reduction in CO2 emissions



MARKET SEGMENT	TOTALS 2016-2018			
	2016- 2018 Total Demand Lge	CO2 Emissions (Tonne)	CO2 Emissions using CNG (Tonne)	SAVING of CO2 Emissions using CNG (Tonne)
Maxi Taxis	33944,874	89,614	61,882	27,733
Commercial	15283,333	40,348	27,862	12,486
School Buses - PSTATT	3626,389	9,574	6,611	2,963
PTSC	10259,511	27,085	18,703	8,382
Taxis	23686,806	56,659	39,841	16,818
Private Cars	26950,347	64,465	45,330	19,135
<b>TOTAL</b>	<b>113751,260</b>	<b>287,745</b>	<b>200,229</b>	<b>87,517</b>
				<b>30%</b>



## CNG Spurring economic activity (in TT\$ Mn)



This time around Private sector is participating in:

- OEMs (new cars)
- Increased conversions space inclusive of heavy duty equipment
- Financing
- Special insurance arrangements
- Training



Mercedes-Benz



JOYLONG



SUNLONG

**Honda**  
City



**ISUZU**



**YUTONG**



**GOLDEN DRAGON**



**JIN BEI**

# CNG Institutional Framework

## Government

- Fiscal Incentives
- No MVT & VAT on New OEMs and up to 4 yr. old CNG vehicles (extended until Dec 2020)
- Individuals: Maximum Tax rebate of \$2,500 on a \$10,000 conversion
- Fleets & Converters: 130% wear & tear allowance on the cost of equipment and kits used in conversions
- GoRTT mandate - State Enterprises to have 25% of fleet as CNG

## Legislation

- TTBS Standard
- **TTS 411:1992 Specification for Compressed Natural Gas (CNG) - Vehicular Fuel Systems**

## Capacity

- 30 CNG Service Stations by 2018
- NGC CNG has also procured five (5) Mobile Refuelling Units (MRU's) which will be deployed as needed across the country to increase supply

## Training and Development

- Provision of CNG Training Courses by National Energy Skills Center (NESC)

## Private Sector Support

- Partnerships with Financial Institutions
- Local supplier for CNG compression equipment and support
- Private sector conversion
- Leasing companies offering CNG vehicles



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# CNG Station Network

projected December 2017



# Summary

- - CNG Mandate well underway with station construction and strategies to increase demand.
- - CNG Industry being built with heavy private sector involvement.
- - Several OEM CNG Brands now available in T&T
- - CNG only option to convert existing vehicles on road, focus on high mileage
- - CNG vehicle and litre targets can lead to 30% reduction in CO2 emissions.
- - CNG spurring economic activity approximately \$1billion.

# End

## Questions?

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