

FINANCIAL SUCCESS FOR NGC

Page 8

**ENERGIZED
PERFORMANCE**

MARKET DEVELOPMENT -
Leading the CNG Revolution
Page 5



Volume 25, No. 2 • September 2014

Produced by

The National Gas Company of
Trinidad and Tobago Limited (NGC)
Orinoco Drive
Point Lisas Industrial Estate, Couva
Republic of Trinidad and Tobago
West Indies

Managing Editor

Christine Punnett, Head, External Communications, NGC

Sub-editor

Coretta-lee Clifford, Public Relations Officer, External
Communications, NGC

Contributing Writers

- Daren Ragoonanan, Team Leader, Energy Industry
Development, National Energy Corporation of Trinidad
and Tobago Limited

Photography

NGC Archives

Artwork

The Art Bank Limited

Print

Scrip-J Printers Limited

Please address all correspondence to
GASCO News
c/o NGC External Communications
P.O. Box 1127, Port of Spain
Tel: 868-636-4662, 4680
Fax: 868-679-2384
Email: info@ngc.co.tt
Website: www.ngc.co.tt

© 2014 Material in this publication, with the
exception of photography, may be reproduced once
credit is given to GASCO News.

CONTENTS

PRESIDENT'S MESSAGE

- Going the Distance 3

MARKET DEVELOPMENT

- Leading the CNG Revolution 5
- Financial Success for NGC 8
- National Energy Missions 2014 11

LOOKING FORWARD

- Minister sees a "bright industrial
future" for T&T 13

CORPORATE SOCIAL INVESTMENT

- Run Rate - Progressing National
Development through Cricket 17

EMPLOYEE ENGAGEMENT

- "More than a house" 19

NGC NEWS

- New Gas Line for Couva Children's
Hospital 22
- CNG Station constructed at NGC's
Field Office 23
- Liquid Fuels Pipeline Project Update 23

NATIONAL ENERGY NEWS

- Local Entities partner with Mitsubishi 24
- National Energy Signs MoU with Chemtech
Limited 24
- Metaldom proposes steel processing
complex 24
- Gasfin proposes LNG Facility for La Brea 25
- Brighton Port expansion 25

PPGPL NEWS

- PPGPL's Culture of Safety 26

GOING THE DISTANCE

Throughout its history, NGC has had many proud moments. In this edition of *Gasco News*, we are particularly pleased to highlight our Stakeholders' Appreciation Event which was held on 24th July 2014, at the Hyatt Regency, Port of Spain. The event recognised the proud milestones we have achieved and the strong brand we have become. The Honourable Prime Minister, Mrs. Kamla Persad-Bissessar, the Honourable Minister of Energy and Energy Affairs, Senator Kevin Ramnarine and our colleagues in the energy sector honoured us with their presence, making the evening a truly memorable one.

At the event, we highlighted the fact that at the end of the financial year 2013, NGC had recorded a remarkable profit after tax of TT\$6.5 billion (profit before tax of TT\$9.7 billion). The quantum peak in financial performance was an historic milestone for NGC, not just because it will be recorded as the highest in its history, but also because it represented a significant increase from 2012's profit after tax of TT\$3.9 billion. I say, "Congratulations NGC!"

The Honourable Prime Minister underscored this achievement at the event. "This is the highest profit in the history of the Company. It makes NGC easily the most profitable locally-owned Company and one of the most profitable companies in the region... Indeed many relationships have been forged in the Caribbean region, China, India, Japan and Africa. It is time to turn these relationships into investment opportunities."

Buoyed by these remarks from the highest office in the land, we at NGC are motivated to invest even more heavily in the right kinds of partnerships and explore new entrepreneurial opportunities that will see the Company increasingly recognised internationally. We believe that the Company should embrace the immense opportunities on offer in the global sphere.

Indeed, Minister of Energy and Energy Affairs, Senator Kevin Ramnarine

reiterated that we had gathered to celebrate NGC's success, which he described as "world-class." The Company, he said, had surpassed the expectations of its founders and stakeholders, operating an extensive network of pipelines to the point where the sister isle of Tobago was also included on the natural gas grid of pipelines. Senator Ramnarine brought into perspective the growth of the Company from its TT\$22 billion in assets in 2007 to TT\$45 billion in 2013, remarkable by any standard.

This notwithstanding, the sector had its challenges. The Minister acknowledged that the last three years had been difficult for the country's natural gas supply. But despite this, all stakeholders had collaborated to solve the issues upstream and downstream.

Senator Ramnarine made special mention of the energy executives, including NGC's, who represented their various organisations and had



Mr. Indar Maharaj - President, NGC

cooperated with NGC and the Ministry of Energy and Energy Affairs to address the supply imbalance. Mentioned were Ian Welch of PCS Nitrogen/PLEA, Norman Christie of bpTT, Garvin Goddard of BG TT, Vincent Pereira of BHP Billiton, Sammy Pickering of EOG Resources Trinidad, Nigel Darlow of Atlantic LNG and Eugene Tiah of PPGPL. The Minister also noted that

PRESIDENT'S MESSAGE

Trinidad and Tobago produced more natural gas than Brazil, Colombia, Venezuela or Bolivia, which was noteworthy.

A special tribute was paid to Errol Mahabir who served as Minister of Petroleum and Mines of Trinidad and Tobago from 1974 to 1981. It was during his tenure as Energy Minister, that NGC was incorporated in 1975 and a natural gas cluster was formed at the Point Lisas Industrial Estate.

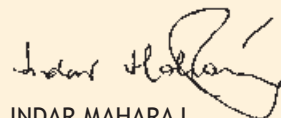
From that period to now, significant growth in development has occurred, which would not have happened without his input and that of other energy pioneers from industry, commercial enterprise, academia and the technical ministries at the time. Indeed, some 39 years later, the Company remains at the forefront of the country's gas-based industrialisation, with aspirations of becoming a valued partner in the global energy business.

Moreover, it would be remiss not to mention the other key stakeholders - the dedicated NGC family members. NGC's advancements would not have been possible had it not been for individuals who were a reservoir of knowledge and expertise in the building and shaping of NGC and the NGC Group. Their legacy endures, even today, with those who continue to go the distance to ensure a lasting endowment for the people of Trinidad and Tobago.

The Stakeholders' Appreciation Event re-emphasised the NGC brand to the media and the national public. Additionally, as a truly national brand - personified by its many cultural facets and sound technical knowledge - NGC is living the idea of being "locally owned, globally growing". As President of NGC, I am proud to have witnessed and been a part of the event that showcased NGC as a commercial powerhouse in the energy sector, ready and able to go the distance on the world stage.

"NGC is living the idea of being 'locally owned, globally growing.'"

Do enjoy this edition of *Gasco News* and all it contains about our gas journey, its impacts, rewards and challenges.



INDAR MAHARAJ
President, NGC



Energised Performance, L-R: The Chairman of NGC Mr. Roop Chan Chadeesingh, The Hon. Prime Minister Mrs. Kamla Persad-Bissessar, Minister of Energy and Energy Affairs, Senator Kevin Ramnarine and the President of NGC Mr. Indar Maharaj share a photo opportunity at the Stakeholders' Appreciation Event in July 2014.



NGC CNG
Company Limited

LEADING THE CNG REVOLUTION

Introducing a newly-formed NGC subsidiary company to lead the CNG Revolution

From North to South America, in Europe and Asia, governments and consumers in countries across the world are making the switch to Compressed Natural Gas (CNG). CNG is on its way to becoming the fuel of choice. With the number of CNG-fuelled vehicles growing at exponential rates, according to Natural Gas Vehicle Knowledge Base, there were more than 15 million natural gas vehicles across 84 countries at the end of 2011, rising from the 2010 figure of 12,674,402¹. That represented growth of 19.9% over 2010 and 33.7% since 2009. In 2014, the number climbed to an impressive 20 million across the globe.

What's the payoff for T&T?

CNG is a cheaper, more economical, environment-friendly alternative to gasoline and diesel. The conversion to CNG by heavy users such as taxis and fleet owners is projected to create annual subsidy savings of up to TT\$1.5 billion over the next five years. A further TT\$2.7 billion dollars can then be earned from the sale of the liquid fuel displaced by CNG at unsubsidized rates on the open market.

In a country where the transport sector produces approximately 3.7 million metric tons of greenhouse gases each year, a figure which represents an increase of 278% from 1990-2006, the Government of Trinidad and Tobago has made the decision to invest in an effective substitute - CNG. In fact, CNG gives off 95% less carbon monoxide emissions than gasoline, which could ultimately assist in reducing the impact of the transportation sector on Trinidad and Tobago's carbon footprint by as much as 15%.

The National Gas Company of Trinidad and Tobago Limited (NGC) has been mandated by the Government of Trinidad and Tobago to expand the use of CNG. NGC CNG Company Limited was formed to spearhead the initiative of accelerating T&T towards the use of CNG as a major transportation fuel and away from the heavily-subsidised, liquid transportation fuels.

This follows earlier attempts to launch CNG as a viable alternative fuel. According to Curtis Mohammed, President of the newly-formed company, the general public did not buy-in to CNG for a number of reasons, including a lack of knowledge about the cost and environmental benefits of CNG; the relatively low availability of CNG fuelling

locations; misconceptions about the risks associated with using CNG; delays in certification of conversion centers; and delays in effecting subsidy reductions. This new subsidiary of NGC will manage the promotion and utilisation of CNG in the domestic vehicular transport market on a phased basis over the next five years to expand its usage.

"The overall timeline is five years," Mr. Curtis Mohammed explained recently. "And the CNG Initiative will be executed in two phases of two and three years respectively. The first phase has started and commitments have already been made with respect to fuel stations with NP and Unipet that would increase CNG dispensing volumes seven-fold."

"...the general public did not buy-in to CNG for a number of reasons, including a lack of knowledge about the cost and environmental benefits of CNG; the relatively low availability of CNG fuelling locations; misconceptions about the risks associated with using CNG; delays in certification of conversion centers; and delays in effecting subsidy reductions"

Mr. Curtis Mohammed,
President, NGC CNG Company Limited



¹ <http://www.iangv.org/2012/07/ngv-global-2011-statistics-show-irrepressible-growth-of-ngvs/>

The preliminary phase, lasting two years with a projected cost of TT\$500 million, will involve the construction of 22 new or revamped CNG fuel stations and the conversion of 17,500 vehicles. The second phase, lasting three years, is projected to cost TT\$1.57 billion for the construction of as much as 50 more stations and conversion of over 80,000 more vehicles.

The training of stakeholder groups has been critical to bringing key segments on board with CNG. In March, the NGC CNG Company Limited collaborated with the Ministry of Energy and Energy Affairs (MEEA) to invite the Natural Gas Vehicle Institute (NGVi), of Las Vegas, Nevada to conduct a series of training courses in Trinidad. NGVi is a provider of education and training programs and technical consulting on natural gas vehicles and fuelling technologies. Established in 1989, the organisation has worked with hundreds of companies and government agencies throughout the U.S. and worldwide to help them achieve their NGV goals.

The training accommodated 30 persons, 15 from the Ministry of Energy and Energy Affairs and the remaining representatives from NGC CNG Company, WASA, Petrotrin, NP, Unipet, PTSC, Automotive Industry Associations inclusive of the Maxi-Taxi Association, government ministries and agencies as well as the Trinidad and Tobago Bureau of Standards. The training focused on several pertinent modules including: CNG Fuelling Station Design, which will play a key role in the planned establishment of New to Industry Multi-Fuelling stations, along with the upgrade of several existing stations; as well as Natural Gas Vehicle Technician and Fleet Operations Safety Training.

On May 15th 2014, another milestone was achieved - one that brought the country closer to making CNG "our business". NGC CNG executed a Memorandum of Understanding (MoU) with the Trinidad and Tobago National Petroleum Marketing Company Limited (NP) and another with the United Independent Petroleum Marketing Company Limited (UNIPET). Represented at the signings were Mr.



An instructor of NGVi imparts CNG knowledge to attendees of the training session hosted at NGC's Head Office in Point Lisas.

Curtis Mohammed, President of NGC CNG, Mr. Neil Gosine, Chairman of NP, and Mr. Ronald Milford, CEO of UNIPET. The MoUs represent significant milestones in the CNG revolution effort and outline the terms and conditions for the provision of CNG equipment, operations and dispensation. This development allows for agreement and prioritisation of supply arrangements that facilitate the finalisation of target sites, retrofitting of existing and new CNG and mobile CNG locations.

The subsidiary company has been tasked with the responsibility of educating the public, increasing demand and developing the CNG supply network. As with most broad initiatives, there have been challenges along the way. To address some of these communication concerns, the initiative has been promoted using a comprehensive educational marketing campaign to enhance public awareness. The key message of this operation, that CNG is the cheaper, cleaner, safer and greener choice, is being communicated in a two-year print, radio, TV and electronic media promotional campaign. CNG brand ambassadors have been chosen from various sporting fields

to represent the subsidiary. These popular sports personalities, including Denesh Ramdin, Darren Bravo and Anisa Mohammed, can already be heard and seen championing the CNG revolution on radio and TV segments. They will also be on hand to meet with stakeholders at company events, thus creating a conversation about the CNG revolution and its importance to the national economy.

Ultimately, the CNG Initiative will also impact the national fuel subsidy. In the recent national budget, Government allocated \$7 billion to finance the fuel subsidy. Mr. Mohammed explains that a substantial switch to CNG usage would translate to a reduction of TT\$1.7 billion in the liquid fuel subsidy (TT\$140 million per month) and a gain of TT\$2.7 billion foreign income from displaced fuels (TT\$225 million per month).

Some of the misconceptions that are being addressed through the campaign include promoting the fact that CNG is not only affordable, but equally efficient - one litre of CNG will take you as far as one litre of gasoline. The upgrade in technology means

that the older, bulkier tanks, have now been replaced with modernized, safe, CNG conversion kits, that include smaller tanks. Incentives for uptake include Motor Vehicle Tax and VAT removed on imported new and used (less than 2 years old) natural gas vehicles; removal of duty on components for the retrofit of (CNG) vehicles; for private motorists, 25% income tax credit for conversion cost up to a limit of \$2,500.00 and for businesses, capital uplift of 130% for wear and tear allowance. Additionally, visits to the gas station will be quick and convenient as CNG pumps are expected to fill the average vehicle in less than

three minutes. CNG fuel systems are also sealed to prevent any leakages and the fuel contains no additives and burns cleanly.

The Energy Chamber of Trinidad and Tobago recently posted an article on its website, "A Closer Look at Trinidad and Tobago's Fuel Subsidy," which addressed the issue. It stated, "We must also be cognizant of the necessary investment NGC will need to make in constructing the gas stations, metering and compression stations and building pipeline networks to deliver CNG to service stations. There are also job

opportunities for contractors to build this infrastructure and for local mechanics to convert cars to CNG and service these vehicles as well. Trinidad and Tobago has an opportunity to be a leader in CNG vehicle penetration and the International Energy Agency (IEA) forecasts that fuel consumption by natural gas vehicles in Latin America will grow from 15 billion cubic metres in 2015 to 44 billion cubic metres by 2030. How the CNG initiative is rolled out will also serve as a useful guide for the development of other alternative fuel options in Trinidad and Tobago, such as dimethyl ether (DME)."

Mr. Mohammed, who has a wealth of experience in setting-up manufacturing entities and the management of major capital projects, concluded confidently that: "The NGC (as parent company) serves as investor, financier and supplier of select services. We will be responsible for influencing the demand for CNG among the different market segments."

In the meantime, the CNG initiative is being aggressively pursued by NGC CNG Company Limited. The accelerated development of CNG as a major vehicular fuel in Trinidad and Tobago is not without its growing pains but it is the priority of Mr. Mohammed and the team at NGC CNG Company Limited to make this a reality.



Hands-on Demonstration: Attendees of the CNG training programme examine a CNG-converted vehicle

CNG AT A GLANCE:

What is CNG?

CNG is Compressed Natural Gas. It is cheaper, cleaner, greener and safer than diesel or super gasoline.

Reasons to Switch to CNG

- **Goes the Distance** - CNG is compressed so that enough fuel can be stored in your vehicle. One litre of CNG will take you as far as one litre of gasoline.
- **New and Improved Technology** - Unlike older technology which was bulky and required frequent fill-ups, CNG-ready vehicles don't sacrifice space to utility and CNG conversion kits include smaller

tanks than ever before. In addition, visits to the gas station will be faster than ever as quicker-filling CNG pumps are expected to fill the average vehicle in less than three minutes.

- **Safe Performance** - CNG components are refined to international standards and are tested to ensure safe performance. CNG fuel systems are also sealed to prevent any leakages.
- **More Power** - Natural gas has a higher octane rating than premium gasoline, which results in overall improved vehicle performance and a quieter engine.
- **Peak Engine Function** - CNG contains no additives and burns cleanly, leaving no by-products of combustion to

contaminate your spark plugs or engine oil. Your engine functions at peak output for longer periods and your engine oil remains clean resulting in minimized engine wear.

- **Economically Priced** - CNG is currently a third of the price of super gasoline. Make the switch and drive your daily route for three days with the same amount you spend on gasoline today.
- **Low Maintenance** - CNG fuel burns cleanly and is non-corrosive. This reduces the damage to the pipes, mufflers and spark plugs of your vehicle. It also releases fewer by-products into motor oil meaning fewer oil changes and overall lower maintenance costs.

FINANCIAL SUCCESS FOR NGC

The National Gas Company of Trinidad and Tobago Limited (NGC) has had an unique position in the local natural gas sector, in that it bears full responsibility to its shareholder - the Government and citizens of Trinidad and Tobago. Its mandate to establish NGC as a global brand, resonates from one of the highest offices of Trinidad and Tobago and permeates to the executive management level of the Company. This was the recurring theme when NGC proudly announced a record-breaking after-tax profit of TT\$6.5 billion at a Stakeholders' Appreciation Event held in July 2014.

NGC not only announced the milestone in its financial performance, but also acknowledged the contributions of its stakeholders and the local gas-based energy fraternity. As noted by the Honourable Prime Minister, Mrs. Kamla Persad-Bissessar, who delivered the feature address, "The results of both NGC and the energy sector in general, have been nothing short of transformational... In this regard, I wish to acknowledge the individual and collaborative efforts of those of you in this room, who are largely responsible for these achievements. To the Honourable Minister of Energy and to the leadership of NGC, I wish to recognise your contributions. Trinidad and Tobago salutes you all. If ever there was any further need for evidence that Trinidad and Tobago has experienced an unprecedented period of development, the results this evening and the vision articulated here provide it."

Also in attendance was the Hon. Minister of Energy and Energy Affairs, Senator Kevin Ramnarine, who added to the celebratory atmosphere by acknowledging the success of NGC and inviting guests to reflect on the resilience of the energy sector, which he said has had its challenges in natural gas supply. He highlighted the collaborative efforts of the energy players to find solutions. Senator Ramnarine reminded the audience that Trinidad and Tobago continued to



NGC President Mr. Indar Maharaj addressing the audience at the Stakeholders' Appreciation Event

be the 6th largest exporter of LNG in the world, and the largest exporter of ammonia and methanol from a single site.

President of NGC, Mr. Indar Maharaj recapped that the mindset adopted by all of NGC's leadership was to deliver on the strategic objectives with commercial rigour, keeping an eye on

the long-term interest of the Company, and by extension, the Government and people of Trinidad and Tobago. The President also attributed the Company's impressive performance to the efforts and support of the Ministries of Finance and the Economy and Energy and Energy Affairs, upstream suppliers and downstream customers. He acknowledged that NGC had moved beyond some of the most ambitious dreams of the pioneering individuals who helped to build the Company.

One such individual lauded at the event was the former Minister of Petroleum and Mines, Mr. Errol Mahabir, who was recognised for his central role in the formation of the Company. Senator Ramnarine reflected that in 1975, Mr. Mahabir was the government minister who presented the Cabinet Note formalising the establishment of NGC to be operated as a private company and registered under the Company's ordinance. NGC was accorded just TT\$80,000.00 as an advance from the government upon its creation and was located in offices adjoining lawyers' chambers at 54 Abercromby Street in Port of Spain. The Minister also highlighted that today with an asset base of approximately TT\$45.1 billion, NGC has become one of the largest companies in the Caribbean and Latin American region.

NGC started with a focused mandate to guarantee gas supplies to prospective



Energy Executives from left to right: Executive Chairman of Industrial Gas Limited, Mr. Baajnath Sirinath; President of Petrotrin, Mr. Khalid Hassanali; President of NGC, Mr. Indar Maharaj; Managing Director of PCS Nitrogen, Mr. Ian Welch; and Regional President of BP Trinidad and Tobago, Mr. Norman Christie.

investors and thereby facilitate and enable the growth of a petrochemical-based industry in the country, located at the Point Lisas Industrial Estate. The first year in which NGC was formed, it recorded a relatively meager profit of TT\$19,000.00. Today it can proudly declare a TT\$6.5 billion after-tax profit. In the course of its history, the Company has cemented its role in gas-based industrialization efforts and evolved into a rigorously commercial, fully-integrated company with activities upstream, midstream and downstream of the gas value chain. This has produced stellar financial results.

The Success Story

Three major initiatives in the last three years have been credited for what the Prime Minister has referred to as “...the transformation of the Company.”

Firstly, in what is considered a bold strategic business move, NGC, through

its subsidiary Trinidad and Tobago LNG Limited (TTLNG), undertook the self-marketing and sale of its LNG cargoes associated with its 11.11 percent shareholding in Atlantic Train IV. Prior to this, BP Gas Marketing marketed all nine cargoes. TTLNG took control of three of these for sale directly to the market.

Secondly, in 2013, the acquisition of the ConocoPhillips’ shares in Phoenix Park Gas Processors Limited (PPGPL) was another defining milestone in the transformation of NGC. NGC delivers unprocessed natural gas to PPGPL. PPGPL extracts the associated Natural Gas Liquids (NGLs) from the gas stream and redelivers high quality gas to NGC for distribution and sale. NGC increased its shareholding from 51 percent to 90 percent for the purchase price of US\$ 600 million. This acquisition was seen as further cementing the relationship between NGC and PPGPL and deepening its involvement downstream.

Another acquisition was finalised in 2013. This was the third defining initiative involving the purchase of the French-based global energy operator Total’s Exploration and Production (E&P) assets in Trinidad and Tobago. The transaction priced at US \$473 million was finalised on September 30th, 2013, with economic benefit from January 1st 2012. The acquisition included Total E&P Trinidad B.V. and Elf Exploration Trinidad B.V. Together these two Total subsidiaries hold a 30% working interest in Block 2 (c) and an 8.5% working interest in Block 3(a), and have a production capacity of approximately 15,000 barrels of oil equivalent per day and a gas volume of 220 MMscf/d. With this acquisition, NGC expanded its interests in the upstream sector. Moreover, it had deepened its involvement in the upstream business which comprised a 10 per cent shareholding in the South

East Coast Consortium (SECC); 20 per cent Shareholding in Trintomar; and a 15 per cent interest in the Teak, Samaan and Pouí (TSP) Offshore block.

Global Prospects for the Future

The Trinidad Gas Model has been much sought after by emerging economic powerhouses. NGC's President Mr. Indar Maharaj indicated that the time had come for a reversal of roles. Instead of NGC only seeking to woo investment into the local energy sector, the time is ripe for the country to look outwards and create investment opportunities in the region and internationally. He said that various factors offered leverage to do this successfully. He explained that NGC had the capital, expertise and knowledge of the natural gas business, LNG markets, the construction, management and maintenance of complex pipeline transmission and distribution systems, and is capable of managing and negotiating large and complex commercial contracts.

Mr. Maharaj summed up NGC's goals: "We will seek to invest even more in

the right kind of partnerships, explore new entrepreneurial opportunities that will see NGC increasingly realised as a global brand. Our strategic intent is to make commercially astute investments and acquisitions that deepen Trinidad and Tobago's interest and local participation in the local value chain and secondly to scan the global energy landscape to find relevant and risk appropriate opportunities to expand NGC's business footprint abroad."

In celebration of such historic profit, Mr. Maharaj reminded the audience that while NGC is "...a commercial enterprise restless for profit, we cannot only measure success financially, but measure our achievements by the culture we create, by the visions we embrace, by the thoroughness of well-executed strategies which make us more competitive globally, and, ultimately, by the contribution we make to society and the world we live in."

Congratulations are in order for the pioneers, the NGC team and all its stakeholders who have contributed in some way or another to the success for

"We will seek to invest even more in the right kind of partnerships, explore new entrepreneurial opportunities that will see NGC increasingly realised as a global brand."

this 'locally owned, globally growing' Company.

NGC, which stands at the helm of the national energy sector, is indeed proud of this hallmark in financial performance. Looking forward, the Company will strive to make strategic decisions with prudent management, to realize our vision of being a valued partner in the global energy business. We will continue to look beyond these shores and seek out opportunities to bring maximum benefit to the people of Trinidad and Tobago.



The Hon. Mrs. Kamla Persad-Bissessar, Prime Minister of Trinidad and Tobago (centre), shares a light moment with NGC's President Mr. Indar Maharaj and Chairman, Mr. Roop Chan Chadeesingh at the Stakeholders' Appreciation Event.

NATIONAL ENERGY MISSIONS 2014

By Daren Ragoonanan, Team Leader, Energy Industry Development, National Energy Corporation of Trinidad and Tobago Limited

National Energy Corporation of Trinidad and Tobago (National Energy), as per its mandate, has been actively engaging potential investors regionally and globally with the purpose of attracting them to invest in downstream energy industry development in Trinidad and Tobago.

Given the rich history and wide range of business functions performed by National Energy, the Company continues to be well-positioned to drive the expansion of the energy sector well into the future. National Energy has always been proactive in promoting both the Company and the country's energy brand regionally and internationally. National Energy continues to execute the development of energy and related infrastructure projects in collaboration with public, private, and state sector agencies. In this regard, it recently participated in the Caribbean South America Energy Summit and SURIMEP 2014.

Caribbean South America Energy Summit

The Caribbean South America Energy Summit, hosted by Oliver Kinross Limited, was held on 9th-10th June 2014, in Miami, Florida.

The two-day conference and exhibition offered attendees the chance to:

- Explore and learn about the recent developments driving opportunities in the oil, gas, power and renewable sectors;
- Network with senior-level energy professionals from Governments, International Oil Companies, National Oil Companies and Utility Companies from the region and beyond;

- Participate in one of the few energy forums to cover the energy industries of the Caribbean and northern Latin America.

On Day One of the conference, National Energy's President, Dr. Vernon Paltoo was a keynote speaker. His presentation titled, "Development of a Sustainable Natural Gas Industry - A Trinidad and Tobago Perspective" was delivered in the session themed, "Models for Creating a Successful Energy Industry in Developing Countries."

Dr. Paltoo's presentation focussed on the following:

- The current state of the Energy Industry in Trinidad and Tobago;
- Mechanisms and Strategies used for the development of the gas-based sector;
- Status of current projects and rationale for future planning; and
- Industrial development planning for the future.



National Energy's Vice President - Operations, Mrs. Marleen Lord-Lewis greets His Excellency, Mr. Jim Hock, Minister of Natural Resources, Suriname while Dr. Vernon Paltoo, President of National Energy (centre) looks on.



Business Analyst, Mr. Arden Rodriguez (right) at National Energy's Booth at SURIMEP 2014.



Engaging visitors at the Company's Booth.

As National Energy continues to promote the local energy sector and engage stakeholders in order to diversify the energy sector in Trinidad and Tobago, Dr. Paltoo used the opportunity to highlight the mandate of National Energy. Other business areas that were emphasised included projects under development, the role of the organisation in the local energy sector, and the thrust towards natural gas diversification and industrial development required to support such initiatives.

SURIMEP

As a key initiative of its Suriname Engagement Strategy, National Energy participated in a mission to that country to explore potential business opportunities. The mission was scheduled to coincide with the 1st Suriname Mining, Energy and Petroleum Conference and Exhibition (SURIMEP) which ran from 17th to 19th June 2014.

The event, of which National Energy was a Platinum Sponsor, took place in Paramaribo and was organized by the Ministry of Natural Resources (Republic of Suriname), in partnership with AME Trade Ltd, a UK-based organisation specialising in the area of trade promotion for the African and Middle Eastern region.

The main theme of SURIMEP was “Utilizing Suriname’s Natural Resources to Underpin a Sustainable Economy”. Suriname’s extractive industries are diverse, unexploited and full of potential for investors, making the country an ideal location for this event. National Energy’s Acting Vice President, Energy Industry Development, Merlyn Rennie-Browne delivered a feature address at this event on the topic “Building a Sustainable Energy Industry - The Trinidad and Tobago Experience”.

National Energy used the opportunity to showcase the Company’s operations and activities via a presentation on the opening day, an exhibition booth and a cocktail event. Additionally, pre-arranged meetings were held with targeted companies to explore opportunities of mutual benefit. A visit was also made to the dry docking yard where National Energy’s tug, the *Empress*, was undergoing repairs.

Meetings were scheduled with senior government officials, the Suriname Business Forum, Staatsolie (Suriname’s National Oil Company) and the Industrial Development Corporation, amongst others. Those meetings were aimed to promote National Energy’s business activities as well as ascertain areas for collaboration and execution of projects in the areas of renewable energy, port management, ship repair and energy supply chain.

One of the main topics that was discussed was the execution of a Memorandum of Understanding (MOU) between Trinidad and Tobago’s Ministry of Energy and Energy Affairs and Suriname’s Ministry of Natural Resources. The following broad areas are to be included in the MOU:

- Assistance in the development of an energy policy framework for Suriname;
- Provision of Technical Expertise;
- Establishment of logistical ports, harbours and industrial estates for energy based products;
- Assistance and facilitation of the provision of energy services to Suriname through the relevant entities.

Through these conferences and other future engagements, it is National Energy’s intention to continue to engage stakeholders to further advance and diversify the local energy industry. National Energy has also used and will continue to use similar opportunities to showcase the projects under development, highlight the role of the organisation in the local energy sector, and focus on the thrust towards natural gas diversification and industrial development required to support such initiatives.

MINISTER SEES A “BRIGHT INDUSTRIAL FUTURE” FOR T&T

Gasco News is pleased to reproduce the speech by the Honourable Minister of Energy and Energy Affairs, Senator Kevin Ramnarine, at the Society of Petroleum Engineers of Trinidad and Tobago (SPETT) Resources Conference at the Hyatt Regency, Port of Spain in June, 2014.

Good morning all. Let me commend SPE for another successful conference. The theme is “**Future Assets: Acquisition, Maintenance & Reliability.**” This is very relevant to Trinidad and Tobago and indeed to the global oil and gas fraternity. Let me also say that I am pleased that the Ministry of Energy and Energy Affairs (MEEA) is a titanium sponsor of this event. At the MEEA we encourage involvement in the SPE and I am

pleased that our own Ayasha Nickie is the Technical Programme Coordinator of the SPE.

The MEEA is also very present in the technical sessions notably:

Reintroduction of Carbon Dioxide Supply from Central to South Trinidad via Pipeline - Perspectives and Possibilities for Using Present System by S.A. Butcher, J. Isaac, C. Frontin-De Peaza;

Multiclient 3D Seismic Surveys in Trinidad and Tobago - Towards a Policy by Dr. W. DeLandro-Clarke, P. Bradshaw-Niles;

Trinidad and Tobago: Diving into the Deep but at What Cost? by A.W. Nickie;

The Performance Characteristics of Waterdrive Gas Reservoirs off the South-East Coast of Trinidad by Christian Welsh.

Later today, Sameer Ali, Acting Chief Mechanical Engineer, will be part of a panel to discuss Asset Integrity.

The theme of the conference is very provoking - “**Future Assets: Acquisition, Maintenance & Reliability.**” It speaks to the future. We need to spend more time in this country discussing the future and less time talking about the past. After three years as your Minister of Energy, I can tell you that this country has a bright industrial future.

I intend to give an idea of the future work programmes for upstream, and secondly we can explore where maintenance and asset integrity fit into that story.

Turning to our upstream, our preliminary analysis shows that at the very least we should hold to the 4.2 billion cubic feet per day plateau rate until 2025. This is subject to the realization of related investment that will come from the incumbents.



The Hon. Minister of Energy and Energy Affairs, Senator Kevin Ramnarine delivering his address at SPETT Resources Conference in June 2014.

Let's look at Foreign Direct Investment for a minute.

Year	2010	2011	2012	2013
\$US million	549	1831	2453	1713

Traditionally 90% of Foreign Direct Investment (FDI) has been energy related. That assumption has held for the last four years. The point is we have seen a surge in energy related FDI since 2010 and this is due to increased investor confidence (particularly from the incumbent players BP, BG, BHP and EOG) and this is also related to the fiscal incentives that have been provided in every budget for the last four years. In the upcoming 2014/2015 I intend to look closely at how we could incentivise the development of small stranded pools of natural gas.

In 2014 the forecasted capital expenditure for the energy sector is \$US 3.3 billion. In 2015 that figure will be \$US 3.2 billion, and, in 2016, will be \$US 3.0 billion. The main actors in these numbers are BP, BG and Petrotrin. Most of that money is being spent to bring oil and gas to the surface and to the market in a safe and efficient manner. The incumbents all have a growth story around Trinidad and Tobago and the proof is that they are investing again in substantial sums. The impact of this investment will be seen by the level of drilling taking place around the country. BP, for example, is currently maintaining

a two rig drilling programme and we expect that to increase to three, in 2015, as they commence work on Juniper.

So in the past four years there has been no increase in taxes on companies in the energy sector. This has allowed upstream companies, for the first time in many years, to operate in an environment of certainty. Companies like certainty and don't like having the rug pulled from under them. This comes against the backdrop of almost a decade of indecision as it relates to the fiscal regime. At the MEEA, we are making decisions about the fiscal regime in the national interest.

In the last four years, we have simplified the competitive bidding process. The result is that we have signed:

- Seven deepwater Production Sharing Contracts (PSCs);
- Five shallow/ average depth water Production Sharing Contracts;
- Granted a license to Petrotrin for its Trinmar acreage in 2012.

This year, we expect to sign two more Deepwater PSCs and three onshore

licenses with Range Resources, Territorial and Lease Operators Limited. There are currently 28 active PSCs dating back as far as 1974. Of these 28 active PSCs, 12 were signed in the last four years. At the 2014 Energy Conference, I announced the award of three land blocks to Range Resources, Lease Operators Limited and Touchstone. These three blocks, together with the Trinmar license and the seven existing deepwater PSCs will lead to the drilling of at least 31 exploration wells (these are based on contractual obligations) in the next eight years and at most 53 exploration wells. The additional 22 will be based on the optional second and third exploration phases under signed PSCs.

Again looking into the future, the year 2018 would be a very significant one for T&T as we must treat with the renewal of the ALNG Train I contract, as well as the renewal of the BP domestic contract. In 2015, the BG / Chevron Base Gas Sales Contract with NGC expires.

These are big contracts that impact the future of the country. We don't intend to make decisions around these contracts without the benefit of a new natural gas master plan and it is for that reason we have commissioned such a study.

I would like to again stress that the energy sector is not only Point Lisas. For far too long there has been a tendency to see the energy sector as only Point Lisas. This might be because people don't see the marine side of the upstream. Without the upstream there is no energy sector. Without the upstream there is no Point Lisas and no Atlantic LNG.

With regard to oil production, the Petrotrin OBC seismic over the Trinmar and North Marine Acreages is now complete. It was not without its challenges. I expect 3D seismic to be a game changer for Trinmar and for oil production. The data will now be processed. In 2011, Petrotrin had completed the largest ever land based



Attendees visit the various booths on display at SPETT.



The Hon. Minister of Energy and Energy Affairs, Senator Kevin Ramnarine officially opening the SPETT Resources Conference flanked by executives of the energy sector.

seismic and the processing of this data has already informed the identification of new prospects.

We are now seeing signs too of improvement at Trinmar where production has averaged over 23,000 barrels of oil per day (bopd) for the last four months. The flagship project of Petrotrin, the South West Soldado project, is expected to realise an incremental production of almost 7000 bopd by 2018 with a total investment of \$TT 3.5 billion in the next four years. There are also good signs from Leni Gas and Oil, Range, Trinity and Touchstone.

Safety / Asset Integrity

All this future exploration and development must be underpinned by infrastructure.

Safety, asset integrity, reliability and maintenance have been dominant issues in our industry since they were

“...it is not business as usual as we move forward. For the industry to survive and to continue being the economic centre of gravity of the country - we must focus on asset integrity, maintenance and safety.”

highlighted by the Piper Alpha incident in the North Sea, in 1988, causing the loss of 167 lives. In 1989, there was the Exxon Valdez disaster and in March, 2005, an explosion occurred at the isomerization unit at BP's Texas City refinery in Texas City, Texas, killing 15 workers and injuring more than 170 others. In 2010 there was Macondo in the Gulf of Mexico.

These accidents have had an impact on safety in our industry. In April 2010 the BP Macondo oil spill was viewed by a global audience of billions. That accident has significantly changed the way BP does business and this of course has consequences for BP's operations in Trinidad and Tobago. This is the new world of safety where companies like BP and others here have made safety their number one business deliverable. The past three years have been hard. We have had to endure curtailments at Point Lisas and at Atlantic because of BP's maintenance activities.

The industry in Trinidad and Tobago is stronger for this maintenance work. In September to October last year, we underwent the largest coordinated maintenance programme in the history of this country. At one point 25% of the country's natural gas supply was offline. The maintenance involves the BP Cassia 'B' Hub, the BG Dolphin Platform, Atlantic's Train III and nine plants at Point Lisas.

So ladies and gentlemen, it is not business as usual as we move forward. For the industry to survive and to continue being the economic centre of

materials logistics which adversely affected other asset integrity and maintenance measures. R&M, over the last three years has had to play catch-up with the outstanding turnarounds.

Arising from this, several asset integrity initiatives have been developed and are in various stages of implementation, all aimed at improving asset availability and reliability, recovering Petrotrin's proactive maintenance programmes and improving our personnel competence level. These initiatives include establishment and

over licensees as it relates to the improvement of their HSE practices.

As we progress the energy sector into the future, we are cognizant that we do so using aging infrastructure. It makes more economic sense to prolong the life of this infrastructure than to invest in a new kit. In some cases the economics of rejuvenating mature offshore fields only work if we prolong the life of existing infrastructure. In these cases the project economics make no sense if we have to install new infrastructure.

Increasingly, moving forward into the future will mandate that the energy sector in Trinidad and Tobago invest in asset integrity and maintenance to prolong the life of assets and to ensure the reliability and deliverability. This is especially important given that the future growth in the upstream will come from a mixture of new discoveries and mature fields.

In closing let me congratulate the SPE and all presenters and organisations here today and wish you a productive conference.



The Hon. Minister, Senator Kevin Ramnarine trying his hand at the interactive touchscreen display done by NGC in collaboration with The Ministry of Energy and Energy Affairs at the Conference.

gravity of the country - we must focus on asset integrity, maintenance and safety.

The situation in the Pointe-a-Pierre refinery is one that we must carefully consider. In the last three years, 2011 to 2014, 15 plants were shutdown for turnarounds, many of which were long overdue for maintenance. By contrast during the five-year period 2005-2010, seven plants were shutdown for turnarounds. This placed an enormous demand on manpower and financial resources as well as contractor and

implementation of a rolling ten-year maintenance turnaround plan for major assets including process plants, boilers and marine berths. This plan has been completed and is in place.

The MEEA is also in the process of retaining a consultant to implement the national facilities audit of the energy sector. This will cover all aspects of the sector including the downstream sector. I want to add that the Petroleum Regulations Section 42 under general obligations of licensees gives the Minister the authority

RUN RATE - PROGRESSING NATIONAL DEVELOPMENT THROUGH CRICKET

NGC extends its sponsorship for a further three-year period (2014-2016) to support the progress of the country's well-loved sport - cricket.



Run Rate (n): The average number of runs scored per over, and is used as a guide to a team's progress.

The aim is to consistently enhance the sport and support the players so that within the next decade we shall not only see another Bravo or Lara emerge, but an innovative A-Team that rekindles the golden age of cricket.

It was a substantial, perhaps even an historic, investment in the sport. NGC pledged TT\$13 million to the development of local cricket over the next three years.

In January, Vice President of Human and Corporate Relations, Cassandra Patrovani Sylvester, explained during a press conference at the Queen's Park Oval, that NGC had been a sponsor of local cricket for the previous three years with an investment of over TT\$10 million. During the term of that sponsorship, the funds were allocated to a variety of initiatives including

the preparation of the national team for the Champions League, as well as the domestic T20 and zonal cricket. The current arrangement is for a disbursement of TT\$4.45 million annually from 2014 to 2016.

"As a Company that has been particularly interested in youth development over the years, NGC was especially excited that a portion of its sponsorship funds went to support the Trinidad & Tobago Cricket Board's (TTCB) Grassroots Development Programme, which helps to bring good coaching, equipment and playing

areas to young enthusiasts throughout communities."

The Vice President also explained that funds will be allocated to provide training for promising young cricketers, umpires and coaches at the National Academy, as well as continued support for the Grassroots Development Programme. The 142 clubs that comprise the seven zones in Trinidad and the 12 clubs in the Tobago Zone, are also in line to receive subventions to cover their activities and expenses.

CORPORATE SOCIAL INVESTMENT

According to NGC Community Relations Officer, Fofi George, the comprehensive programme is being developed in collaboration with the strategies of the Trinidad and Tobago Cricket Board (TTCB). The recently concluded NGC T20 Cricket Festival was highly successful, with the Queen's Park Cricket team walking away with the Festival Crown. The current series of T20 regional competition has also been widely popular with the Trinidad and Tobago team having a bumpy ride of wins and losses.

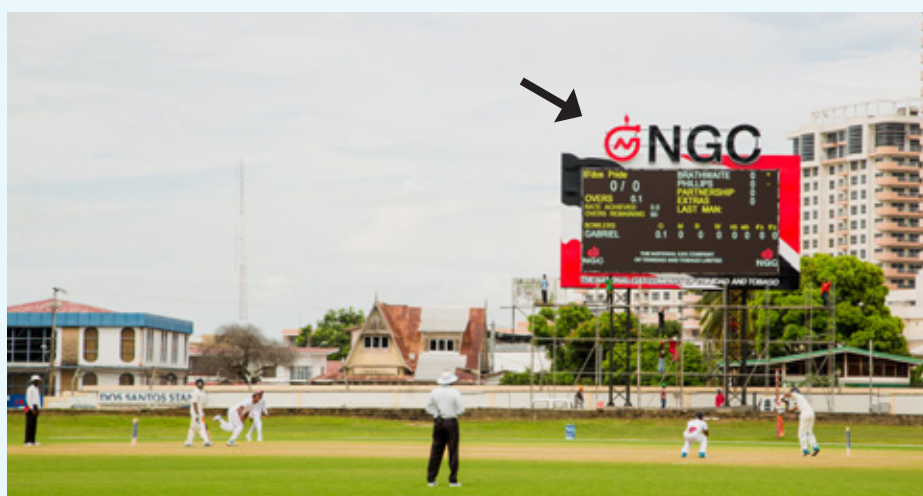
"I am seeing talent developing. There are lots of talented young athletes who are coming from T&T cricket." George thinks that the next steps are to effectively track and measure the performance of the players and the team.

TTCB President, Azim Bassarath, said at the launch, "We are very fortunate indeed that NGC has come on board with us for another three years. We have done a lot of work and there is still much to be done and having such a successful partner in NGC, can only lead to better things. We at the TTCB are eagle-eyed and (are) willing to get involved with the government in doing our part through cricket, to help rid this country of its social ills. Cricket, and sport on the whole, are important tools in helping with social transformation and the TTCB stands ready to do its part."

The aim is to consistently enhance the sport and support the players so that within the next decade we shall not only see another Bravo or Lara emerge, but an innovative A-Team that rekindles the golden age of cricket. This objective mirrors NGC's business focus on sustainability through support of projects that shape lives for the long-term.



NGC and TTCB representatives at the sponsorship announcement press conference.



The newest installation at the Queen's Park Oval - an NGC-sponsored scoreboard.

NGC's support for cricket is part of the company's Corporate Social Investment (CSI) programme which has three themes: Civic Life, Sport and Empowerment. The programme focuses on the strategic development of education, sport, the environment, the arts and sciences, as well as the country's infrastructure, through grass-root partnership programmes in local communities and with key organisations.

"The CSI programme is quite large and encompasses sponsorship of Police Youth Clubs, steel orchestras and tassa groups; cricket and track and

field; NGC Bocas Lit Fest, as well as construction of facilities in communities across Trinidad and Tobago to enrich public and community life," Wynda Chandler, Head of Community Relations at NGC explained. She added that by "...adhering to fixed focus areas and geographic spread, we have been able to make meaningful contributions for the benefit of both local communities and the wider national community."

“MORE THAN A HOUSE”

NGC's volunteerism programme, known as its Reputation and Relationship (RR) Ambassador Programme, was born out of the Company's goal to be regarded as a valued and trusted partner in communities throughout Trinidad and Tobago. Since its introduction in 2010, the RR Ambassador Programme has attracted over 300 employees who have volunteered to be part of the Company's Corporate Social Responsibility (CSR) internal and external relations programmes, representing the company at business and community engagements, NGC-sponsored public events and much more.

One such opportunity that is grasped by NGC's volunteers is the annual Habitat for Humanity Trinidad and Tobago (HFHTT) community build, where NGC's support goes beyond financing the cost of the house for a needy family. Staff members get involved in construction, painting, electricals and masonry under the supervision of HFHTT expertise in completing the home.

NGC has been involved in the Habitat for Humanity Trinidad and Tobago programme for almost a decade and through donations and volunteerism has helped by provide homes for those in need. But why is staff so enthused about the project and so eager to get involved?

“We never fully understand how economically challenged people can be or how such basic needs as shelter can improve the lives of communities and families,” NGC's Head of Internal Communications, Lisa Burkett, explained. She was one of the more than 25 NGC RR Ambassadors who worked in the unforgiving heat to help construct a home for Carolyn Gilbert and her family at Harmony Hall, Gasparillo.

The local chapter of this international, non-profit organisation was launched in 1997 by the former Minister of Education, Clive Pantin, under the umbrella of Foundation for the Enhancement and Enrichment of Life (FEEL). The organisation is focused on “...eradicating poverty housing and homelessness in



“We never fully understand how economically challenged people can be or how such basic needs as shelter can improve the lives of communities and families.”

Trinidad and Tobago.” As of June 30, 2012, HFHTT has assisted 953 families with 256 housing solutions throughout the country.

NGC first got involved with HFHTT in 2005 through a five-year covenant agreement in which the Company contributed TT\$250,000 annually for the purpose of sheltering families in need.

Elizabeth Callan, a Grant Writer with HFHTT, explained that the programme goes beyond the construction of houses in underprivileged communities.

“We're not just handing out houses, there's a philosophy - you have to work for it... we see ourselves as home partners.” She added that the Harmony Hall project, which NGC supported this year, is part of a larger community project where neighbours are taught carpentry and hands-on construction skills so that they can help to build other homes in the community and maintain their own. Through ‘sweat equity’ one must agree to spend “...100 hours on your home and 300 on neighbours’...”

EMPLOYEE ENGAGEMENT

"I love this Harmony Hall project," Callan said. "I love to see the change in the family, the financial, construction, volunteerism skills are more important in a way than the real house that you're building."

Located a few feet from the white tent where the volunteers and HFHTT staff were planning their next move, a make-shift wooden house is perched precariously close to a gully. Carolyn Gilbert has lived in the house since 1997 with her husband Homesh Seepersad, a mechanic, and their children. Over the years, the elements have taken a toll on the structure, which lacks basic amenities such as indoor plumbing. The termite-riddled wooden floors have broken, showing in parts, the red dirt of the yard below, and the rusted galvanised roof has many leaks.

"We are looking forward to moving in very soon," Carolyn explained, sitting on the porch looking across at her home, just a few feet away. Several of the volunteers were painting the walls with the help of some of the children. The model home, when completed, will have indoor plumbing, a new kitchen, three bedrooms and a dining room. "I don't know how

to thank them again, we are excited and thankful - they have been friendly and very helpful," she added. Her eighteen-year-old daughter, Vasha, who attends a high school nearby and has aspirations of being a flight attendant added, "I feel great to move from this house to a better house."

For Lisa Burkett, the HFHTT homes provide the necessary amenities for children to thrive.

"Many children of these homes are then able to study and do homework in an appropriate environment, thereby allowing them to succeed at school. Indoor plumbing and electricals allow them to have electricity to study, to have refrigerators and minimise the risks associated with going outdoors at night and early mornings for bathroom use."

NGC RR Ambassador, Melina Gonzalez, said that she has always had a passion for and an interest in building communities. "I feel such pride to be part of this programme at NGC...I always feel this deep sense of gratefulness, I feel privileged to be working at NGC. I always want to do

more - our lives just can't always be about ourselves. What may seem like a simple thing to you may make a world of a difference to someone else."

Danielle Hackshaw, who recently joined the NGC family, shared her experience of the RR Ambassador Programme.

"Habitat for Humanity's home project resonated with me because my innate nature is to give (even if I don't have) and provide a sense of joy to others. It also reminded me of the work I do with my Rotaract Club (Junior Rotary) where as a member your daily mantra is 'service above self'. I thoroughly enjoyed the day I spent with Habitat for Humanity under the RR Ambassador Programme. Seeing the enthusiasm and excitement those children had, knowing that they would soon have a better place to call home, made it all worth it. In life generally, and this may seem cliché, but, there is no greater satisfaction than making someone happy through your generous actions. I would definitely, without a doubt, participate in another venture of this sort and be a RR Ambassador as much as I could. It was a humbling experience that has no monetary value. According to Mahatma Gandhi, the best way to find yourself is to lose yourself in the service of others."

Even though NGC has supported HFHTT with building homes, it was only in 2013 that NGC used this relationship as an employee-engagement initiative. The programme was over-subscribed with over 35 volunteers signing up to assist with plumbing, electricals and painting of the home which bordered the Point Lisas Industrial Estate. The movement inspired other staff members via their departments to donate funds out



The NGC RR Ambassadors spend time chatting with some of the Gilbert family members.



The NGC RR Ambassadors prepping for the paint job ahead!

of their pockets to provide appliances, furniture, completely tile the home and provide draperies.

“When staff volunteers are exposed to this first-hand by volunteering they become more empathetic, more sensitive to the needs of families in their own communities who may be at risk. Many of them feed the poor on weekends, or provide food hampers at various times during the year. The concept of giving is not lost on them after experiencing how lives can change by small actions,” Lisa Burkett explained. She also sees the importance of the life-skills that the programme brings. “We provide more than a house. Through our intervention there is greater security, enhanced educational opportunities and improved health of the family members. Through

the provision of HFHTT training to the home partners, an investment of capacity-building provides deposits into the families’ future, enabling them to improve their own housing situation gradually.”

So far for 2014, the RR Ambassador programme has engaged a total of 222 employees. These employees were instrumental in ensuring NGC has representation at conferences, NGC Bocas Lit Fest Community Story telling events and TT Film Festival community screenings. The RR Ambassadors are also trained to become knowledge ambassadors for NGC so that they can participate in community science fairs, host and present at natural gas workshops, become mentors for NGC-sponsored Police Youth Clubs and participate in exhibitions hosted by the

various chambers and organisations. Our ‘sportsmen and women’ are not left out as they are encouraged to participate in external football and cricket leagues, some sponsored by NGC.

At NGC, our employees are keen to be involved in the RR Ambassador programme. It provides an opportunity for them to be better rounded, satisfied persons; it helps grow the Company’s capacity to build relationships of trust with communities, stakeholders and among employees themselves; and it enhances the NGC brand and reputation. Communities also gain value from our employees’ sharing of skills, talents and most importantly, time. It is certainly much more than building a house!

New Gas Line for Couva Children's Hospital



Construction in progress at the site of the Couva Children's Hospital and Multi-Training Facility.

The Couva Children's Hospital and Multi-Training Facility (CCH) will stand on a 60-acre site on lands that once belonged to the former Caroni (1975) Limited.

NGC will supply the CCH with natural gas. The NGC team, led by Project Engineer Ravindra Jaglalsingh, includes Adrian Maharaj, Bertrand Soondar, Danielle Hackshaw, Sherwin Williams and Vindira Basdeo.

The project will include construction of an inlet gas pipeline and metering station at CCH. This pipeline will consist of approximately 6,700m of 4-inch carbon steel pipeline and a metering station within the compound of CCH. The natural gas supply is expected to be odourised in keeping with safety and statutory requirements.

Currently in the engineering and design phase, the scope of the project includes the following:

- Designs of pipeline and metering station according to ASME B31.8 (ASME- American Society of Mechanical Engineers);

- Acquisition of Statutory and Regulatory Approvals necessary for completion of the project;
- Procurement of materials and equipment deemed necessary to carry out the works;
- Acquisition of the Right of Way to construct pipeline;
- Engagement of contractors charged with completion of the project (Construction and Non Destructive Examination (NDE) in accordance with NGC's Project Management Methodology);
- Quality Assurance/Quality Control (QA/QC) of all aspects of the Construction and NDE;
- Inspection of all works performed by the contractor in accordance with NGC policies and Environment, Health and Safety (EHS) procedures.

NGC is working alongside the Rural Development Company Limited (RDC), Caroni, Ministry of Works and Infrastructure (MOWI) to finalise the pipeline route. Thus far the plan states that the hot tap point will originate from the existing 16-inch gas pipeline to The

Power Generation Company of Trinidad and Tobago (POWERGEN), Port-of-Spain (where it crosses the Rivulet Road), and will proceed north of the Rivulet Road to the Solomon Hochoy Highway, then south along the Solomon Hochoy Highway. Ongoing progress meetings are held with Urban Development Corporation (UDECOTT) and the contractor for CCH.

NGC Project Engineer Ravindra Jaglalsingh notes that, "This project provides an opportunity to improve the general knowledge of NGC and natural gas business to the community and the environs of the CCH, since there would be an increased awareness of NGC and the work that is performed particularly during the construction phase."

When completed, the hospital will include a burn care unit, central pharmacy and a helicopter rooftop access for emergencies.

CNG station constructed at NGC's Field Office

NGC has been mandated to pioneer the implementation of natural gas vehicles by the Government of Trinidad and Tobago with the recently formed NGC CNG Company Limited leading the efforts for this turnaround. With that mandate in mind, NGC has started replacing its diesel-powered fleet vehicles with vehicles powered in part by CNG.

As part of this initiative, the Company is providing CNG fuel for its fleet of vehicles given the limited number of CNG stations available nationwide. The first of two proposed stations were constructed at the NGC's Field Office.

Construction Engineer, Kemba Ramcharan, noted that the construction works for this station commenced in August 2013 and the scope included all electrical, mechanical and civil works required for the following:



1. A 50-mm diameter service main starting from the existing natural gas pipeline running in a north-south direction along the western boundary of the Field Office compound;
2. A metering station with a 50-mm main line and by-pass piping designed

to provide natural gas at a pressure of 300 psi. This station allows for gas to be odourised;

3. A 50-mm diameter natural gas pipeline from the metering station to the CNG station which was installed via horizontal directional drilling (HDD);
4. A CNG station inclusive of two compressors, two dispensers (four filling hoses total) and bottle storage. The compressors are designed to compress the natural gas to a pressure of 3,000 psi.

Commissioning of the natural gas pipelines and metering station was completed in May 2014. Commissioning of the equipment within the CNG station was facilitated by the vendor, Agira, and completed in July 2014.

Liquid Fuels Pipeline Project Update

NGC has worked in collaboration with two other state enterprises namely, Petroleum Company of Trinidad and Tobago Limited (Petrotrin) and the Trinidad and Tobago National Petroleum Marketing Company Limited (NP) to project manage the design, construction and commissioning of the Liquid Fuels Pipeline Project. The project consists of two pipelines and ancillary facilities spread out geographically across the country.

The first pipeline referred to as the Multi-Fuel Product Pipeline (MFPL) originates in the south of the island at the Petrotrin refinery in Pointe-a-Pierre and ends at the Caroni Terminal Facility in Frederick Settlement, north of the island. This pipeline is responsible for transporting the four main fuels consumed in Trinidad and Tobago, that is Diesel, RON-92 (Super), RON-95 (Premium) and JET-A1 (Aviation

Fuel). The second pipeline, referred to as the JET-A1 Fuel Pipeline (JFPL), is responsible for the transportation of JET-A1 (Aviation Fuel) from the Caroni Terminal Facility to the Piarco Receiving Terminal at the NP compound of the Piarco International Airport.

Terrence Ramsundar, Project Analyst of the NGC Liquid Fuels Pipeline Project Team highlights some of the benefits of the project in this recent update, "The system will make the transportation of liquid fuels environmentally responsible, safer, more reliable and efficient. It is designed to incorporate international best practices, create fuel security for the country, increase overall storage capacity, manage centralized fuel distribution, reduced carbon emissions, elimination of load by load certification of Jet-A1 aviation fuel at Piarco, secure and environmentally friendly operations. Upon completion, the Liquid Fuels

System (LFS) will transport multiple fuels via a dedicated pipeline network safely and efficiently using advanced technologies, eliminating the need for fuel transportation by barge from Petrotrin to NP Sea Lots, and eliminate the need for using Road Tank Wagons (RTWs) to transport JET-A1 (Aviation Fuel) to the Piarco Airport."

Currently, the Liquid Fuels Pipeline Project (LFPP) is in its final stages and has commenced its pre-commissioning activities. Once commissioned, NGC will initiate handover activities to the Owner/Operator as determined by the Government of the Republic of Trinidad and Tobago (GORTT).

Local Entities partner with Mitsubishi

In 2013, the Ministry of Energy and Energy Affairs (MEEA), The National Gas Company of Trinidad and Tobago Limited (NGC), National Energy Corporation of Trinidad and Tobago Limited, and a consortium comprising Mitsubishi Gas Chemical Company Incorporated, Mitsubishi Corporation and the then Neal and Massy Holdings (now Massy Energy), signed a Project Development Agreement (PDA) for

the establishment of a Methanol and Dimethyl Ether Plant, to be located at Union Industrial Estate (UIE), La Brea.

The consortium has formed a locally registered company, Caribbean Gas Chemical Limited (CGCL) to develop the project. The project's proposed start date is the first quarter of 2015 and aims to produce, by 2016, 1 million

tonnes of methanol and 100,000 tonnes of DME per year. The award of a Certificate of Environmental Clearance (CEC) is to be issued by the Environmental Management Authority (EMA) for initiation of the project. A commitment regarding the Final Investment Decision (FID) by the investor is expected by November 2014.

National Energy Signs MoU with Chemtech Limited

National Energy is engaged in the development of an integrated melamine processing facility with local developer, Chemtech Limited.

In October 2013, National Energy signed a Memorandum of Understanding

(MoU) with Chemtech to undertake a feasibility study for an integrated melamine processing facility to be located at Union Industrial Estate (UIE). The final elements of the study are to be completed soon, after which National Energy will evaluate and make

recommendations, firstly to its Board of Directors and then to The Government of the Republic of Trinidad and Tobago (GORTT).

Metaldom proposes steel processing complex

In August 2013, Complejo Metalurgico Dominicano C. por A. (Metaldom) of the Dominican Republic, in partnership with Neal and Massy Holdings Limited (now Massy Group), submitted to National Energy a feasibility study report for the construction of a steel processing complex comprising a steel melt-shop, as well as a new downstream component - a rolling mill to produce steel billets which will be used to make reinforced steel bars, rounds and squares. The facility is to be located at the Union Industrial Estate (UIE).

The project was presented to the Standing Committee on Energy and refinement of the project economics is in progress.



Gasfin proposes LNG Facility for La Brea

Gasfin Development SA, a multi-national independent developer of mid-scale LNG and natural gas projects, has proposed the development of a mid-scale LNG facility at La Brea. Gasfin envisions that a two-train facility would satisfy the Caribbean market, but proposes initially a single-

train facility to be constructed with a capacity of 500,000 tonnes per annum at an estimated capital expenditure of US \$400 million.

In December 2013, Cabinet agreed to the execution of a Project Development Agreement (PDA) between Government

of the Republic of Trinidad and Tobago (GORTT), Gasfin Development SA and National Energy for the development of a mid-scale LNG plant for the supply of LNG to the Caribbean. In this regard negotiations are on-going to finalise the PDA.

Brighton Port expansion



The Port of Brighton, located at the La Brea Industrial Estate, currently facilitates companies engaged in a wide range of activities, including energy services, offshore logistics services for oil and gas exploration and production companies and platform load-out operations from its fabrication yard.

Recently, there has been an increase in potential investment opportunities in the neighbouring Union Industrial Estate (UIE) which the Port of Brighton also supports.

Projects such as the Natural Gas to Petrochemicals project currently being developed by Caribbean Gas Company Limited (CGCL), Gasfin LNG, Chemtech and Metaldom are at different stages of development and are earmarked to be located at the Union and La Brea Industrial Estates. As such, it is critical to determine the best port design/orientation that would cater to the needs of not only these projects but future industrial investors that will find a home at either of the two sites.

A Master Plan and Preliminary Design of the Port of Brighton has been developed and tenders are now completed for detailed engineering design to invite bids. Port Construction is scheduled to commence in 2015, subject to the receipt of a Certificate of Environmental Clearance (CEC) from the Environmental Management Authority (EMA).

PPGPL's Culture of Safety



Trinidad & Tobago Emergency Mutual Aid Scheme (TTEMAS) team air-lifting an injured person during the 2012 estate-wide simulation exercise.



PPGPL employees being engaged at Fire Safety Training.

“Our work is never so urgent or important that we cannot take the time to do it safely and in a manner that preserves the environment.”

With this safety motto guiding the organisation's approach to business, Phoenix Park Gas Processors Limited (PPGPL) has established itself as a leader in the energy sector when it comes to safety and environmental preservation. At PPGPL, the approach to safety is of paramount importance, with the company's leadership taking a proactive approach to safety leadership. All employees, including the company's management and contractors are held personally accountable for their safety both on and off the site.

For 22 years, PPGPL has successfully operated its gas processing facility without a lost workday case. More than this, PPGPL has empowered its employees to be 'safety officers,' through continuous staff training; establishment of the right policies, procedures, systems, and tools for work; and by having a 'no name, no blame' behavioural-based safety programme. This multi-pronged approach has resulted in a deeply embedded safety culture at PPGPL that is unparalleled in the energy sector. It has fostered an ethic which is rooted in each individual

who works at the company's facilities, from housekeeping staff to management.

This achievement has been the result of PPGPL's investment of time and financial resources into its HSSE programmes; and even further, its employment of best practices in Process Safety Management (PSM), asset management and mechanical integrity programmes to ensure that the company's safety systems are robust. In tandem with these technical initiatives, PPGPL also makes full use of the behavioural side of safety that speaks to the concept of preventable accidents. It is a known fact that human error accounts for more than 60 % of industrial accidents. As such, at PPGPL behavioural-based safety plays a key role. All employees at all levels are expected to participate in the programme called STOP. This programme expounds that accidents can be prevented if people are aware of the risks involved and, if they are supplied with the resources and training to manage these risks.

PPGPL consistently shares HSE information with others, and has invested time and capital to help other organisations improve their safety systems. Since the establishment of PPGPL, the company has maintained a presence on the Trinidad and Tobago

Emergency Mutual Aid Scheme (TTEMAS.) This institution provides emergency response support to companies on the Pt. Lisas Industrial Estate and draws on the resources of all its members including the Trinidad and Tobago Fire Service and the Trinidad and Tobago Police Service. PPGPL has provided sponsorship, training, and safety leadership to TTEMAS and its members to strengthen the emergency response capability on the estate.

In addition to this, PPGPL has been involved in the development of the Energy Chamber's Safe To Work (STOW) programme and the Pt. Lisas Energy Association (PLEA) passport programme to ensure that all contractors operating on the estate have a basic standardised knowledge of safety. For several years, the company had membership in the American Chamber of Commerce of Trinidad and Tobago's (AmCham TT) HSE Committee and more recently, it sits on the organising committee of the AmCham TT Annual HSSE Conference.

PPGPL believes that educating people about safety is the only way to reduce accidents and incidents, and for this reason, the company invests heavily in educational initiatives to assist others who may not have access to this information.

... to reflect on the beauty that surrounds us here in Trinidad and Tobago.



Photo: NGC Archives

While Trinidad and Tobago is known as the industrial hub of the Caribbean, the twin-island nation possesses a number of hidden retreats where one can recharge and refresh the body and soul, such as this retreat pictured above, nestled in Toco - the most northeasterly coastal village on the island of Trinidad.



Orinoco Drive, Point Lisas Industrial Estate, Couva
Republic of Trinidad and Tobago, W.I.
P.O. Box 1127, Port of Spain.
Tel: 868-636-4662, 4680; Fax: 868-679-2384
Email: info@ngc.co.tt
Website: www.ngc.co.tt