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## TSP Block



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# THE RESILIENCE OF THE ENERGY SECTOR

The dawn of a new year is an opportune time to reflect on what has happened over the course of the past year and, more importantly, to look forward to the prospects and opportunities of the future. The year 2014 was an especially celebratory one for NGC as its stellar historic financial performance was announced.

At the time of the announcement, the Honourable Minister of Energy and Energy Affairs, Senator Kevin Ramnarine, invited us to reflect not only on NGC's success, but also on the resilience of and collaboration within the local energy sector, which continues to be the engine of growth in the economy.

During the year the NGC Group worked alongside many of its stakeholders. In this last quarter of 2014, the NGC Group cooperated with:

- *Petroleum Economist* to co-host a Hydrocarbons Strategy Forum 'Facing the Global Future'
- *The Ministry of Tertiary Education and Skills and National Energy Skills Center (NESC)* for the signing of an MoU for CNG Maintenance Technician Training Programme
- *The Arthur Lok Jack Graduate School of Business* for the sponsorship of the Sustainable and Renewable Energy Business Incubator Project
- *The University of the West Indies, St. Augustine (UWI)* for hosting of its Research Awards.

Indeed these initiatives have augured well for future prospects and opportunities in the sector. For instance, *Petroleum Economist's* Hydrocarbons Strategy Forum which occurred on 3rd December 2014, entitled "Facing a Global Future" encouraged a conversation about the future of the energy sector from both local and international perspectives.



Mr. Indar Maharaj - President, NGC

With regard to our sponsorship of the sustainable business project at the Arthur Lok Jack Graduate School, NGC joined the debate about the sector's future sustainability and impact on the environment. At NGC, we recognise too that learning institutions such as UWI are key to research and business development. Strides were also made in CNG training maintenance via the MoU signing with NESC. Our involvement with educational institutions reinforced therefore our commitment to enhance local management capability in the energy sector and hence, its viability to promote positive changes in how we do our business now and in the future.

Over the past year, the key buzzwords were the deepwater horizon of Trinidad and Tobago. I am enthusiastic about the possibilities from these offshore exploration initiatives that can change the local landscape. This

will be examined in the article T&T's Deepwater Initiatives - a New Frontier for Development. Also in this edition, our subsidiary, National Energy, will share the prospects for opportunities from our Latin American/Caribbean neighbours. NGC's most recently formed subsidiary, NGC CNG Company Limited, took the forefront this year in the revolution of CNG as an alternative fuel. Its presence was very evident through a well-thought out and well-executed marketing communications plan, which aims to promote CNG and its many cost and environmental attributes. We should expect to see and hear much more from this company in 2015. Lastly, Phoenix Park Gas Processors Limited (PPGPL) will also be featured in this edition through its "gift to the nation" - a commendable donation of TT\$60 million worth of diagnostic cancer equipment to the National Oncology Centre at the Eric Williams Medical Sciences Complex, which is currently under construction.

Overall, the NGC Group is very much involved in the development of the local energy sector as well as nation-building. We are strengthening the capacity of our citizens via our partnerships, and contributing to the improvement in the quality of life. We are mindful about the future of the industry and understand that sustainability in business operations is essential to ensure a prosperous future for NGC's generations to come.

A handwritten signature in black ink, appearing to read 'Indar Maharaj'.

INDAR MAHARAJ  
President, NGC



## NGC's UPSTREAM ASSETS

By Winston Boodoo, Upstream Consultant, Commercial, NGC and Kory Hall, Gas Measurement Analyst, Commercial, NGC

The National Gas Company of Trinidad and Tobago Limited (NGC) is steadily evolving from a Company that is focusing primarily on gas transmission within this country's borders, to one that is seeking to become involved in the entire energy value chain, not only locally, but also internationally.

Equity is held by NGC in four upstream assets, all located in the shallow waters off the east coast (Figure 1), of which three are generating revenues:

- South-East Coast Consortium (SECC) Block, held since November 1992 (producing).
- Teak, Samaan and Poui (TSP) Block, purchased August 2005 (producing).

- Block 2(c), purchased effective January 2012 (producing).
- Block 3(a), purchased effective January 2012 (marginal discoveries and not yet in production).

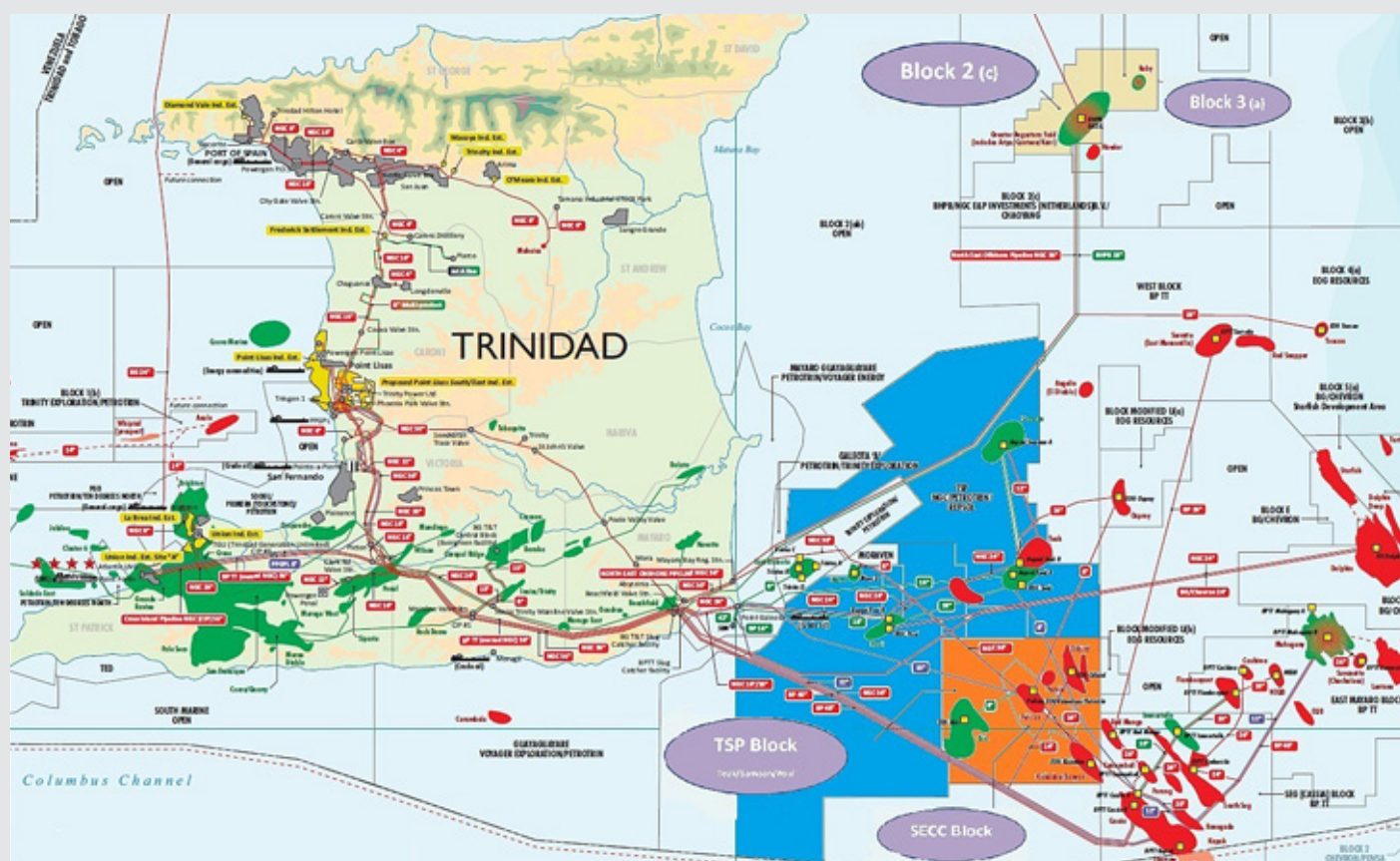
During the first half of 2014, combined daily production of the three producing joint ventures averaged 21,200 barrels per day of oil and condensate, or 27 per cent of Trinidad and Tobago's total liquid

hydrocarbon production while gas sales averaged 420 million cubic feet per day (MMcfd) or 11 per cent of the country's total.

### South East Coast Consortium (SECC) Block

This area was first licensed in 1978 under negotiated Tax and Royalty terms with the Government whereby

Figure 1: The Energy Map of Trinidad and Tobago highlighting NGC's upstream involvement.



Legend:  NGC's upstream involvement





*On the compressor deck of the NGC Teak Platform.*

the joint venture partners paid taxes on their profits in addition to royalties on petroleum. Current partners in the producing fields are EOG Resources (operator, 80 per cent working interest), Petroleum Company of Trinidad and Tobago Limited (16 per cent) and NGC (4 per cent).

Participating in the deep horizons of an exploration structure, named the Deep Ibis Area, are EOG Resources (operator, 50.6 per cent), BP Trinidad Tobago LLC (35 per cent), Petroleum Company of Trinidad and Tobago Limited (10.4%) and NGC (4 per cent). One unsuccessful well was drilled in 2006.

Primary discoveries at the Kisskadee, Pelican, Ibis, Parula and Oilbird structures were brought into production by the operator between 1993 and 2008. Exploration mainly targeted sands of Pliocene age (2.6 million - 5.3 million years old), named the Erin, Mayaro and Gros Morne Formations. Hydrocarbons were found at depths of 8,000 feet to 16,000 feet in structures that are anticlinal or three-way dip and fault bounded.

To date, the SECC Block has produced over 25 million barrels of crude oil and condensate and over 1.4 trillion cubic feet (Tcf) of natural gas.

Liquid hydrocarbons, which averaged 1400 barrels per day in the first half of 2014, are sold to Petrotrin. Natural gas that averaged 180 MMcfd during the first half of 2014 is being sold under various contracts with the NGC. A drilling programme is underway at the Oilbird field to increase production and to seek new reserves.

Evaluations continue in efforts to discover additional hydrocarbons on the SECC Block with the licence expiring in December 2029.

### **Teak, Samaan and Poui (TSP) Block**

After the first commercial oil discovery off the east coast in 1968, several tax and royalty licenses were negotiated with Government and issued to Amoco (later bought by BP) between 1970 and 1973. Following the 2005 BP sale of its mature oil fields covering 81 licenses, the current partners in TSP are Repsol (operator, 70 per cent working interest), Petroleum Company of Trinidad and Tobago Limited (15 per cent) and NGC (15 per cent). BpTT still holds the exploration rights to the deeper horizons located at depths below 5,000 feet to 13,500 feet in different areas.

The Teak, Samaan and Poui fields all started production over 40 years ago between 1972 and 1974 in the harsh Atlantic Ocean environment. Combined production peaked in 1978 at 143,300 barrels of oil per day (bopd), over half of the country's oil production at that time, and has been on a steady decline. Main producing sands named the Erin, Mayaro and Gros Morne Formations are Pliocene in age and located at depths of 4,000 feet to 15,000 feet in structures that are faulted anticlines.

Cumulative production since inception is over 875 million barrels of oil and over 2.5 Tcf of natural gas, approximately 25 per cent of all the oil and roughly 9 per cent of all the gas ever produced in Trinidad and Tobago. During the first half of 2014, oil production was 10,900 bopd and gas sales averaged 12.4 MMcfd.

High in value, 36° API crude oil is piped to a terminal at Galeota Point where it is blended (named the Galeota Mix) with bpTT's condensate and then pumped to an offshore facility for export by tanker to international refineries to attain better products value as compared to sending to the Pointe-a-Pierre refinery. Natural gas that is not used for lifting oil, flared or used as fuel offshore is sold to NGC.

Challenges to profitability in these mature fields include: limited remaining reserves, high natural annual oil production decline rate, high production costs due to old infrastructure that require much maintenance and upgrading, high tariff paid for fluids transport/handling, high water production and issues with natural gas availability to lift oil out of the sand layers where pressures have significantly declined over the years.

Government tax incentives over the past few years were aimed at increasing the country's hydrocarbon production levels that resulted in an exploration and development drilling campaign at TSP that started in late 2013, continued



*The BHP Billiton gas export platform in the Angostura Field.*

during 2014, and is carded to be extended at least into 2015. Two recent exploration wells drilled outside of existing facilities proved one small gas discovery that is being evaluated for economic viability. One successful appraisal oil well and three other development wells at the Teak B platform have increased oil production at TSP by over 30 per cent since January 2014.

Work continues in seeking exploration and production opportunities to add and produce more oil and gas reserves until license expiry in May 2026.

### **Block 2(c)**

A Production Sharing Contract was awarded for this Block in 1996 whereby the joint venture partners would share production with the Government of Trinidad and Tobago in the event of a commercial discovery. This was based on the terms agreed at that time, which was in an era when Trinidad and Tobago had moved from awarding negotiated tax and royalty contracts to Competitive Bid Rounds with Production and Sharing Contracts (PSCs). Current partners for the Block 2(c) production sharing contract of BHP Billiton (Operator, 45 per cent), NGC (30 per cent) and Chaoyang Petroleum (25 per cent; shared by Sinopec 12.5 per cent and CNOOC 12.5 per cent).

After seismic acquisition and interpretation, the Angostura-1 gas discovery was made in 1999 in sandstones of Oligocene age (23 million years - 33.9 million years old) at a depth of about 5,000 feet. These sands were named the Angostura Sandstone and are the oldest producing rocks in Trinidad and Tobago. Several appraisal wells confirmed commercial amounts of gas and subsequently oil (in 2001) in the complex Angostura, Aripo, Kairi and Canteen fault blocks of the Greater Angostura anticline to justify a development project.

*Work continues in seeking exploration and production opportunities to add and produce more oil and gas reserves until license expiry in May 2026.*

During Phase 1, four offshore drilling platforms, one offshore processing facility, an onshore terminal in Guayaguayare, an oil pipeline and a Catenary Anchor Leg Mooring (CALM) buoy were put in place by the joint venture, focusing on oil production that began in December 2004. Later in Phase 2, a gas processing platform was installed and the NGC North-Eastern Offshore (NEO) gas pipeline was built, with gas sales starting in May 2011.

To date over 65 million barrels of good quality 32° API oil (known as the Calypso Crude) have been sold to international markets, and more than 250 Bcf of gas sold to NGC. During the first half of 2014, oil production averaged 9,040 bopd while gas sales averaged 226 MMcfd. Approximately 180 MMcf/d gas is re-injected in the oil reservoirs to increase ultimate oil recovery.

A planned Phase 3, three-well, sub-sea gas development project was recently approved with gas production estimated to begin in 2016 to fulfil contracted gas sales volumes per PSC extension to 2026 and to assist with additional oil recovery due to prolonged gas injection.



## Block 3(a)

A Production Sharing Contract was awarded for this Block in 2002. Current partners are BHP Billiton (Operator, 25.5 per cent), Chaoyang (25 per cent per cent; shared by Sinopec 12.5 per cent and CNOOC 12.5 per cent); Anadarko (25.5 per cent), Petrotrin (15 per cent) and NGC (8.5 per cent).

A marginal gas discovery at Delaware-1 plus an oil and gas discovery at Ruby-1 were made in the Angostura Sandstone during the drilling of six commitment wells by 2007. These are currently held in a Market Development Phase, with an option to renew annually as work continues to assess the economic viability of these two discoveries.

## Trinidad and Tobago's Gas and Oil Situation

International gas audit company Ryder Scott's annual studies have shown a steady decline in natural gas reserves for the past 12 years. At the end of 2013, estimates show 13 years of gas remaining based on proven and probable reserves of 17.7 Tcf at the current sales level of 3.8 Bcf/day.

Over 27 Tcf of natural gas has already been produced in Trinidad and Tobago, of which about two-thirds was produced in only the past 15 years since the building of 4 LNG plants and adding more petrochemical plants. About 40 per cent (17.7 Tcf) of the estimated ultimate recoverable gas (approximately 45 Tcf) remains.

Over 3.5 billion barrels of oil have been recovered to date since 1908. Proven and probable crude oil and condensate reserves at the end of 2011, estimated by oil audit company Netherland Sewell & Associates Inc. and by Ryder Scott, were quantified to be 350 million barrels, implying that 9 per cent of estimated ultimate recoverable oil remains to be produced based on 2011

*"The time has come for NGC to consider the forward and backward integration of its business and seek investment opportunities outside of the country... The vision is that NGC is the vehicle for growth through which the country can expand its footprint at home and abroad."*

oil prices, infrastructure and technology. Daily production during the first half of 2014 was around 80,000 barrels per day.

The country's last major oil discovery was over a decade ago at the Angostura Field and, before that, at the TSP fields over 40 years ago.

Lack of significant new oil discoveries is a major reason for Trinidad and Tobago's declining oil production. Building a pipeline to take carbon dioxide from Point Lisas to inject into depleted Petrotrin oil fields is an NGC initiative that should result in additional new reserves and reduce the rate of production decline. This project is being evaluated.

The potential for major new gas and oil discoveries lie primarily in the expensive

and high risk deepwater environment (more than 3,500 feet of water) located off the east coast of Trinidad and Tobago where nine PSCs were signed since 2012, and also in the offshore prolific Columbus Basin.

## Conclusion

NGC's desire for expansion is reflected in Minister of Energy and Energy Affairs, Senator the Honourable, Kevin Ramnarine's statement at the opening of the 2013 Energy Conference, "The time has come for NGC to consider the forward and backward integration of its business and seek investment opportunities outside of the country... The vision is that NGC is the vehicle for growth through which the country can expand its footprint at home and abroad."

NGC has to carefully consider the risks and rewards of investing locally in its existing upstream assets and compare them with opportunities in competitors' acreage. Potential international investments must also be evaluated and ranked when considering the country's declining oil and gas reserves situation.

## Sources:

*The Ministry of Energy and Energy Affairs  
Petroleum Economist*

# T&T's DEEPWATER INITIATIVES - A NEW FRONTIER FOR DEVELOPMENT

By Penelope Bradshaw-Niles, Senior Petroleum Engineer, The Ministry of Energy and Energy Affairs

Trinidad and Tobago has been seeking investment and exploration in the deepwater areas for just about a decade. The areas in question are known as the Trinidad and Tobago Deep Atlantic Areas (TTDAA), which vary in depth from 1,000 - 2,500 metres. Thus far, there have been four deepwater competitive bid rounds over this decade, which have led to the signing of nine Deepwater Production Sharing Contracts. Resource estimates for the 9 blocks range from 10 to 40 trillion cubic feet of natural gas, and 2 to 8 billion barrels of crude oil.

### Deepwater Exploration Objectives

The ultimate goal of the drive to explore the deepwater is to fund a working hydrocarbon system with the discovery of prolific oil and gas fields. A policy of frequent competitive bid rounds, with only 5 to 6 blocks offered at any one time, has been adopted. This ensures that the exploration is phased to ensure that there are adequate resources, such as human resources and services, to meet the demands of the industry while the exploration campaign is undertaken to fulfil the work obligations. Another key objective is to encourage a mix of players among the majors and independents, new entrants and established operators.

The 2012 Deepwater Competitive Bid Round was successful in attracting bids from such a mix, however it should be pointed out that all 9 Deepwater Production Sharing Contracts have been signed by the established players in Trinidad and Tobago - BHP Billiton, BP, Repsol and BG.

### Factors Affecting the Future of T&T's Deepwater Exploration

In crafting strategies for increasing activity in the deepwater, it is recognised that the appetite of investors for the deepwater is shaped by several factors, such as:

- the availability of acreage to explore
- success in current regional exploration campaigns
- the Trinidad and Tobago investment climate
- increased competition for the marginal exploration capital among countries with acreage for licensing.

There are more than 20 blocks available in the TTDAA for future deepwater bid rounds so availability of acreage is not a limiting factor. In the past few years, exploration programmes in the South American Basin, in countries such as Guyana and French Guiana, have led to new petroleum play concepts such as the Equatorial Atlantic Conjugate Margin Play, which apply the principles of plate tectonics across the Equatorial Atlantic to West Africa in both directions. The thrust by companies to explore these new concepts has led to interest further north in the Caribbean area. This factor, in addition to a healthy

investment climate, is positive for Trinidad and Tobago. However, the competition for exploration investment is a real challenge as in Central and South America and the Caribbean region, countries such as Suriname, Jamaica, Columbia, Cuba and Barbados all are actively promoting their own exploration initiatives. Therefore any strategy must be executed with this in mind.

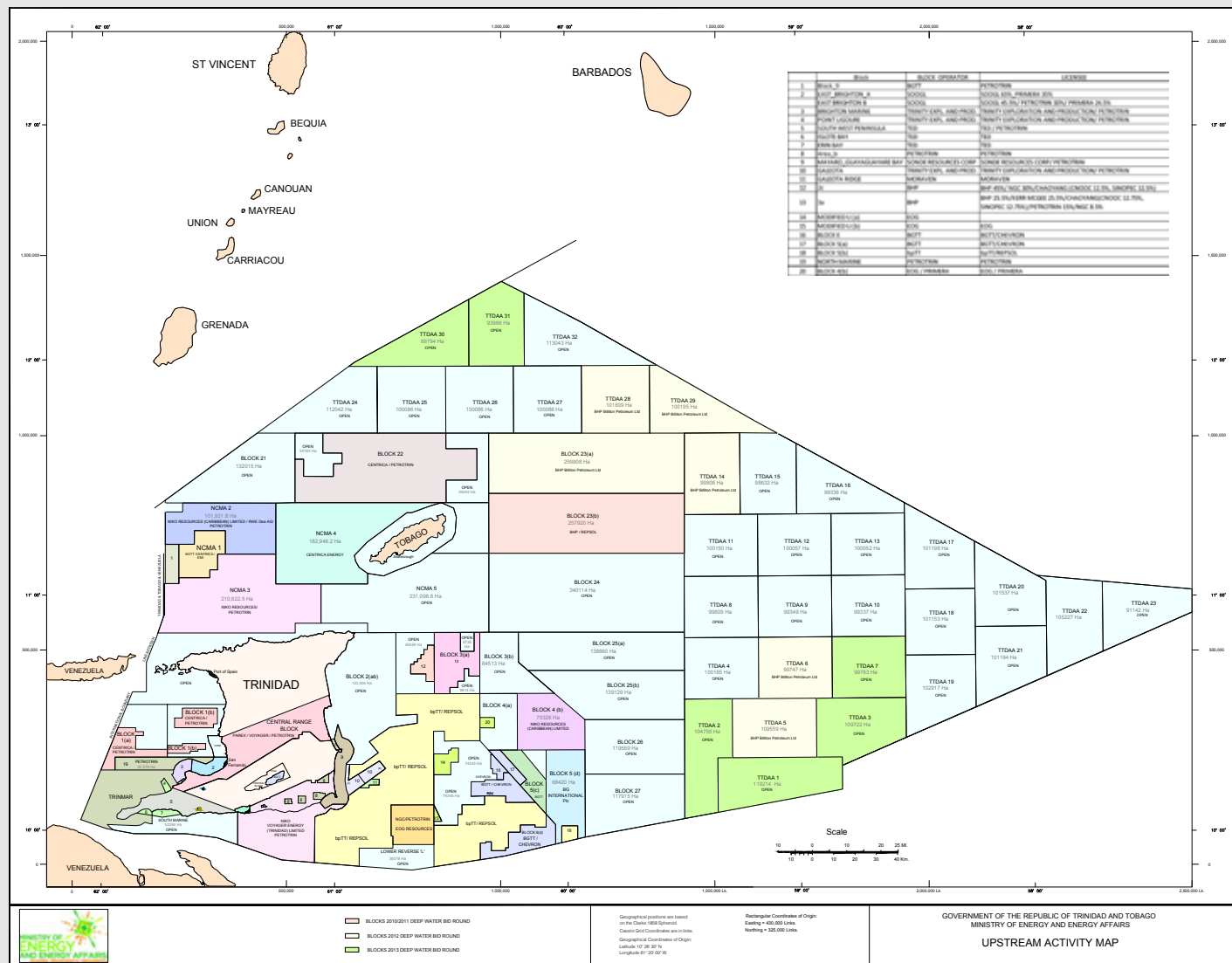
### Approach for the Future

The further derisking of the deepwater areas through the acquisition of data will be undertaken in addition to other mechanisms such as removing the requirement for a signature bonus to reduce the upfront costs for bidders.

The Ministry of Energy and Energy Affairs will continue to streamline the process to reduce the timeframe from the offer of the blocks at the opening of the bid round to the signing of the production sharing contract. These, in addition to strong promotional campaigns at tradeshows and the regular review of the fiscal incentives, are continuing initiatives to make Trinidad and Tobago an attractive prospect for exploration and production in the future.



The Trinidad and Tobago Deep Atlantic Areas (TTDA) Upstream Activity Map



*“In the past few years, exploration programmes in the South American Basin, in countries such as Guyana and French Guiana, have led to new petroleum play concepts such as the Equatorial Atlantic Conjugate Margin Play.”*

Courtesy: The Ministry of Energy and Energy Affairs

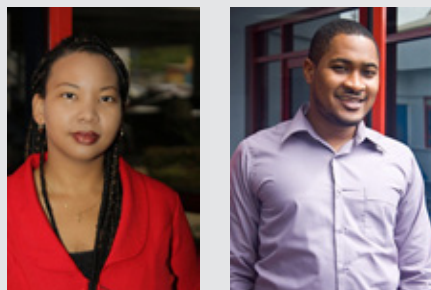
# IGU's INTERNATIONAL GAS RESEARCH CONFERENCE

By Candace Subero-Bailey, former Planning Engineer II, Engineering Services, NGC and Shane Wilson, GIS Technical Assistant II, Geospatial Information Services, NGC

The International Gas Union (IGU) is a worldwide non-profit organisation, established since 1931. The mission of IGU is to advocate natural gas as an integral part of a sustainable global energy system, and to promote the political, technical and economic progress of the natural gas industry. Today the IGU has 91 Charter members and 51 Associate members in 91 countries. The members of IGU comprise associations and corporations of the natural gas industry, representing over 95 per cent of the global natural gas market.

**A**part from being a Charter member, NGC is also a founding member of the organisation. The International Gas Union has formulated a strategic goal to “attract a new generation of gas industry professionals capable of integrating the extraordinary complexity of the gas business in a rapidly changing economic landscape and facing the global energy challenge.” In response to this, IGU has developed a Young Professionals Sponsorship Programme, based on the focus area of “Human Resources for the Future.” This year the organisation offered 35 young professionals from across the globe the opportunity to benefit from the largest global knowledge base and highest level of expertise that the organisation’s Research and Development conference could offer. Two of NGC’s employees - Candace Subero-Bailey and Shane Wilson - were chosen to participate in the conference this year. *Gasco News* is pleased to hear from these young professionals about this prestigious conference.

“Attending the International Gas Union Research Conference (IGRC 2014) as two of the Young Professional Sponsor Awardees, was a memorable and privileged experience. The IGU’s research conference occurs every three



*NGC representatives Candace Subero-Bailey and Shane Wilson at the IGU's International Gas Conference 2014.*

*Approximately 750 participants from over 45 countries participated, which allowed interaction with and exposure to members of the global natural gas community from varying cultures.*

years and is considered the second biggest gas conference in the world.

This year the IGRC 2014 conference was held Copenhagen, Denmark in September. The theme focused on “Gas Innovations Inspiring Clean Energy.” The official host was the Danish Gas Association, the Danish Charter member of IGU. The decision to host the conference in Denmark was strategic, given the country’s stance for moving towards greener energy solutions using gas; and an ambitious aspiration to be fossil-fuel-free by 2050.

Approximately 750 participants from over 45 countries participated, which allowed interaction with and exposure to members of the global natural gas community from varying cultures. The perspectives of how other societies value natural gas were eye-opening. For instance, natural gas usage is on the rise in America and Asia and is seen as a solution for high-energy consumption demands. On the other hand, Europe is heavily dependent on fossil fuels and natural gas is seen as part of the solution for combining with renewable energy to create a balance for a greener energy system. Other developing countries view gas as a modern form of energy for a better life.





NGC's Young Professional Sponsor Awardees, Candace Subero-Bailey and Shane Wilson, with the Chairman of IGU Programme Committee F for Research, Development and Innovation (IGU PGC F), Jack Lewnard of Chesapeake Utilities, USA.

The President of the IGU led proceedings at the opening plenary session, discussing the fundamental regime change the industry was undergoing based on several influencing factors such as: market integrations, growth of the share of renewable resources, climate change concerns, security of supply issues, and rapidly changing policy and regulations as external gas markets become more dynamic, complex and competitive.

Emphasis was placed on governments that are encouraging Research and Development (R&D) to seek the benefits of innovation and adaptation for dealing with the dynamic change in the natural gas market. Indeed, "It's not easy being green" was a notable quote used by the Director General of the Danish Energy Agency, Morten Baek, who also described the challenges encountered by Denmark and other countries that are pushing towards greener energy systems.

Twenty-eight technical sessions were held and topics were categorised as follows:

1. Domestic and Commercial gas utilisation
2. Industrial gas utilisation

*Topics not only included research that oriented towards the natural gas market, but also provided exposure to research involving LNG, Biogas, Power-to-Gas and Fuel Cells Development.*

3. Gas transmission and distribution
4. Gas production
5. Cross-cutting topics.

Topics presented sought to discuss the research conducted by organisations and institutes affiliated with the gas fraternity. Topics not only included research that oriented towards the natural gas market, but also provided exposure to research involving LNG,

Biogas, Power-to-Gas and Fuel Cells Development.

The theme of the closing ceremony - "Important Messages from the World of Gas Technology" - was fitting for the end of the conference. Jack Leward, Vice President of Chesapeake Utility, USA, argued that the future of gas is bright and it is not just a buffer for other fuels, but the gas world needs to focus on new young researchers and scientists. David Carroll, Vice President, IGU, President, and CEO, Gas Technology Institute, spoke of innovation across the value chain through supply, delivery and end use. Supply game-changers mentioned were shale gas for large-scale market supply; and fuel cells, biogases, and power-to-gas delivery through smart energy grids for end use.

An interesting focal point was also presented regarding the declining role of nuclear energy, in light of green energy as an aspiration for the future. It was a common view that only through R&D efficiency, would sustainable solutions for a greener future emerge.

# EXPLORING OPPORTUNITIES IN THE GUIANAS

By Arden Rodriguez, Project Coordinator, Energy Industry Development, National Energy

The Guianas present opportunities for Trinidad and Tobago to expand its export market in the sphere of energy services and to capitalise on investment prospects in a new and emerging territory that is leading in economic growth in the region, and with which Trinidad and Tobago has had long-standing and healthy relationships.

**S**uriname, French Guiana and Guyana belong to a region in north-eastern South America known as the Guianas or Guianas. The countries of the Guianas were the only European colonies in South America that were not under Spanish or Portuguese control. The British, Dutch, and French all held claims to different parts of the Guianas. Underlying the Guianas region is the geographical formation known as the Guiana Shield, which covers 2.5 million square kilometres of mountains, forests, wetlands and savannah. Colonialism and plantation agriculture entirely changed the cultural dynamics of the Guianas, with the port cities along the coast forming the dominant urban centres.

The Guianas are rich in natural resources such as bauxite, gold and

timber. Petroleum resources are also present and there is potential for massive hydroelectric power projects. Some key information about the Guianas is presented in Table 1. The Guiana Basin, due to its proximity and potential, offers several opportunities for our energy services companies and

we must work to find ways to develop mutually beneficial partnerships in these countries.

## Guyana

Guyana's main interior regions are covered with dense forests. Many of the large uninhabited areas are considered to be almost impenetrable. To protect its unique biodiversity, the Government of Guyana has declared some of these large areas as conservation areas and national parks.

Guyana's economy is based on agricultural activities and the export of extracted natural resources. Sugarcane is a main cash crop, and timber sales are increasing. Fishing is common in the coastal areas. Bauxite mining has been the main mining activity, as mining of gold and other minerals has only advanced in recent years.

## Suriname

Suriname depends on agriculture and the development and use of natural resources as its two main economic activities. It has the smallest physical area of all the independent South American states. Bauxite is the country's main export product.

Suriname has also been expanding its gold mining, oil extraction, logging, and fishing industries. To protect its natural environment and its extensive biodiversity, the country has established national parks and created the large Central Suriname Nature Reserve, which UNESCO has named a World Heritage

Figure 1: Map of the Guianas



Source: (Berglee, 2014)

Table 1: Summary of Key Economic Data for 2011

Country	Suriname	Guyana	French Guiana
Economy (2013)			
GDP per capita (PPP)	US\$12,900	US\$8,500	€14,000 (2009) <sup>1</sup>
GDP Growth	4.7%	5.3%	3.8% <sup>2</sup>
Bauxite and Alumina			
Production ('000 t)	4,657	1,818	—
Petroleum			
('000 barrels)	5,840	—	—
Other Resources:			
Cement ('000 t)	65	—	62
Gold (kg)	21000	11293	1300
Stone ('000 t)	50	515	1200
Sand ('000 t)	160	652.2	500

Source: (Gurmendi, 2012) and (CIA, 2013)

<sup>1</sup> Source: (Directorate-General for Internal Policies, 2011)

<sup>2</sup> Source: (Institut National de la Statistique et des Études Économiques, 2009)



Site. The country hopes to benefit from these measures to create an ecotourism market.

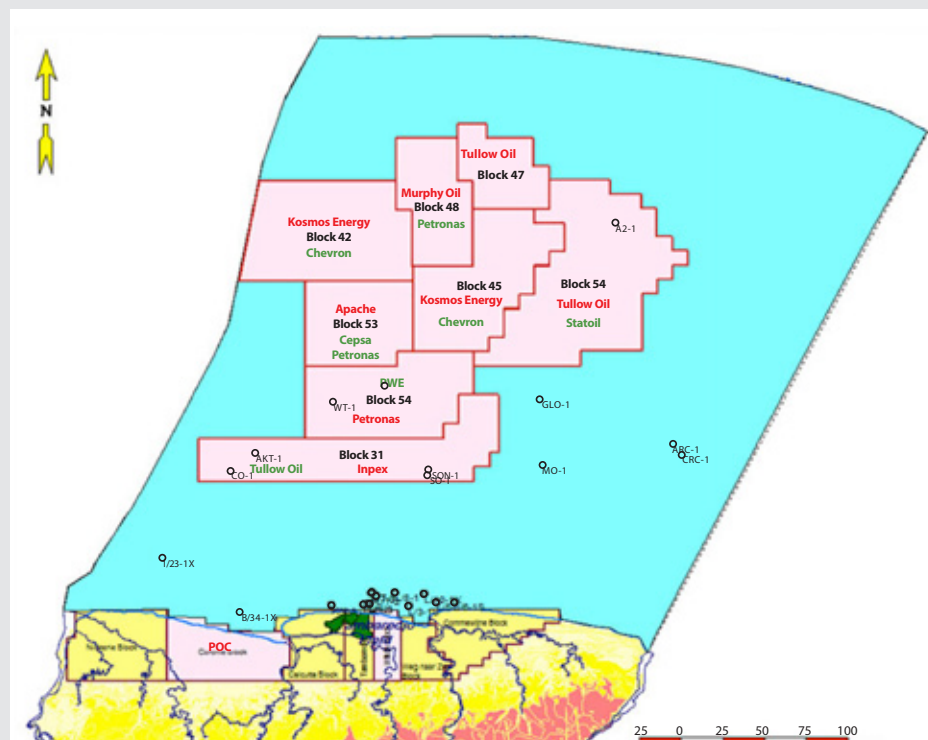
## French Guiana

French Guiana is a department of France. With fewer than 250,000 people, it is a sparsely inhabited area. Half of the population lives in the capital city of Cayenne.

The European Space Agency maintains a launch centre in French Guiana because of its favourable climate. France maintains the facility and has highly subsidised the department's economy. Economic activities include fishing, agriculture (bananas and sugar), and logging.

The strong economic growth experienced in the Guianas has been driven primarily by significant Foreign Direct Investment (FDI) and domestic private investments in gold and bauxite mining, as well as in large-scale infrastructure, including utilities, critical roads, and port facilities. Large private investments are also underway in the petroleum sector in Suriname (such as a new refinery) and in the power sector, where the aim is to increase the current energy supply. Additionally, Suriname has begun exploratory drilling in what is believed to be the world's second largest unexplored oil reserves off its shared

**Figure 2:** Map of offshore exploration and production in Suriname



Source: (Staatsolie Maatschappij Suriname N.V., 2014)

coastline with Guyana and French Guiana. Figure 2 shows that offshore Suriname is virtually unexplored, with only 25 exploration wells drilled in an area of approximately 150,000 square kilometers.

Potential exists for cross border industrial development and cooperation between Trinidad and Tobago and the

Guianas which could lead to increased economic growth and other mutual benefits. Based on an assessment of the economic environment and industrial climate of the Guianas, the following business opportunities have been identified as potential lucrative avenues for Trinidad and Tobago companies:

- Development of glass manufacturing industries including Photovoltaic (PV) cell manufacturing.
- Electricity Generation (renewable and traditional sources).
- Provision of energy services in the petroleum industries.
- Source of other raw material (sand, stone, and gravel) for processing and industrial development in Trinidad and Tobago.
- Involvement in Suriname's petroleum sector via the provision of logistic services.
- Involvement in bioethanol in Suriname for export to Trinidad.

**Figure 3:** Summary of Opportunities in the Guianas

Guyana	<ul style="list-style-type: none"> <li>• Mineral Smelting</li> <li>• PV manufacturing</li> <li>• Hydroelectricity generation</li> <li>• LNG Market</li> </ul>
Suriname	<ul style="list-style-type: none"> <li>• Use of Port Galeota</li> <li>• Energy Services</li> <li>• Ethanol Production</li> <li>• LNG Market</li> <li>• Joint Venture with dry dock facility</li> </ul>
French Guiana	<ul style="list-style-type: none"> <li>• Raw material sourcing for industrial development</li> <li>• LNG Market</li> </ul>

- Consultancy on oil governance matters including a national energy policy and master plan.
- Participation in emerging infrastructure developments such as export ports, industrial estates, pipelines and refining.
- Potential for export of Suriname's crude oil to local refinery.
- Cooperation and knowledge transfer in the field of petroleum exploration and production.

It should be noted that as Trinidad and Tobago seeks to diversify from its traditional sources of income, prospective projects in photovoltaic cell manufacturing and ethanol production represent viable options for development of new sectors in Trinidad and Tobago, supported by activities in the region for the mutual benefit of the countries.

In an attempt to achieve the aforementioned outcome, a number of strategic initiatives will have to be implemented. These may include, but are not limited to:

- participating in regional conferences
- engaging in Energy Sector Missions to the Guianas
- leveraging the T&T companies with an established presence in the Guianas
- initiating, preparing and executing MoUs between the T&T and respective Governments for development and investment in the energy sector
- monitoring and following up on implementation of initiatives.

National Energy has been leading the charge to develop these potential opportunities for state energy companies in the Guianas. National Energy has:

- participated in the Energy Chamber Mission to French Guiana in 2012
- participated in Energy Chamber Mission to Guyana in 2012
- been a Platinum Sponsor at the recently concluded 1st Suriname International Mining, Energy &

Petroleum Conference and Exhibition

- held bi-lateral meetings with key business stakeholders in Suriname in 2014
- prepared a draft MoU between the Governments of Trinidad and Tobago and Suriname
- followed up and entered into agreements with key stakeholders on exploring specific opportunities in the Guianas.

In conclusion, with the Guianas forecasted to be the leader in economic growth in the region in the medium term, and with increasing activities in the mining sectors, many opportunities exist from which Trinidad and Tobago companies can benefit by leveraging our years of experience and expertise in the oil and gas sector, and from the relationships developed in the region.

## REFERENCES

Berglee, R. (2014). Retrieved October 2014, from Flat World Education, Inc: [http://catalog.flatworldknowledge.com/bookhub/2657?e=berglee\\_1.0-ch06\\_s01](http://catalog.flatworldknowledge.com/bookhub/2657?e=berglee_1.0-ch06_s01)

CIA. (2013). *World Factbook*. Retrieved October 2014, from <https://www.cia.gov/library/publications/the-world-factbook/docs/gallery.html>

Directorate-General for Internal Policies. (2011). *ECONOMIC, SOCIAL AND TERRITORIAL SITUATION OF FRENCH GUIANA*. Retrieved October 2014, from European Parliament: [http://www.europarl.europa.eu/RegData/etudes/note/join/2011/460068/IPOL-REGI\\_NT\(2011\)460068\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/note/join/2011/460068/IPOL-REGI_NT(2011)460068_EN.pdf)

Energy Chamber of Trinidad and Tobago. (2014). *Promoting Energy Services*. Retrieved October 2014, from Energy Chamber of Trinidad and Tobago: [http://www.energy.tt/index.php?categoryid=258&p2\\_articleid=27](http://www.energy.tt/index.php?categoryid=258&p2_articleid=27)

Gurmendi, A. C. (2012, December). *The Mineral Industries of French Guiana, Guyana, and Suriname*. Retrieved October 2014, from US Geological Survey: <http://minerals.usgs.gov/minerals/pubs/country/2011/myb3-2011-gf-gy-ns.pdf>

Institut National de la Statistique et des Études Économiques. (2009). *Regions: Guyane*. Retrieved October 2014, from Institut National de la Statistique et des Études Économiques: <http://www.insee.fr/fr/regions/guyane/default.asp?page=conjoncture/pib.htm>

Staatsolie Maatschappij Suriname N.V. (2014). *Offshore wells: Petroleum Investment Opportunities*. Retrieved October 2014, from Staatsolie Maatschappij Suriname N.V.: [http://www.staatsolie.com/pio/index.php?option=com\\_content&view=article&id=21&Itemid=49](http://www.staatsolie.com/pio/index.php?option=com_content&view=article&id=21&Itemid=49)



# OSH RISK REGISTER AND NGC

By Nicole Alexander, Environment Health and Safety Coordinator, Environment Health and Safety, NGC

One of NGC's key EHS Strategic Themes states that, "We will continuously build best practices and systems to minimise variations and exposures." This means that NGC shall conduct its business in a manner that does not compromise the well-being of its employees, third parties and the natural environment.

## Why Risk Management?

There is great organisational pride at The National Gas Company of Trinidad and Tobago Limited (NGC) in relation to its goal of Corporate Sustainability. Being a successful player in the global energy field requires the organisation to be effective in preventing or minimising losses that can impact negatively on its operations. In this sense, World Class Environment Health and Safety (EHS) performance is espoused as one of the Company's core values, and is seen as a profit centre.

While we have a high moral obligation to protect human life - human life takes precedence over any other element of our work system - we also have a legal obligation, as prescribed in the Trinidad and Tobago Occupational Safety and Health Act 2004 (as amended, 2006) "...to ensure, so far as is reasonably practicable, the safety, health and welfare at work of all... employees."

To minimise losses, that is, to prevent harm to people, the natural environment and NGC's assets, we must manage our EHS risks. NGC's Enterprise Wide Risk Management (EWRM) Policy describes the categories of risks of which we should be mindful. In this article, focus is placed on the Hazard Risk Category and the associated EHS Risk Register.

## Risk Management Methodology

The first step towards managing the organisation's EHS risks is to identify the hazards to which we (or third parties) may be exposed. Using the 13 risk control boundaries (as developed by NGC's Internal Audit Division), the hazards or risk elements are systematically identified. The 13 boundaries are:

- Geographical Location
- Physical Environment

- Types of Operations and Operating Systems
- People Image
- Materials and Chemicals
- Technology
- Tools and Equipment
- Support Systems
- Tasks and Activities
- Product
- By-Product
- Emissions
- Waste.

Figure 1: Risk Management Cycle



Figure 2. Risk Assessment Matrix

PROBABILITY / LIKELIHOOD	HIGH	SIGNIFICANT	CRITICAL	UNACCEPTABLE
	MEDIUM	MINOR	SIGNIFICANT	CRITICAL
	LOW	INSIGNIFICANT	MINOR	SIGNIFICANT
		LOW	MEDIUM	HIGH
		IMPACT / MATERIALITY		

(Source: NGC Enterprise Wide Risk Management - Framework &amp; Methodology)

After identifying the risk elements and the events which could trigger exposure to those elements, the risks are then assessed by determining the likelihood and impact of exposure - the product of which allows us to rank the risks as insignificant, minor, significant, critical or unacceptable (see Figure 2). Ranking the risks enables the organisation to prioritise its efforts (resources, time, and costs) towards risk mitigation.

It should be noted that the level and complexity of the risks determine the risk assessment methodology used by the organisation. For the most complex risks, quantitative risk assessment methods are used, whilst qualitative assessment procedures are used for the less complex risks. The details of these methodologies are not distinguished in this article; rather, the general risk assessment procedure is discussed.

The third step involved in the risk management process is to determine how each risk should be mitigated (reducing the risk likelihood and/or impact). This is done using the “Hierarchy of EHS Controls”, which ranges from elimination of the hazards (most effective) to substitution, engineering, administrative controls, and use of personal protective equipment (least effective).

Implementation of the EHS controls for each risk is typically assigned to a Senior Manager, who has the authority to implement the mitigation measures.

### Monitoring of the Risks

All NGC Business Units must annually assess their EHS risks. The risk management information is presented in a risk register, in the form of a spreadsheet, which serves as the central repository. In addition to the aforementioned, other information captured on the register includes:

- A unique risk identification number.
- Planned emergency response actions, should the risk event materialise.
- Business continuity actions.
- Obstacles that can hinder the implementation of the EHS controls.
- The EHS controls that have not as yet been implemented and the proposed actions to be taken to have them in place.
- The other Business Units that provide support in the implementation of the controls.

The risk register is a “live” document, which means that it is used throughout the year to monitor the effectiveness

of the risk mitigation measures, as well as to capture new risks. Managers are required to use the registers in business planning, at the Divisional and Executive Management levels and must develop actions plans for closing of any outstanding mitigation measures - the EHS and Enterprise Risk Management Departments provide assistance in this regard to the Business Units.

As EHS risks are a subset of the wider risk universe, the highest ranked risks are also brought to the attention of the EWRM Risk Council via its Hazard Sub-Committee. The EWRM Risk Council reviews these risks and escalates to the Executive Management Team those with the greatest impact to the organisation’s performance.

In addition to the EWRM Policy and the Enterprise Wide Risk Management - Framework & Methodology Procedure, guidance on NGC’s risk management practices can also be found within the EHS Risk Management Procedure and the Project Risk Management Process Guide. The staff of the Project Management and Control Unit, EHS, ERM, and Insurance and Risk Management Departments may be consulted on the respective risk management policies and procedures.



## UWI Research Awards

In October 2014, The National Gas Company of Trinidad and Tobago Limited (NGC) partnered with the University of the West Indies, St. Augustine to co-sponsor the biannual UWI-NGC Research Awards. This year's Awards were geared towards honouring the outstanding works of the Campus's researchers over the past three years.

The UWI-NGC Research Awards Ceremony aims to:

- celebrate the outstanding research conducted by staff and graduate students at the UWI St. Augustine Campus
- promote a culture of scholarship, innovation and creativity among staff and students
- continue to build on the institution's tradition of scholarship and the mentorship of young researchers and research students
- showcase the research of the UWI St. Augustine Campus to the wider Campus community.



*The NGC UWI Research Awardees 2014*

Representing NGC, Director Mr. Mulchan Lewis delivered a feature address and emphasised: "NGC recognises that universities are incubators for innovation, and it was easy for us as a rapidly evolving Company in a rapidly evolving industry to appreciate the importance of supporting the production of new knowledge. The enterprise of research plays a pivotal role in progress and is especially vital to the modernisation of our industry." Mr. Lewis went on to state that research originating out of the St. Augustine Campus has the potential "...to

enable and empower our country to direct its own growth via the use of local expertise, local experience and empirical learning to devise customised, pertinent solutions to our nation's problems."

NGC offers its commendations to the UWI St. Augustine Campus that has undertaken and produced exemplary research in a wide range of disciplines for more than 54 years and also to this year's honorees who have devoted years of impassioned study and research efforts to the advancement of their respective fields.

## The NGC Group at Americas Competitive Forum (ACF)

Over 1,000 local, regional and international representatives from business, government, civil society and academia gathered on the 8th-10th October, 2014, at the Hyatt Regency Hotel to participate in the VIII Americas Competitiveness Forum (ACF). The ACF is the preeminent economic and commercial event in the Americas, focused on competitiveness and innovation. Trinidad and Tobago is the first English-speaking Caribbean country to host the ACF.

This year's theme "The Human Imagination at Work: Driving Competitiveness, Powering Imagination" sought to capture the objectives agreed



*NGC Senior Engineer, Mr. Eugene Hoyte, shares information with an attendee at the Americas Competitive Forum.*

to in the Consensus of Santo Domingo 2011, while recognising that the root of competitiveness lies in fostering and

exploiting the human imagination to drive our competitive advantage.

This year, NGC not only part-sponsored the forum, but also hosted an exhibition (in collaboration with National Energy and Phoenix Park Gas Processors Limited) which exposed the attending public to the NGC Group of Companies and its operations within the oil and gas Industry.

The ACF facilitated government-to-government, business-to-government and entrepreneurial meetings as well as hosted social and cultural events to further facilitate networking among participants.



**THE NATIONAL GAS COMPANY  
OF TRINIDAD AND TOBAGO LIMITED**

# SUMMARY OF CONSOLIDATED FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER, 2013

## CHAIRMAN'S REPORT

I am pleased to report that the financial performance of The National Gas Company of Trinidad and Tobago Limited (NGC) for 2013 shows a Sales turnover of TT\$22.4 billion and after tax profits of TT\$6.5 billion.


NGC's core business of purchase, transmission, distribution, processing and sale of natural gas and the aggregation, fractionation and marketing of natural gas liquids in Trinidad and Tobago, oil and gas exploration, as well as dividend income received from its key strategic investments in the liquefied natural gas (LNG) and natural gas liquids (NGL) business remained stable. NGC continued its infrastructure development works to expand its offshore and onshore pipeline network.

During 2013, the Group acquired new upstream investments in Block 2c and Block 3a of the Greater Angostura Field at a cost of TT\$3.537 billion (US\$549.48 million). On acquisition the Company obtained the right to economic benefits

from these investments totaling TT\$1.248 billion.

In addition, thirty-nine percent (39%) interest was acquired in Phoenix Park Gas Processors Limited (PPGPL) via the purchase of the United States Company Conoco Phillips Trinidad & Tobago Holdings Inc. at a cost of TT\$3.863 billion (US\$600 million). As a result, the Company recognized a fair value gain of TT\$1.263 billion on the previously held interest in PPGPL.

I am further pleased to advise that NGC has maintained its international reputation by having its credit rating reconfirmed by international and regional rating agencies viz: Standard & Poor's – A-, Moody's – Baa1 and CariCRIS – AAA.

  
**R.C. Chadeesingh**  
Chairman

## SUMMARY CONSOLIDATED STATEMENT OF FINANCIAL POSITION (Expressed in Trinidad and Tobago dollars)

	2013 \$'000	2012 \$'000
<b>Assets</b>		
Non-Current Assets	28,632,180	17,281,129
Current Assets	16,495,861	20,807,372
<b>Total Assets</b>	<b>45,128,041</b>	<b>38,088,501</b>
<b>Equity and Liabilities</b>		
Stated Capital	1,855,266	1,855,266
Reserves	438,192	438,192
Other Reserves	3,075,536	2,478,834
Retained Earnings	23,365,380	20,722,111
Equity attributable to:		
- Equity holders of the Parent	28,734,374	25,494,403
- Minority Interests	1,063,166	448,725
<b>Total Equity</b>	<b>29,797,540</b>	<b>25,943,128</b>
Non-Current Liabilities	9,459,878	6,452,738
Current Liabilities	5,870,623	5,692,635
<b>Total Equity and Liabilities</b>	<b>45,128,041</b>	<b>38,088,501</b>

## INDEPENDENT AUDITOR'S REPORT

To the Shareholders of  
The National Gas Company of Trinidad and Tobago Limited

The accompanying Summary Consolidated Financial Statements, which comprise the Summary Consolidated Statement of Financial Position as at 31 December, 2013, the Summary Consolidated Statement of Profit or Loss and Other Comprehensive Income, Summary Consolidated Statement of Changes in Equity and Summary Consolidated Statement of Cash Flows for the year then ended, and related notes, are derived from the Audited Consolidated Financial Statements of The National Gas Company of Trinidad and Tobago Limited for the year ended 31 December, 2013. We expressed an unmodified audit opinion on those Consolidated Financial Statements in our report dated 12 August, 2014. Those consolidated financial statements, and the Summary Financial Statements, do not reflect the effects of events that occurred subsequent to the date of our report on those Consolidated Financial Statements.

The Summary Consolidated Financial Statements do not contain all the disclosures required by International Financial Reporting Standards applied in the preparation of the audited Consolidated Financial Statements of The National Gas Company of Trinidad and Tobago Limited. Reading the Summary Consolidated Financial Statements, therefore, is not a substitute for reading the Audited Consolidated Financial statements of The National Gas Company of Trinidad and Tobago Limited.

## Management's Responsibility for the Summary Consolidated Financial Statements

Management is responsible for the preparation of a summary of the Audited Consolidated Financial Statements in accordance with the criteria established by management as described by Note 1.

## Auditor's Responsibility

Our responsibility is to express an opinion on the Summary Consolidated Financial Statements based on our procedures, which were conducted in accordance with International Standard on Auditing (ISA) 810, "Engagements to Report on Summary Financial Statements."

## Opinion

In our opinion, the Summary Consolidated Financial Statements of The National Gas Company of Trinidad and Tobago Limited for the year ended 31 December, 2013 are consistent, in all material respects, with the Audited Consolidated Financial Statements of the Group, in accordance with criteria established by management as described in Note 1.

## Other matter

The Consolidated Financial Statements of the Group for the year ended 31 December 2012 were audited by another auditor who expressed an unmodified opinion on those statements on 30 April, 2013.



Deloitte & Touche  
Port of Spain, Trinidad  
16 September, 2014



# SUMMARY OF CONSOLIDATED FINANCIAL STATEMENTS

## FOR THE YEAR ENDED 31 DECEMBER, 2013

### SUMMARY CONSOLIDATED STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

(Expressed in Trinidad and Tobago dollars)

	2013 \$'000	2012 \$'000
Sales	22,373,183	18,354,479
Gross profit	7,526,374	4,766,011
Other operating income	347,250	369,563
Interest and other investment income	1,114,687	861,468
Fair value gain on step up acquisition	1,263,086	—
Other income on asset acquisition	1,247,835	—
Share of income from joint venture	—	696,329
Administrative, maintenance & general expenses	(1,500,662)	(885,793)
Finance costs	(211,273)	(249,433)
Other expenses	(74,168)	(82,788)
Profit before tax	9,713,129	5,475,357
Income tax expense	(3,199,228)	(1,525,329)
Profit for the year after taxation	6,513,901	3,950,028
<b>Other comprehensive income, net of taxes:</b>		
<b>Items that will not be reclassified subsequently to profit or loss</b>		
Re-measurement of net defined benefit liability	(184,957)	(33,091)
Income tax relating to net defined benefit liability	77,044	13,295
Foreign currency translation	222,247	(117,476)
	114,334	(137,272)
<b>Items that may be reclassified subsequently to profit or loss</b>		
Net gain/(loss) on available-for-sale financial assets	422,742	(98,993)
Total other comprehensive income for the year, net of tax	537,076	(236,265)
<b>Total comprehensive income for the year</b>	<b>7,050,977</b>	<b>3,713,763</b>
Attributable to:		
- Equity holders of the Parent	6,789,971	3,536,031
- Minority interests	261,006	177,732
	<b>7,050,977</b>	<b>3,713,763</b>

### SUMMARY CONSOLIDATED STATEMENT OF CASH FLOWS

(Expressed in Trinidad and Tobago dollars)

	2013 \$'000	2012 \$'000
Cash flows from operating activities		
Profit before tax	9,713,129	5,475,357
Adjustment for non-cash items	(2,489,285)	(734,377)
Operating profit before working capital changes	7,223,844	4,740,980
Changes in working capital	654,827	998,816
Cash generated from operations	7,878,671	5,739,796
Net taxation, interest and pension contributions paid	(2,854,059)	(1,460,466)
Net cash generated from operating activities	5,024,612	4,279,330
Net cash (used in)/ generated from investing activities	(4,965,119)	2,506,522
Net cash used in financing activities	(4,780,896)	(1,622,180)
Net (decrease)/increase in cash and cash equivalents	(4,721,403)	5,163,672
Net foreign exchange differences	(31,225)	(49,973)
Cash and cash equivalents beginning of year	12,343,453	7,229,754
Cash and cash equivalents end of year	7,590,825	12,343,453

### NOTES TO THE SUMMARIZED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2013

(Expressed in Trinidad and Tobago dollars)

#### 1. Basis of preparation

The Summary Consolidated Financial Statements are prepared in accordance with criteria developed by management. Under management's established criteria, management discloses the Summary Consolidated Statement of Financial Position, Summary Consolidated Statement of Profit or Loss and Other Comprehensive Income, Summary Consolidated Statement of Changes in Equity and Summary Consolidated Statement of Cash Flows. These Summary Consolidated Financial Statements are derived from the Audited Consolidated Financial Statements of The National Gas Company of Trinidad and Tobago Limited and its subsidiaries for the year ended 31 December 2013 prepared in accordance with International Financial Reporting Standards. Copies of the Audited Consolidated Financial Statements of The National Gas Company of Trinidad and Tobago Limited and its subsidiaries for the year ended 31 December 2013 can be requested from the Information Services Department of The National Gas Company of Trinidad and Tobago Limited, Orinoco Drive, Point Lisas Industrial Estate, Couva.

### SUMMARY CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

(Expressed in Trinidad and Tobago dollars)

	Attributable to Equity Holders of the Parent					Minority interests	Total equity
	Stated capital \$'000	Reserve fund \$'000	Other reserves \$'000	Retained earnings \$'000	Total \$'000	\$'000	\$'000
<b>Year ended 31 December 2012</b>							
Balance at 1 January 2012	1,855,266	438,192	2,731,419	18,433,495	23,458,372	524,416	23,982,788
Total comprehensive income for the year	—	—	(213,169)	3,749,200	3,536,031	177,732	3,713,763
Transfer of depreciation for offshore plant and equipment and pipelines	—	—	(39,416)	39,416	—	—	—
Dividends	—	—	—	(1,500,000)	(1,500,000)	(253,423)	(1,753,423)
Balance as at 31 December 2012	1,855,266	438,192	2,478,834	20,722,111	25,494,403	448,725	25,943,128
<b>Year ended 31 December 2013</b>							
Balance at 1 January 2013	1,855,266	438,192	2,478,834	20,722,111	25,494,403	448,725	25,943,128
Non-controlling interest on acquisition of PPGPL	—	—	—	—	—	604,846	604,846
Total comprehensive income for the year	—	—	636,228	6,153,743	6,789,971	261,006	7,050,977
Transfer of depreciation for offshore plant and equipment and pipelines	—	—	(39,526)	39,526	—	—	—
Dividends	—	—	—	(3,550,000)	(3,550,000)	(251,411)	(3,801,411)
Balance as at 31 December 2013	1,855,266	438,192	3,075,536	23,365,380	28,734,374	1,063,166	29,797,540



## NGC contributes to Arthur Lok Jack's Renewable and Sustainable Energy Business Incubator



*NGC President, Mr. Indar Maharaj, delivering his address at the launch.*

NGC has partnered, alongside Citibank (Trinidad & Tobago) Limited, with the Arthur Lok Jack Graduate School of Business to launch the Sustainable and Renewable Energy Incubator Project. NGC has contributed a laudable US\$100,000 to the project.

Global warming and the catastrophic effects it can potentially have on climate change are top priority for the world. Recent statistics presented at the UN Climate Summit held in New York testify to this.

According to NGC President, Mr. Indar Maharaj, support of the climate agenda also makes good business sense. Mr. Maharaj delivered a feature address at the launch of the Incubator Project. "The idea that sustainability and business are inextricably linked is easy for us to understand at NGC since we have been broadly involved in this agenda since the formation of the Company 39 years ago... With sustainability as such a key part of our past - and remaining a key plank of our future agenda - NGC's support for this GSB programme is a natural fit."

The high energy costs in Trinidad and Tobago and the wider Caribbean region are hindering competition - a critical component for sustainable development. Therefore, Mr. Maharaj offered words

of encouragement and support for the programme: "The Arthur Lok Jack GSB is fostering the development of a business solution for a key societal issue that in turn will deepen local business participation in the energy sector."

The new Energy Incubator Project is the first of its kind for Trinidad and Tobago and the Caribbean and seeks to enhance local management capability in the energy sector, by providing "incubation" support for new, energy-related business activity.

The project aims to reduce energy consumption and energy costs in the region by training individuals to become Energy Efficiency Certifiers and providing business support, technology transfer and facilitation of access to markets, finance and partnerships to Small and Medium Enterprises (SMEs) operating within the emerging renewable energy sector.

Within its first year, the new Sustainable and Renewable Energy Incubator Project will drive the development of the sustainable and renewable energy industry by:

- providing the skills, technical expertise, mentoring and resources to SMEs in the emerging renewable

energy industry to help them bring their technologies to market

- reducing the energy bill of SMEs which will significantly increase their competitiveness and survival rates
- including green energy features and design elements in affordable houses within the region
- promoting renewable energy legislation in the Caribbean which will drive best practices for energy efficiency across the region, especially at the SME level
- training individuals to become Energy Efficiency Certifiers for both facilities and business operations
- certifying SME facilities / business operations as Energy Efficient firms.

Mr. Indar Maharaj elaborated on the reason NGC chose to become a partner on this project: "This programme speaks to three critical issues that are deeply aligned to NGC's business value proposition - sustainability, entrepreneurship and local business participation. As a result, NGC considers this an essential addition to the national economic development agenda as we seek to expand the role of the indigenous private sector in the energy sector."

## 2015 Energy Maps - Caribbean and T&T editions updated

NGC, along with Petrotrin, BHP Billiton and British Gas (bgTT), sponsored the 6th edition of the Trinidad and Tobago Energy Map and the 2nd edition of the Caribbean Energy Map, which was produced by *Petroleum Economist*, based in London, England.

NGC has a long association with the map, having introduced its production in 1994. In 2014, NGC once again co-sponsored the map, which is one of the key promotional items in the vast arsenal of NGC's Communications portfolio. The map itself is a prized item, distributed to prospective investors, government officials, the Board, tertiary institutions and libraries, as well as diplomatic missions resident in Trinidad and Tobago.

What benefit does this bring to NGC, the other energy company sponsors and Trinidad and Tobago? The maps enjoy great marketability as they are offered for sale internationally, showcasing the companies' brand names and the T&T Gas Model of Development.

This is a project of the External Communications Department headed by Christine Punnett, with support from Natasha Harrichand-Kooarsingh, Public Information Assistant.

The Trinidad and Tobago map was officially launched on 1st December 2014, whilst the Caribbean edition will be launched in the near future.



*Minister of Energy and Energy Affairs, Senator the Honorable Kevin Ramnarine presents the T&T edition of the 2015 Energy Map.*

## NGC is major sponsor for Petroleum Economist Conference

In December, NGC co-hosted the Petroleum Economist Hydrocarbons Strategy Forum. The conference entitled "Facing the Global Future" focused on Trinidad and Tobago's hydrocarbons sector and, in particular, the gas industry.

Through a number of targeted panel discussions and keynote interviews, the forum explored Trinidad and Tobago's energy sector in the context of global and regional geopolitical developments; discussed the country's natural gas master plan and broadened the debate around Trinidad and Tobago's place in today's global energy landscape.

Petroleum Economist's Executive Editor, Anthea Pitt, touted the hosting of the forum in Port of Spain as most appropriate as "Trinidad and Tobago's energy industry is at an important juncture." She added, "We were delighted to be able to contribute to the debate about the sector's future. We looked forward especially to discussing the country's options with our panelists, all of whom brought significant expertise and valuable insight to the issues Trinidad and Tobago faces."

Speakers at the forum included:

- The Honorable Minister of Energy and Energy Affairs, Senator Kevin Ramnarine

- Andrew Walker, Vice President Global LNG, BG Group
- Nobuo Tanaka, Global Associate for Energy Security and Sustainability, Institute of Energy Economics, Japan
- Craig Pirrong, Professor of Finance, Director, Global Energy Management Institute, Bauer College of Business, University of Houston
- Valery Chow, Principal Master Planner, Gas and Energy Master Planning Division, Shell International.

Atlantic LNG, Republic Bank, Shell and Trinidad Generation Unlimited were also sponsors of the conference.





**Best Parang Choir**  
Newtown Girls' RC



**Best Pan Ensemble**  
Trinidad Renaissance Preparatory School



**Best Choral Speaking**  
St. Gabriel's Girls' RC



**Best Instrumental Ensemble**  
San Fernando Girls' Government



**Best Craft (Individual)**  
Atiba Sandy, Arima Boys' Government



**Best Pan Ensemble**  
St. Benedict's College

# NGC SANFEST 2014

The San Fernando Arts Council and The National Gas Company of Trinidad and Tobago Limited (NGC) are pleased to announce the winners of NGC Sanfest 2014.

## Primary Schools

<b>BEST SHORT STORY</b>	Vrishni Maharaj, San Fernando TML
<b>BEST DIALECT POETRY</b>	Hayley Ramoutar, San Fernando TML
<b>BEST STANDARD ENGLISH POETRY</b>	Megan Ramoutar, San Fernando TML
<b>BEST SKIT</b>	Vrishni Maharaj, San Fernando TML
<b>BEST CREATIVE WRITER</b>	Ariana Suchit, Barrackpore ASJA
<b>BEST ACTOR</b>	Vrishni Maharaj, San Fernando TML
<b>BEST ACTRESS</b>	Shemar Paul, St. Mary's Mucurapo Boys' RC
<b>BEST SET</b>	Rayna Pierre, Sacred Heart Girls' RC
<b>BEST COSTUMING</b>	Sacred Heart Girls' RC
<b>BEST STAGE MANAGEMENT</b>	St. Mary's Mucurapo Boys' RC
<b>BEST PRIMARY SCHOOL DRAMA</b>	St. Mary's Mucurapo Boys' RC
<b>BEST PUBLIC SPEAKING</b>	Ronnie Sampson, Sacred Heart Girls' RC
<b>BEST VERSE SPEAKING</b>	Kaveesh Sylvan, Grant Memorial Presbyterian
<b>BEST STORYTELLING</b>	Jilisse Roberts, San Fernando Girls' RC
<b>BEST MONOLOGUE</b>	Kymani Mc Phie, San Fernando Boys' RC
<b>BEST CHORAL SPEAKING</b>	St. Gabriel's Girls' RC
<b>BEST ARTIST</b>	Zara Thomas (Painting), Sacred Heart Girls' RC
	Justin Williams (Collage), Arima Boys' Government
	Candece Alexander (Collage), Barataria Anglican
	Sacred Heart Girls' RC
<b>BEST SCHOOL ART</b>	Atiba Sandy, Arima Boys' Government
<b>BEST CRAFT (INDIVIDUAL)</b>	Arima Boys' Government
<b>BEST CRAFT (SCHOOL)</b>	Arima Boys' Government
<b>BEST ART DISPLAY</b>	Debe Presbyterian
<b>BEST EAST INDIAN DANCE</b>	Sunanda Mohip, San Fernando TML
<b>BEST INDIAN DANCER</b>	Royal Grant, Arima New Government
<b>BEST MALE DANCER</b>	Tahirah Sheppard, San Fernando Government
<b>BEST FEMALE DANCER</b>	St. Xavier's Private School
<b>BEST CREATIVE FREESTYLE DANCE</b>	Sacred Heart Girls' RC
<b>BEST FOREIGN FOLK DANCE</b>	Cunapo St. Francis RC
<b>BEST MODERN DANCE</b>	Arima New Government
<b>BEST SOCIAL DANCE</b>	St. Gabriel's Girls' RC
<b>BEST COSTUMING</b>	St. Gabriel's Girls' RC
<b>BEST OVERALL DANCE SCHOOL</b>	St. Gabriel's Girls' RC
<b>BEST CALYPSOIAN</b>	Jilisse Roberts, San Fernando Girls' AC
<b>BEST VOCAL SOLO</b>	Yohance Asia Swanson, Victory Academy of Learning
<b>BEST INSTRUMENTAL SOLO</b>	Dejean Cain, Newtown Boys' AC
<b>BEST CLASSICAL/RELIGIOUS CHOIR</b>	Sacred Heart Girls' RC
<b>BEST NATIONAL/PATRIOTIC CHOIR</b>	Sacred Heart Girls' RC
<b>BEST FOLK CHOIR</b>	Eckel Village AC
<b>BEST PARANG CHOIR</b>	Newtown Girls' RC
<b>BEST PARANG VOCALIST</b>	Yu Kein Choy Yuen, Newtown Girls' RC
<b>BEST PARANG CHOIR COSTUME</b>	St. Gabriel's Girls' RC
<b>BEST FOLK CHOIR COSTUME</b>	Eckel Village AC
<b>BEST AFRICAN DRUMMING</b>	Nelson Street Boys' RC
<b>BEST INSTRUMENTAL ENSEMBLE</b>	San Fernando Girls' Government
<b>BEST PAN ENSEMBLE</b>	Trinidad Renaissance Preparatory School



# 2014 Winners

**Congratulations to the winners on their outstanding performances in all areas of the festival — Dance, Music, Drama, Visual Arts, Pan, and Mr. & Miss Sanfest Teen Talent — and congratulations to all participants in this year's competition.**

## Secondary Schools

<b>BEST SHORT STORY</b>	Rhesa Chan, Holy Faith Convent, Couva
<b>BEST STANDARD ENGLISH POETRY</b>	Thalia Khan, ASJA Girls College
<b>BEST SKIT</b>	Nanyamkah Wilson, ASJA Girls' College
<b>BEST CREATIVE WRITER</b>	Aruna Ragoonath, St. Stephen's College
<b>BEST CREATIVE WRITING SCHOOL</b>	Nanyamkah Wilson, ASJA Girls' College
<b>BEST ACTOR</b>	Iere High School
<b>BEST ACTRESS</b>	Danny Clarke, St. George's College
<b>BEST STAGE MANAGEMENT</b>	Shervonne Rodney, El Dorado West Secondary
<b>BEST SECONDARY SCHOOL DRAMA</b>	El Dorado West Secondary
<b>BEST DRAMATIZED SPEECH</b>	Natalia Trim, El Dorado West Secondary
<b>BEST PUBLIC SPEAKING</b>	Aeda Bhagaloo, Naparima Girls' High School
<b>BEST VERSE SPEAKING</b>	Shanique Stewart, Marabella South Secondary
<b>BEST MONOLOGUE</b>	Megan Cox, ASJA Girls College
<b>BEST STORYTELLING</b>	Antoinette Hamilton, Mayaro Secondary
<b>BEST CHORAL SPEAKING</b>	Rhesa Chan, Holy Faith Convent, Couva
<b>BEST ARTIST</b>	Emmanuel Ansolia, Sixth Form College
<b>SCHOOL ART</b>	Guaico Secondary
<b>BEST CRAFT INDIVIDUAL</b>	Brent Bristol (Picture), St. Benedict's College
<b>BEST CRAFT SCHOOL</b>	Colleen Keerley (Collage), North Eastern College
<b>BEST PHOTOGRAPHER</b>	North Eastern College
<b>BEST ART DISPLAY</b>	Colleen Keerley, North Eastern College
<b>BEST EAST INDIAN DANCE</b>	Richelle George, San Fernando Central Secondary
<b>BEST MALE DANCER</b>	St. George's College
<b>BEST FEMALE DANCER</b>	Anjali Persad/Narendra Racha, Rio Claro West Secondary
<b>BEST CREATIVE FREESTYLE DANCE</b>	Kareem Dewar, Marabella North Secondary
<b>BEST LOCAL FOLK DANCE</b>	Amy Harrylal, Tableland Secondary
<b>BEST MODERN DANCE</b>	Belmont Secondary
<b>BEST SOCIAL DANCE</b>	Williamsville Secondary
<b>BEST COSTUMING</b>	New Butler Associates College
<b>BEST OVERALL DANCE SCHOOL</b>	Tabaquite Secondary
<b>BEST CALYPSONIAN</b>	Arima Central Secondary
<b>BEST VOCAL SOLO</b>	Holy Faith Convent, Couva
<b>BEST INSTRUMENTAL SOLO</b>	Naparima Girls' High School
<b>BEST CLASSICAL/RELIGIOUS CHOIR</b>	Caryn Mc Carthy, Arima Central Secondary
<b>BEST FOLK CHOIR</b>	Darriah Thompson, Holy Faith Convent, Couva
<b>BEST PARANG CHOIR</b>	Aveyola Castillo, El Dorado West Secondary
<b>BEST NATIONAL/PATRIOTIC CHOIR</b>	St. George's College
<b>BEST PARANG SOLO</b>	St. George's College
<b>BEST FOLK CHOIR COSTUME</b>	St. George's College
<b>BEST PARANG CHOIR COSTUME</b>	Rio Claro West Secondary
<b>BEST AFRICAN DRUMMING</b>	Raenelle Joseph, Rio Claro Secondary
<b>BEST TASSA DRUMMING</b>	Fyzabad Secondary
<b>BEST INSTRUMENTAL ENSEMBLE</b>	Rio Claro West Secondary
<b>BEST PAN ENSEMBLE</b>	Trinity College, Moka
	St. George's College
	St. Benedict's College



**Best Local Folk Dance**  
New Butler Associates College



**Best Tassa Drumming**  
Rio Claro West Secondary



**Best Social Dance**  
Arima Central Secondary



**Best Dramatized Speech**  
Natalia Trim, El Dorado West Secondary



**Miss Sanfest** Rhesa Chan, Holy Faith Convent, Couva **and Mr. Sanfest** Kenson Laudat, Moruga Secondary

## Mr. & Miss Sanfest

**RHESA CHAN**, Holy Faith Convent, Couva  
**KENSON LAUDAT**, Moruga Secondary

## Special Prizes

### PRIMARY

<b>BIGGEST POSSE AT CREATIVE ARTS CENTRE FINALS</b>	San Fernando Boys' RC (32" TV)
<b>BIGGEST POSSE AT PAN FINALS</b>	Trinidad Renaissance Preparatory School (32" TV)
<b>MOST ENTRIES</b>	St. Gabriel's Girls' RC (Trophy)
<b>MOST OUTSTANDING PERFORMER</b>	Jilisse Roberts, San Fernando Girls' AC (Trophy)
<b>TEACHER'S PRIZE</b>	Mr. Wayne Pitt, San Fernando Boys' RC (Kindle)
<b>BEST OVERALL PRIMARY SCHOOL</b>	St. Gabriel's Girls' RC (Trophy)

### SECONDARY

<b>BIGGEST POSSE AT CREATIVE ARTS CENTRE FINALS</b>	Rio Claro West Secondary (32" TV)
<b>BIGGEST POSSE AT PAN FINALS</b>	St. Joseph Secondary (32" TV)
<b>MOST ENTRIES</b>	Fyzabad Secondary (Trophy)
<b>MOST OUTSTANDING PERFORMER</b>	Rhesa Chan, Holy Faith Convent, Couva (Trophy)
<b>SPECIAL RECOGNITION</b>	Shervonne Rodney, El Dorado West Secondary (Trophy)
<b>TEACHER'S PRIZE</b>	Ms. Lavonne Bhola, El Dorado West Secondary (Kindle)
<b>BEST OVERALL SECONDARY SCHOOL</b>	Fyzabad Secondary (Trophy)

## 35th Anniversary Commemoration

In September 2014, National Energy employees, past and present, as well as energy industry executives, came together to celebrate the 35th Anniversary of Incorporation of National Energy Corporation of Trinidad and Tobago Limited (National Energy) at the Grand Ballroom of the Trinidad Hilton.

President of National Energy, Dr. Vernon Paltoo, opened the formal programme by tracing the evolution of the company from 1979 to present. He expressed gratitude to all employees who had contributed to the success of National Energy through the years, and paid tribute to the company's past presidents and CEOs. Special mention was made of Eldon Warner, National Energy's first CEO, who was present at the dinner.

Senator the Honourable Kevin Ramnarine, Minister of Energy and Energy Affairs, in his feature address, acknowledged the contribution made by

energy stalwarts, Errol Mahabir, former Minister of Petroleum and Mines as well as Eldon Warner and Andrew Jupiter.



*National Energy President, Dr. Vernon Paltoo, addressed attendees at the company's 35th Anniversary celebrations.*



*35th Anniversary: National Energy celebrates 35 years.*



## Port of Galeota reopens



*Official reopening of Port Galeota: Ribbon cutting ceremony.*

National Energy is responsible for the construction of new port facilities at Galeota. The Galeota Port, located on the south-east peninsula of Trinidad and Tobago, is a centralised, sustainable and integrated port facility that caters specifically to the offshore needs of exploration and production operators. The Port is expected to be the logistics hub for the energy sector. Its expansion will enable Trinidad and

Tobago to capitalise on the increased demand for services, based on new upstream project activities in the region contributing to the generation of revenue for not only National Energy, but for the country.

Phase 1 of the Galeota Port construction included five berths with the following lengths:

- 104 metres (Berth One & Three)
- 148 metres (Berth Two)
- 102 metres (Berth Four)
- 71.8 metres (Berth Five).

Berth Five is a dedicated facility for the Trinidad and Tobago Coast Guard (TTCG).

The Port re-opened on 5th September 2014 and, at present, all of the berths are available for use. Notably, a new 1.2 kilometer road that formed part of the project was constructed to provide access to the Port.

Furthermore, National Energy's largest (TT\$30m) contribution for environmental compensation for the project in the Mayaro region is the provision of a fish landing facility. The Ministry of Agriculture is also using the technology and materials as a prototype for other new fishing facilities being built.



*Aerial view of the newly constructed Port of Galeota.*



## Juniper Project commences at TOFCO Fabrication Facility

In August 2014, a media release by BP Trinidad and Tobago confirmed the approval for the start of fabrication of the Juniper Platform, triggering an increased buzz in activity at the Trinidad Offshore Fabrication Unlimited (TOFCO) fabrication facility on the La Brea Industrial Estate. At the fabrication yard, an excellent measure of the increase in activity is the number of cranes seen dotting the skyline as one enters the port precincts on the estate. Multiple booms now dot the port skyline and the sounds of piling activity reverberate across the waterfront and port backland, as preparation continues for the receipt of the critical structural inputs to the platform fabrication.

The Juniper Project has been described as a 'legacy project' by the Government of Trinidad and Tobago. Fabrication of the platform at the Labidco Fabrication Yard forms part of the US\$2 billion bpTT investment that will see the development of the deep water Juniper Offshore fields off the East Coast.

### Project Description

The Juniper platform will form the first of a series of what will be "normally unmanned" platforms to be constructed to facilitate deep water sub-sea production operations over the next few years.

The fabrication yard at the Trinidad Offshore Fabrication Unlimited (TOFCO) and the Port at La Brea will provide the life blood support for this project. Importation of rig components started in October 2014 and the activity is expected to intensify in 2015 when the major fabrication components are shipped into the port at La Brea. The port at Brighton will play a crucial role in ensuring the rig components are delivered directly to the fabrication yard. TOFCO's Real Estate Holdings on the Industrial Estate will also play a critical role in supporting the project roll-out.

This project is expected to have an overall significant impact on the operations of the La Brea Industrial Estate over the next fifteen months with increased logistical impacts and employment impacts. It is anticipated that over 500 jobs of varying technical skill sets will be created during the fabrication of the platform.

LABIDCO's role as landlord will be to provide the necessary stakeholder engagement, coordination and infrastructural support services that will facilitate a smooth roll-out of the Juniper project whilst minimising major negative impacts on the overall estate and port operations.

Managing the increased sense of anticipation felt by the La Brea Community and South West Region for this project is a major focus of LABIDCO in ensuring that appropriate resources are put in place over the project lifecycle.



*Bustling with activity at the LABIDCO Fabrication Yard*

## Republic Day Derby

On 15th September, NGC CNG held a Press Conference titled “The Triumph of Energy”, to launch the Republic Day Derby. The media launch also featured the draw for racing positions. It was attended by media houses and members of NGC, NGC CNG staff, sport writers and persons involved with the racing fraternity of Trinidad and Tobago.

NGC’s Chairman, Mr. Roop Chan Chadeesingh, noted that the Derby “...is an event under the umbrella of our Corporate Social Responsibility

(CSR) engagement... through which we hope to increase national awareness of NGC CNG Company Limited’s existence and the many benefits of using its product.”

The Derby took place on Republic Day - 24th September 2014. It was well-attended and enjoyed by spectators and guests of NGC and NGC CNG Company Limited. On site to represent the company were two of the CNG Brand Ambassadors, national cricketers, Darren Bravo and Denesh Ramdin.



*The CNG President, Mr. Curtis Mohammed, is pictured with the CNG Brand Ambassadors Darren Bravo (left) and Denesh Ramdin (right), at the derby.*



## NGC CNG at Divali Nagar 2014

NGC was once again a participant at the Divali Nagar celebrations which ran from the 14th - 22nd October, 2014 at the Divali Nagar Site, Chaguanas.

This year, in addition to hosting an exhibition within the ‘Energy Pavilion,’ the Company also part-sponsored the celebrations. The Energy Pavilion comprised other energy sector organisations including the Ministry of Energy and Energy Affairs, Petrotrin, National Energy and NGC CNG Company Ltd.

NGC / NGC CNG’s exhibition sought to further sensitise the public to the benefits of CNG and promote its utilisation throughout Trinidad and Tobago. The Company’s RR Ambassadors who manned the booth at the Nagar site enjoyed this valuable opportunity to represent the Company.

## NGC CNG Company Limited signs MoU with NESC

On 15th 2014, NGC CNG Company Limited and the National Energy Skills Center (NESC) signed a Memorandum of Understanding (MoU). The MoU seeks to build the requisite human resource capacity required to operationalise the CNG initiative. This involves the promotion and expansion of the use of Compressed Natural Gas (CNG) as a major alternative, transportation fuel

in the country. This translates to an increase in demand for personnel to carry out skill-specific services such as conversion and maintenance.

The agreement will see the introduction of a 3-month long CNG Maintenance Technician Programme which will be piloted at NESC’s Woodford Lodge Campus in Chaguanas.

NESC will provide workshop facilities and instructors and NGC will provide equipment and technical advice.

It is anticipated that 100 persons will be trained in CNG Maintenance satisfying the demand for personnel required by NGC CNG.

## Planned Shutdown in October 2014

Mechanical integrity is a key Process Safety Management (PSM) pillar used at Phoenix Park Gas Processors Limited (PPGPL) to ensure that all equipment is maintained and available when required. Soon after the company was established, PPGPL focused heavily on implementation of maintenance and reliability programmes that have continued to guarantee not only the high on-stream factors, but that its people operating its facilities remain safe.

When systems and equipment require maintenance or upgrade, there is a comprehensive planning process that is engaged with all stakeholders, both internal and external. Both suppliers and customers are included in the planning discussions that involve the identification of affected parties and address how the activities will affect business and how the team will work together to limit inherent production losses.

Just over twelve months ago, PPGPL initiated the planning process for a shutdown in October 2014 and the organisation successfully completed a

facility-wide shutdown which entailed taking the facility offline.

At PPGPL, there are 2 main types of shutdown scenarios:

- **Planned shutdown scenario 1** - Part of the facility or a piece of equipment is isolated to conduct maintenance or upgrade work which will not contribute to production losses.
- **Planned shutdown scenario 2** - The entire facility is offline (not producing) to conduct maintenance or upgrade work. Limited systems remain online to facilitate receipt of product from Atlantic and to ensure that agreed bypass volumes are maintained for NGC, which supplies natural gas to the companies in the energy sector-downstream.

During the planned shutdown in October 2014, the company completed several major projects including:

- Repairs to the 12 Kilo Volt (KV) overhead lines which were the driver for the facility shutdown.

- Installation of isolation valves on the refrigeration condensers.
- Upgrades on the Distributed Control System (DCS) and the Fail Safe Control System (FSC).

Within a three-day period, PPGPL and its contractors were able to successfully complete all works in a safe manner. As a company that prides itself on developing the local capability of the energy sector, several local contractors were employed to work alongside PPGPL employees to ensure all jobs were completed within the tight timeframe. Jobs that required external support were the upgrade works on the DCS and FSC systems, which were executed in collaboration with their local counterparts at Honeywell Trinidad.

With a peak of 135 contractors working at the facility during the shutdown, PPGPL was yet again able to maintain its enviable safety record of 22 years without a lost time incident by utilising strict safety procedures for every job and, by encouraging all employees to use the company's behavioral-based safety programme - Safety Training Observation Programme (STOP). This initiative empowers any employee to stop an unsafe job, and assists the persons involved with adopting safer ways of doing a task. As a result of all associated systems, procedures and policies working in tandem during the planned shutdown, there were no first aid cases or recordable incidents.

With yet another shutdown safely and successfully completed, PPGPL has once again initiated the process of planning for its 2015 maintenance activities.



TTEC is executing maintenance works on PPGPL's 12KV Overhead Lines.



## Responsible Corporate Giving

“Companies in the energy sector are inundated with requests for funding and, in order to address each request appropriately, we have developed clear funding guidelines.” According to President Eugene Tiah, “Phoenix Park Gas Processors Limited (PPGPL) has more than one policy that aids the decision making process.” He was speaking during an interview on the company’s decision to donate cancer diagnostic equipment to the Ministry of Health. For any progressive corporate entity, Corporate Social Responsibility (CSR) is a major part of the company’s core values. Tiah explained: “PPGPL is a very successful enterprise due mainly to its hardworking employees. Everyone lives in a community and communities have different needs. Communities form the fabric that holds society together; they make us who we are, they support us in times of plenty, and when in need. So, for us, it makes sense to assist and support the communities within which we operate, as well as the wider national community.”

He went on to explain that the organisation makes donations and engages in sponsorship as per the company’s corporate giving policies. He stated that contributions under \$10,000 are made under the company’s philanthropic fund which was established to treat with small requests from clubs, community groups, NGOs and educational institutions. There are separate funds for community projects and sponsorships which are all part of the company’s overall CSR programme. In some instances, donations are made when the company achieves certain milestones, such as the Gift to the Nation (GTTN.) This particular gift is given when PPGPL achieves its safety milestone of no lost work day case for 12 consecutive months.

When the company achieved the milestone of 20 years of production in

2011, the Board of Directors decided that this achievement was of national significance to both the economy and the wider society. It signified that foresight, dedication and diligence could enable relatively small companies to make significant strides in any sector. As such, it was with national development in mind that the Board decided to make a significant donation to the people of Trinidad and Tobago, and Mr. Tiah was charged with researching potential projects.



*Gordon Ramjattan, Chairman, PPGPL presented an overview of the Oncology project at the launch at Hyatt Regency.*

PPGPL sought a new project, moving its attention to oncology. For a number of years, the company supported various organisations in their fight against cancer. PPGPL recognised that cancer has touched many families and has become the bane of their lives. According to the latest statistical report captured by the National Cancer Registry of Trinidad and Tobago, for the period 2000 to 2002, over 3,500 persons died of the disease and over 5,000 new

cases were registered. These figures represented an average increase of over 30 per cent for cancer deaths and 11 per cent for new cases. The leading five cancer sites were prostate (22 per cent), breast (14.5 per cent), colon and rectum (8.9 per cent), lung and bronchus (6.9 per cent) and cervix (6.2 per cent).

This was the rationale for the decision to donate TT\$60 million worth of diagnostic cancer equipment to the National Oncology Centre at the Eric Williams Medical Sciences Complex which is currently under construction. The diagnostic equipment promises to provide more accurate detection rates of the disease at an earlier stage. It will include the following pieces of equipment:

- One Magnetic Resonance Imaging (MRI) Scanner;
- One Positron Emission Tomography/ Computerized Tomography (PET/CT) Scanner;
- One Cyclotron machine;
- One Radiopharmaceutical Lab.

The main project partners are PPGPL, GE and the Ministry of Health. While PPGPL is funding the project, the Ministry of Health was responsible for the selection and configuration of the equipment and will be responsible for the equipment once installed. The project will have a payment schedule for the larger pieces of equipment as they are being built fit-for-purpose. It is expected that this project will redound to the benefit of citizens, who will be able to access critical diagnostic service.

## Minister Ramnarine receives award from Petroleum Economist



NGC joins the rest of the energy sector in offering congratulations to the Honourable Minister of Energy and Energy Affairs, Senator Kevin Ramnarine, who has been named “Energy Executive of the Year” by the world-renowned *Petroleum Economist* magazine.

The Ministry of Energy and Energy Affairs also won the magazine’s “Cleaner Energy Initiative” award for its Light bulb Exchange Programme. Minister Ramnarine collected both awards on September 10th

2014 at a ceremony held at Banking Hall, London.

According to *Petroleum Economist*, “the Energy Executive of the Year is presented to the individual who has made, or is in the process of making, a major contribution to the industry, either regionally or globally.” The award takes account of “nominees’ recognition and respect within their industry sector, their close involvement in, or leadership of, a range of benchmark projects and their

innovative approach to tackling business challenges.”

In presenting Minister Ramnarine with his award, it was noted: “The awards judges were highly impressed by the rapid turnaround that he has effected in the country’s energy activities in a short period of time. They also commended his hands-on approach, enthusiasm and drive, which should stand the gas-producing nation in good stead as it seeks to realize ambitious new exploration and production.”

## Ministry names successful companies for Deep-water Competitive Bid

There is much ado about deepwater exploration and a top question is how can it change the industry.

As such, the Ministry of Energy and Energy Affairs (MEEA) recently announced the companies who were successful in 2013 Deepwater Competitive Bid Round. The blocks and the successful bidders are as follows:

- Trinidad and Tobago Deep Atlantic Area 3 (TTDAA 3): BHP Billiton Petroleum (International Exploration) Pty Ltd. and BG International Limited.
- Trinidad and Tobago Deep Atlantic Area 7 (TTDAA 7): BHP Billiton Petroleum (International Exploration) Pty Ltd. and BG International Limited.

In its media release, the Ministry has indicated it will now enter into negotiations for a Production Sharing Contract for each block, subject to the positive vetting by the Attorney General.

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



Photo: NGC Archives

A breathtaking view overlooking Batteaux Bay, Tobago.





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