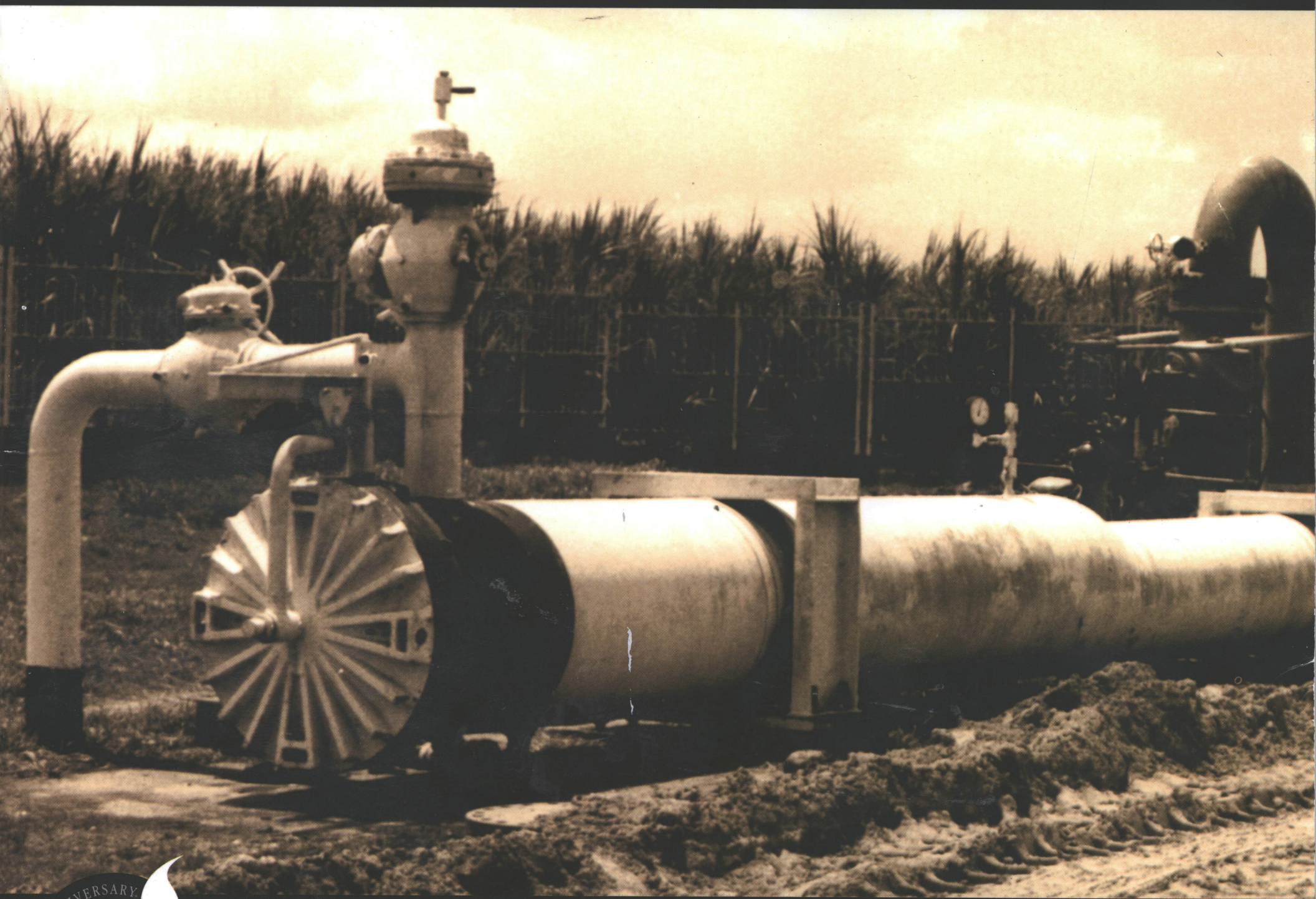


The Corporate Quarterly Journal of  
The National Gas Company  
of Trinidad and Tobago Limited  
30TH COMMEMORATIVE EDITION

# gasco news



NGC 30th ANNIVERSARY  
**30<sup>th</sup>**  
1975 - 2005

Celebrate Your Own 1975-2005

# *Celebrate Your Own*

## **Opening Remarks**

by Frank Look Kin  
**NGC President**

The National Gas Company of Trinidad and Tobago Limited (NGC) celebrated its 30th anniversary on August 22, 2005, a significant milestone that presents the Company with the opportunity to reflect on the great distance it has travelled since 1975 and to look forward to an exciting future.

This edition of the Gasco journal commemorates the happy occasion, highlighting not only the growth of NGC and the efforts of key nationals in the energy sector, but also the growth of the role of natural gas as a major economic resource.

We are pleased to reproduce, with thanks, the lecture presented by one of NGC's past and distinguished Chairmen, Professor Kenneth S. Julien TC, as part of the Dr. Eric E. Williams Memorial Lecture Series that is hosted by the Central Bank of Trinidad and Tobago.

Hopefully, this 30th Anniversary commemorative issue of Gasco will be treated as a cherished memento of the occasion.

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## CREDITS

### MANAGING EDITOR

Christine Punnett

### CONTRIBUTING WRITERS

Prof. Kenneth S. Julien,  
Christine Punnett, Jo Anne Lodge

### PHOTOGRAPHS

NGC Archives – Mark Lyndersay, Harold Prieto,  
Garnet Ifill, Camera Art, Cyan Studios, Bert Reid,  
Studio Works, Ministry of Information

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T&TEC Penal

In 1953, T&TEC introduced gas as a fuel for its steam generators at its Penal Power Station, giving natural gas its first taste of commercialization

## TAKING A LOOK AT NGC THROUGH THE YEARS

By Christine Punnett, Senior Corporate Communications Officer, NGC

### INTRODUCTION

The story of NGC, which started with its incorporation on August 22, 1975, is a story of State-led involvement in natural gas utilization in Trinidad and Tobago. Yet, prior to NGC's formation, natural gas utilization was not new to Trinidad. For the first half of the 1900s, although the gas resource remained largely underdeveloped, it was a part of the country's petroleum landscape. Often considered a by-product in oil exploitation activities, most of it, if not all, was flared or vented; it was nevertheless available from land reservoirs in the Penal area for pumping "crude" to tank farms and for instrumentation, or for use as cooking fuel in a few communities in south Trinidad.

### Early History

During World War II, natural gas was introduced to the Pointe-a-Pierre refinery as an alternative to crude oil by Trinidad Leaseholds, which converted it to gas service by constructing pipelines between Forest Reserve and the refinery. Following the War, the drive to promote electricity/power generation as a means of stimulating industrialization led to gas being made available as a low-cost fuel for T&TEC. In 1953, T&TEC introduced gas as a fuel for its steam generators at its Penal Power Station, giving natural gas its first taste of commercialization. By the end of the 1950s, natural gas was also being used in the manufacture of cement and ammonia.

In the 1960s, the petroleum companies operating in the country continued to construct pipelines of various sizes

as the demand for natural gas by T&TEC, FedChem and various small manufacturing concerns increased. By the late 1960s, Trinidad was using natural gas in increasing commercial quantities. However, the depletion of gas reservoirs on land and the discovery by Amoco in 1968 of a gas province of great potential off the east coast provided the Government with a gas resource that could be used to diversify the country's petroleum portfolio for economic development.

The Rt. Honourable Dr. Eric E. Williams, Trinidad and Tobago's first Prime Minister, summed up the situation in his 1970 Budget Speech when he said, "The decade of the 1970s begins most propitiously with the prospects of a high level of offshore production of natural gas and low sulphur crude oil production. There are few developing countries which begin the decade with such assets. It is for us to utilize these assets for the national benefit, so that by the end of the decade we can look back upon an era of unprecedented economic and social development."

His government therefore set out to formulate a new industrialization policy, the goal being to create industrial projects based on hydrocarbon resources, particularly natural gas. The receipt of "oil boom" surpluses provided the revenues needed to develop the infrastructure on which a modern gas-based industrial estate and port could be built at Point Lisas.

In the mid-1970s, the country, and for that matter the world economy, was dominated by the fluctuations of

highly politicized oil prices. Natural gas, however, had no commodity profile in the global energy market. Trinidad and Tobago was therefore seeking to venture into an arena that was still unstructured, with many issues in need of clarification, including natural gas pricing and taxes, priorities for utilization, conservation and infrastructure development.

### PLANNING INITIATIVES

In the planning phase, the decision of the Government to prioritize the dedication of gas resources led to:

- *A consultation and education process*
- *The establishment of a task force*
- *The generation of a set of profile studies*
- *The appraisal of various proposals from companies, mainly foreign*
- *Government's participation in the development of gas-based industries.*

The following priorities were identified:

- *Enhanced oil recovery projects*
- *Electricity generation for small consumers, large-scale processing – petroleum refining and petrochemicals, large-scale energy-intensive industries such as cement, steel and aluminium*
- *Chemical feedstock for ammonia and derivatives, methanol and derivatives and Direct Reduced Iron (DRI)*
- *Feedstock for energy export – LNG, fuel grade methanol and synthetic gasoline*

In January 1975, the Government convened an historic public consultation attended by senior representatives of various ministries, the local and international petroleum and financial community, the labour movement and University of the West Indies to endorse its plans for using natural gas as a trigger for

industrialization. The conference document, "The Best Use of Our Petroleum Resources" formed the basis for policy initiatives for natural gas utilization.

Eight projects were identified for further study. The projects identified were:

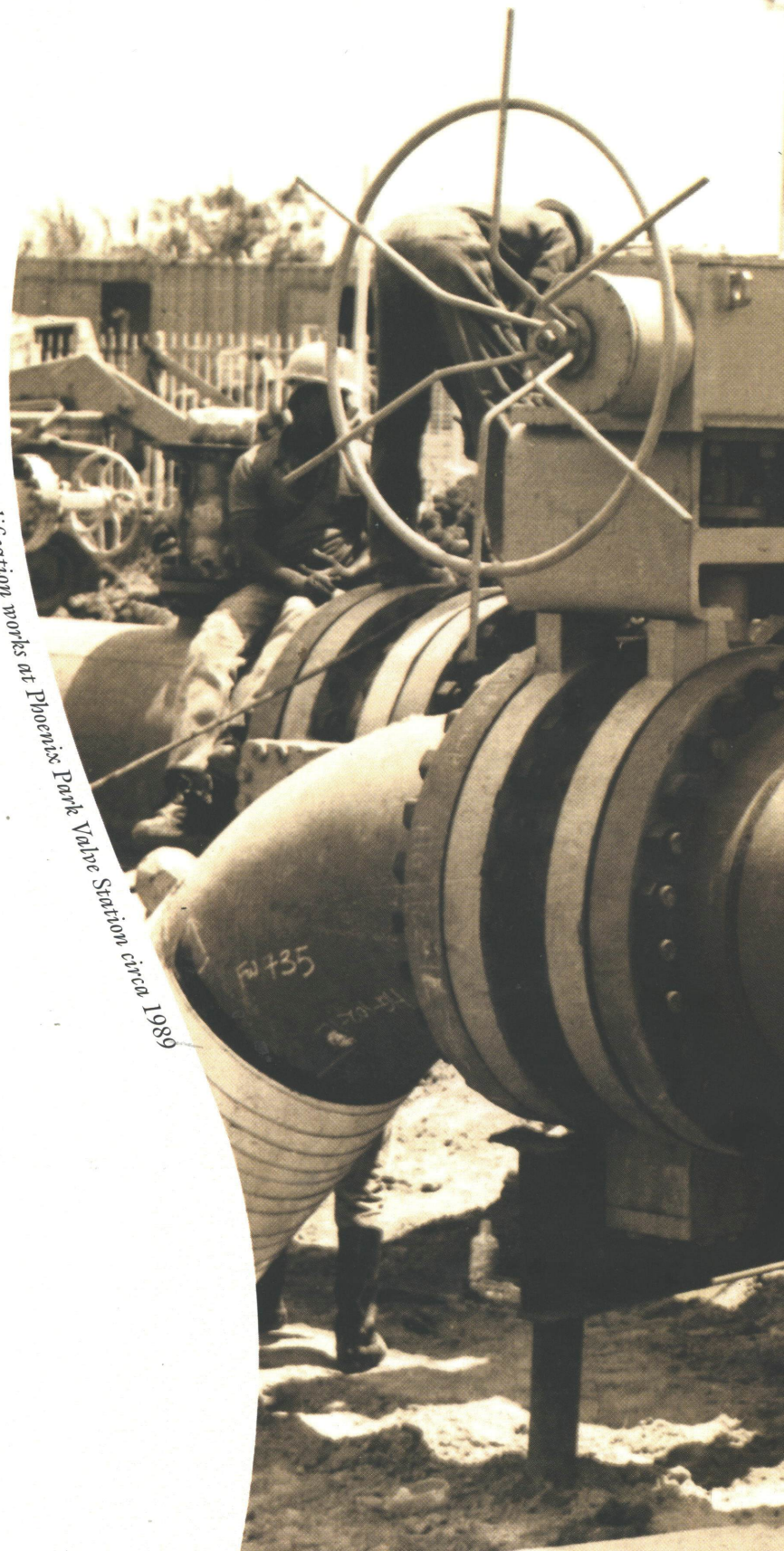
- 1) *Rapid expansion of the power system*
- 2) *Upgrade of petroleum refining*
- 3) *Establishment of an aluminium smelter*
- 4) *Establishment of an iron and steel complex*
- 5) *Expansion of ammonia and urea production*
- 6) *Establishment of a methanol plant*
- 7) *Upgrade and expansion of cement production*
- 8) *LNG for export*

Another project, related to the issue of conservation, was added: the Flare Gas Conservation Project, which went into the development stage. Five of the above-listed projects survived: electricity expansion, production of Direct Reduced Iron (DRI), expansion of ammonia and urea, methanol and cement. These would be studied and developed by a Coordinating Task Force (CTF) created in September 1975 and made up of senior academics, technocrats and professionals.

The first task for the Government was to guarantee gas supplies to prospective investors. This necessitated upstream development, and Amoco, the existing producer, was given a contract for gas field development in waters of approximately 200 feet. In the 1975 Budget Speech, Dr. Williams had announced that the Government or a designated agency would be the sole seller of gas.

The second task was to establish an agency to administer this contract, as well as transport and sell the gas commodity to the proposed plants.

NGC modification works at Phoenix Park Valve Station circa 1989





NGC "Teak" Platform – southeast coast of Trinidad

In 1981 the installation and commissioning of NGC 'Teak' and 'Poui' went forward, providing the Company to date with its cheapest supply of natural gas, and an important revenue earner

The selected mechanism was a separate State enterprise.

#### NGC: THE EARLY YEARS

Consequently, on March 6, 1975 Cabinet agreed on the formation of such an entity, and by August 7 it announced that the company's name would be "The National Gas Company of Trinidad and Tobago Limited", that would be operated as a Private Company and registered under the Company's Ordinance.

It is not generally known that NGC, accorded just \$80,000 as an advance from the Government upon its creation, had its first office location adjoining lawyers' chambers at 54 Abercromby Street, Port of Spain. Its first Board comprised a very eminent group of persons from academia, the professions and Government. In those first months, NGC's business involved planning for the development of the Company itself and servicing customers whose total gas sales for the year amounted to 370 mcf, which resulted in sales revenue of \$180,000 and a profit, though marginal, of \$19,000.

By early 1976, NGC moved to a larger office at 50 Pembroke Street where it began in earnest to consolidate, operate and maintain the disparate gas pipelines and other facilities that were already in existence, as well as to create a blueprint for a pipeline transmission network that could reliably move the gas from offshore to the industrial location at Point Lisas. In that year, NGC was purchasing and selling natural gas to four heavy consumers and 15 light industrials/manufacturers located mainly in the east-west corridor.

The Company therefore took over the operation and maintenance of the T&TEC 16-inch pipeline from Penal to Port of Spain; it assisted in the construction of the 24-inch landline from Beachfield, Mayaro, to Picton Valve Station, which was commissioned on April 14, 1977; and in the construction of the 24-inch marine line

commissioned in January 1978, which expanded the country's transmission capacity to 400 MMscf/d.

#### Flare Gas Conservation Project

In July 1979, NGC was mandated to implement the Flare Gas Conservation Project which involved the construction, installation and operation of two offshore compression facilities through which a major portion of the "flared" gas in the "Teak" and "Poui" marine fields could be captured and compressed, prior to being transported to shore for commercial use in power generation. In 1981, the installation and commissioning of NGC "Teak" and "Poui" went forward, providing the Company to date with its cheapest supply of natural gas, and an important revenue earner, contributing a significant percentage of all the natural gas supplied in the country.

#### CONSOLIDATION PERIOD

In the early 1980s, NGC continued to construct various lines, including a 13-mile, 20-inch pipeline between Picton and Phoenix Park; a 35-mile, 30-inch cross-country line from Beachfield to Phoenix Park, via Rio Claro; and a 30-inch marine line from Cassia offshore field in anticipation of the increase in demand for volumes from the new methanol, ammonia and iron and steel plants carded to come on stream.

In the period, the Company also made a number of investments, including:

- *The purchase in 1987 of three solar centrifugal compressors for installation on NGC "Teak", increasing the combined capacity of the two platforms from 108 to 141 MMscf/d*
- *20 per cent interest in Trintomar, a local marine gas production company operating in the Pelican Field. While the field was immediately successful, by 1991 it underwent major decline, dashing expectations of it being an alternative gas supply source*

- *18 per cent in National Helicopter Services Limited, (NHSL) and in March 1989 the investment in a new heliport at Camden Field*
- *Majority shareholding interest of 49 per cent in PPGPL, the country's first natural gas liquids plant, which had a processing capacity of 650 MMscf/d, coming on stream in 1991*

Moreover, the Company's structure had expanded from just two areas—an Administrative Section headed by a Commercial Manager and a Technical Section headed by a Gas Engineer—to a more complex structure, adding at first Accounting, Audit and Administration; Offshore and Land Operations; and the Engineering and Drawing Office. By the end of the 1980s, five new areas were added: Public Relations; an Information Centre; Corporate/Strategic Planning; Information Technology, and Materials Management.

#### THE PERIOD OF THE NINETIES

NGC's employment base also increased incrementally as the role of the Company expanded. By 1990, NGC had over 200 permanent staff members, and in August of that year it moved into its own, spanking new head office located at the Point Lisas Industrial Estate, the hub of the local natural gas-based sector.

Indeed, at just 15 years, a relatively short time frame in the life of any company, NGC had accomplished:

- *increase in gas sales from 150 MMscf/d in 1978, to 446 MMscf/d in 1990*
- *increased profits from \$19,000 in 1975 to \$17 million in 1980 and \$112.5 million in 1990.*

The number of consumers also increased to 10 large consumers based at the Point Lisas Industrial Estate and 56 light industrials.

In 1991, the Government was pursuing new strategies to expand the industry that had only just weathered a decade of falling oil prices and depressed commodity prices. Early investment in petrochemical and steel plants at Point Lisas had been State-driven, and the Government was seeking to divest these state-run petrochemical and steel entities.

#### Gas Sales and Profitability

NGC's role as sole buyer and seller of gas had brought positive results for the Company both in terms of profitability and growth of the sector. In 1993, NGC introduced a Commodity Pricing Mechanism as an important and innovative variable in the country's investment incentives package. As a replacement of the fixed price regime used in the 1980s, this new mechanism pegged the NGC gas price to the global steel and petrochemical market prices.

Between 1993 and 1997, NGC outperformed all financial expectations. Profits rose from \$165 million in 1993 to \$365 million in 1994; \$372 million was registered in 1996 and \$355 million was made in 1997. The company's assets base also increased substantially to over \$2 billion with gas sales averaging 717 MMscf/d by the end of 1997, representing an increase of 5 per cent over 1996.

In the 1998–1999 period, the disadvantages of having a concentration of 60 per cent of gas sales of 836 MMscf/d in ammonia and methanol were significantly felt. The impact of severely depressed global markets, in 1998, created an operating loss of over \$11 million and there was a decline in investee income to \$72 million, a 44 per cent drop from 1997. Notwithstanding this, a small profit of \$18.8 million was recorded.

NGC pipelaying – Project 2000





NGC Metering activities

By 1996, NGC had formulated a Strategic Plan called "Vision 2001", which articulated strategies designed to overcome the challenges and to accelerate the growth and diversification of the industry.

In 1999, 905 MMscf/d was sold by NGC in spite of continuing depressed commodity prices. However, there was some recovery due to the robust performances of subsidiary companies, enabling a profit of \$33.7 million.

NGC's ability to ride out the price fluctuations was directly related to the pricing mechanism, which maintained a floor price during depressed conditions. Conversely, in periods of high global prices as in the early 1990s, the mechanism allowed NGC to share in windfall gains, proving to be of great benefit to the Company, customers and to economic development.

#### Business Development

During this decade a new mandate was given to NGC. In 1992, NGC's new role as "prime mover in gas-based development", meant that NGC would be also responsible for the development and evaluation of new energy projects, as well as for investment facilitation and promotion.

NGC as prime mover required its acquisition of 100 per cent shareholding in National Energy Corporation (NEC), which had been established in 1979 to continue the work of the CTF. With the merger, the competencies of these two companies were rationalized, and NEC was absorbed as the Business Development Group of NGC with responsibility for project evaluation and development, research, infrastructure development, and port and marine construction and management.

Early initiatives by NGC included its discussions with Cabot, and later with Amoco, BG and Repsol to develop an LNG industry in the country. The decision to pursue LNG Train I with a capacity of 350 MMscf/d came at a time of technological improvements in LNG shipping and storage, as well as the emergence of markets in the US and Europe which made the LNG

business economically feasible. NGC was also looking for suitable industrial sites that met the needs of investors and the growing gas sector. In late 1993, La Brea/Brighton was chosen as a suitable site mainly because of its proximity to a natural deepwater harbour. By February 1994, NGC, in joint venture with Petrotrin, the site's former landowner, formed The La Brea Industrial Development Company Limited (Labidco) to manage the estate's development. Although originally earmarked to house large gas-based industries, such as LNG and the world's largest ammonia facility at the time, the area was instead marketed in 1996 as a provider of developed lands for leasing purposes, harbour and dock facilities, bioremediation services and as a logistics base for offshore companies. (LNG would be moved to Point Fortin and the ammonia facility to the northern boundary of the Point Lisas Industrial Estate.)

By 1996, NGC formulated a Strategic Plan called "Vision 2001" for the period 1997-2001, which articulated strategies designed to overcome the challenges and to accelerate the growth and diversification of the industry. The plan resulted in a new vision and mission that mapped the way NGC would go about establishing Trinidad and Tobago as a major player in the global gas business, and maximize value from the development of the industry for the benefit of Trinidad and Tobago.

"Vision 2001" forecasted an increase in gas demand by 2001 to over 1 Bcf, not including LNG, which represented a compounded growth rate over the five-year period of approximately 12 per cent per annum. These figures suggested that the country was likely to improve its rank among gas producers and to have the fastest growing gas industry in the region with consumption per capita increasing from 195 mmscf in 1996 to 423 mmscf in 2001.

Anticipating these projections, NGC set out to plan for the expansion of



the transmission network from 780 MMscf/d to 1.4 Bcf/d. Later named 'Project 2000' in 1998 in recognition of the 'boom' of petrochemical and steel plants that would be constructed and on stream by the year 2000, the project involved the construction of 42 miles of a 36-inch-diameter landline from Beachfield Valve Station to Phoenix Park Valve Station, as well as a modification of the downstream distribution network.

Other highlights of the period included:

- *Construction of an additional berth on the Savonetta Pier known as SP No: II and the construction of SP No: IV*
- *A Principles of Agreement between Amoco and NGC to renegotiate the terms of the gas supply agreement and construction of offshore and onshore pipelines*
- *A \$544.3 million Standby Letter of Credit to finance NGC's infrastructural programme for 1997-2001*
- *A \$158 million Fixed Rate Bond with Citibank Trinidad and Tobago for the financing of its 10% equity share in Atlantic LNG*
- *The Natural Gas Processing Agreement with PPGPL to increase its gas processing capacity from 750 to 1,350 MMscf/d*
- *Assistance to government for the creation of the National Energy Skills Center*

Thus, by the end of the decade, NGC, along with NEC and Labidco, was providing an integrated "one-stop-shop" service to new investors seeking to locate natural gas-based industries in Trinidad and Tobago. This role was aptly memorialized by noted local musicologist and artist, Ms. Pat Bishop, T.C., leader of the NGC-sponsored Lydian Singers, in the metaphor of the "Keeper of the Flame", which reflected NGC's custodian role of managing the

country's precious resource and ensuring it was utilized for the benefit of the country.

#### NEW MILLENNIUM

In 2000, gas sales crossed the 1 Bcf/d level. In 2001, 1,000,000 man-hours were worked without a lost-time accident. In 2002, NGC received the Prime Minister's Award for Innovation and Invention, Category – Large Companies: Product Innovation, for its innovative market-related natural gas-pricing mechanism.

By 2003, NGC celebrated the milestone of 100 small customers on stream in the light industrial/commercial/transportation sectors. Through its domestic marketing thrust, NGC had been successful in getting a significant segment of the small manufacturing sector to access the many advantages associated with natural gas usage. NGC was also successful at introducing polyethylene pipeline technology in the expansion of the distribution network, showing its willingness to use new technologies in pipeline construction.

In 2004, NGC attained 100 per cent pipeline system reliability, the eighth year in which a minimum reliability rate of 99.9 per cent was achieved.

Profits increased to \$1.2 billion in 2003, the first time NGC reached the billion-dollar figure. This level was surpassed the following year, 2004, when a profit of \$1.5 billion was registered. These very successful results were due to the robust performance of investee companies whose contribution increased to \$438 million, the buoyant conditions in the markets for natural gas, ammonia and methanol and NGC's sound operating practices.

In 2003, planning was in train for the expansion of the pipeline network to cater for projected increases in demand from planned and projected gas-based plants, including LNG. As a result,

*Aerial view of Savonetta Piers Nos. I & II at Port Point, Lisas*





NGC's Abyssinia Accumulator Station circa 1992

NGC's financial success at successfully securing US\$200 million from the international banking community to fund the CIPP and BUD projects also led to its receipt of Standard and Poor's, CariCRIS and Moody's investment credit ratings of BBB+ AAA and A3 respectively.

two major projects were undertaken in 2004-2005:

- *The Cross-Island Pipeline Project (CIPP) – a 56-inch-diameter landline from Beachfield to Point Fortin to provide gas to LNG IV and any additional trains as well as to other industries earmarked for the La Brea and Union Industrial Estates. During construction, a total of 2.1 km of pipe was installed by the Horizontal Directional Drill (HDD) method at three sites: Guapo, Clifton Hill and Oropouche.*
- *Beachfield Upstream Development Project (BUD), a 36-inch-diameter line from Cassia "B" platform to Beachfield, and a new Accumulator Station at Abyssinia, Mayaro. This project will cater for increased gas demand in the Point Lisas area.*

The CIP line was completed and ready to deliver gas in December 2005. The BUD project will be completed in quarter one of 2006. These two lines will increase the network by 143 km to 767 km, as well as increase transmission capacity by at least 3 Bcf/d.

One outcome of these construction activities has been that NGC has undertaken to adopt a "No Net Loss Principle" with regard to forest reserves. NGC has committed to replace at least the equivalent amount of forest cleared during these activities. Another outcome has been the greater dialogue NGC has been having with the communities adjoining these activities through its provision of general safety information, responding to concerns and obtaining input to social projects NGC wishes to implement in the areas.

However, the growing complexity of the operations led to some rationalization and restructuring within the NGC Group. Having been reoperationalized in January 1999, in February 2004, NEC was given

greater operational autonomy with the responsibility for gas-based investment promotion and the provision of industrial sites and related port and marine infrastructure at sites earmarked at Union, La Brea and Chatham/Capde-Ville to house the new wave of downstream gas-based development.

In July 2005, NGC undertook a strategic investment, upstream, when it exercised the option of acquiring a 15 per cent interest in the Teak, Samaan and Poui (TSP) offshore fields put up for sale by bpTT. Satisfied that the assets were commercially viable, NGC made the decision to go ahead with the investment. While not NGC's first venture upstream, the development has led to the creation of a new subsidiary company – NGC E&P Investments Limited – which will hold all of NGC's upstream assets, including the 10 per cent shareholding in the South East Coast Consortium (SECC), the 20 per cent shareholding in Trintomar and, now, the 15 per cent interest in TSP.

NGC's financial success at successfully securing US\$200 million from the international banking community to fund the US\$268 million and US\$150 million CIPP and BUD projects respectively also led to its receipt of Standard and Poor's, CariCRIS and Moody's investment credit ratings of BBB+ AAA and A3 respectively. These ratings mean that NGC will in the future be able to have greater access to the international capital market, as well as position the Company to be in a position of leveraging reduced collateral requirements and interest costs during borrowing.

#### 30TH ANNIVERSARY CELEBRATION

In August 2005, NGC reached its 30th year of operations, having achieved:

- *A major role in the expansion of the petrochemicals sector to*

*the stage where Trinidad and Tobago has become the world's leading exporter of ammonia and methanol. At present there are ten ammonia and seven methanol plants located at Pt. Lisas*

- *A leading role in the initiation and establishment of LNG Train I and finalization of arrangements and establishment of three further trains, and the promotion of a number of new steel technologies such as HBI and Iron Carbide*
- *A peak level of gas sales at 1.3 Bcf/d*
- *Expansion of its customer base from 19 customers in 1975 to 30 heavy consumers and 106 small consumers in 2005*
- *Total assets of over \$9 billion*
- *No recourse to the shareholder for financing in all its 30 years*

NGC launched its anniversary year in March with a special visit by His Excellency, the President of Trinidad and Tobago, George Maxwell Richards, a former Board Member, to its head offices at Point Lisas.

The Company commemorated this important anniversary with a special programme of giving and activities aimed at recording and celebrating the country's gas heritage.

The programme's theme has sought to reveal a story, not only about the role of NGC and its impact on macro-economic development, but about how its uninterrupted success, channelled to the country through taxes, dividends and corporate giving, has touched the lives of everyone, even the challenged and dispossessed members of society.

NGC has provided over \$5 billion to the Treasury in the form of dividends and taxes. Since 1992, NGC has spent over \$55 million through a Community Relations Programme that has historically targeted youth development through education and sport, and expanded to include a socioeconomic segment to benefit communities along the Company's

Rights of Way, from Guayaguayare to Point Fortin and La Brea. In 2005, the Company made special contributions totalling \$12 million to several social and educational projects, with \$18 million to be spent by mid-2006 to facilitate socioeconomic development and training.

Indeed, at 30 years, NGC has become a local success story, a strategic investment by the Government of Trinidad and Tobago that stayed the course. It is hard to conceive that the NGC of today (a \$9.8 billion dollar outfit with an employee base of over 500) started business life with only \$80,000.

#### CONCLUSION

Thus in the challenging natural gas business, the need for a national entity such as NGC remains key to the energy sector's continued expansion, more so as today the petroleum sector accounts for over 40 per cent of GDP. The strides that have been achieved by NGC in placing the country centre stage in the energy world are compelling enough to ensure a bright and rewarding future for the Company and industry. NGC has joined the ranks of great companies that have made their mark on the local energy landscape.

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NGC's CIPP under construction – HDD technology in progress



Aerial view of Pt. Lisas Industrial Estate - Methanol Cluster

## THE EMERGENCE OF THE NATIONAL ENERGY SECTOR

Address at the Nineteenth Dr. Eric Williams Memorial Lecture by Prof. Kenneth S. Julien, T.C. (Professor Emeritus)

It is indeed a great privilege to have been invited to give the 2005 Eric Williams Memorial Lecture. That privilege was immediately translated into an honour of significance when I read the names of the distinguished persons who had preceded me:

- Nobel Laureates
- Poets
- Economists
- Literary Experts
- Historians

I was somewhat intimidated as I read the list – after all, my own calling is that of an engineer who rarely finds himself in such company.

But when I recognized that I was the first engineer to be so asked I immediately relaxed as two factors came to mind. Firstly, as the first engineer so invited, you will have no benchmark by which you can compare my presentation. Secondly, there is the perception that not a great deal is expected from engineers when they are invited to deliver a public address. They are more at home in front of a computer or drawing board (sadly replaced by the slide rule).

Yet we in Trinidad and Tobago should by now have put that perception to rest. After all, since 1986 we have had engineers in the Cabinet of the Government. Indeed, at one point, there were four in number.

The present Government has at least three, and I say at least three, using the standard and accepted equation: four

geologists make one engineer. And – the Crown Jewel – we have landed the Presidency.

### MOTIVATION

This privilege and honour were further enhanced by a strong motivation that the leadership role of Eric Williams in the development of the Energy Sector – indeed, in my view, the birth or emergence of the National Energy Sector – has never been publicly articulated. Indeed, the reverse has happened.

In preparing for this address, I went straight to the bible of the history of the Trinidad energy sector: a book entitled *A History of Trinidad Oil* by George E. Higgins – a book published in 1996 that dealt with the growth of the Trinidad oil industry commencing in 1857 and concluding in 1982 with a summary update to end of 1990.

I came to the mistaken conclusion that most of my work had been done, as Eric Williams had died in 1981 and my task was simply to fill some of the gaps, resulting from my personal involvement.

However, you will be surprised as I was that in this 500-page book – a source of excellent detail – there were only five references and six lines in which the name “Eric Williams” appeared. This compared with:

- over 46 pages on *Texaco*; and
- over 70 references to the *United Kingdom*.

The only reference to his involvement in the energy sector was from his own writing, *Inward Hunger – the Education of a Prime Minister*, and I quote his words:

*“I paid special attention to developments in Venezuela and Alberta with particular reference to oil depletion allowances and to the sale of concessions. Our predecessors had given away our valuable marine areas in the Gulf of Paria; it was freedom on our side of the boundary while Venezuela on its side sold concessions to the highest bidder.”*

Of course, if he were still alive, he would dismiss my comments in an arbitrary manner, as he sometimes did. “Professor,” he would say. “Did you expect anything different from an ex-Texaco employee and a geologist who attempts to dabble in history?” (Apologies to any ex-employees of Texaco who are geologists!) I may also get the same treatment at the end of this lecture.

With my motivation out of the way, I need to establish my credentials.

### CREDENTIALS

**The title of this address:  
“Eric Williams and the Emergence  
of the National Energy Sector”**

The Governor of the Central Bank, as had others before him, flattered me with praises about my role in the development of the Energy Sector. I assume that that is adequate to confirm my credentials, but there remain my credentials to speak about Eric Williams.

That relationship began in 1970 when I met him for the very first time—I had been volunteered for service! I had already been at the University of

the West Indies (UWI) for some eight years and had just been made a full Professor of Engineering. In the period 1956 to 1962, I had spent most of my time abroad. I bring this to your attention simply to make the point that I had missed the Eric Williams storm, which had swept Trinidad and Tobago off its feet. I had missed the mass hysteria of the crowds at Woodford Square.

Indeed, it can be best summarized when I state that I was never a student of the University of Woodford Square, and hence have no credentials from that institution.

That, in many respects, helped in keeping the relationship intact for some 11 years from the forced introduction in 1970 to the last few moments of his life. Respect always; never awe or fear! Always, “Mr. Prime Minister”; never, “Bill”.

The relationship had two dimensions. Firstly there was the established scholar of history exposing this young Professor of Engineering to the importance and the drama of history. Then there was the Prime Minister with a vision, a dream, of what this small country could achieve, and an engineer inspired by that dream, and in whom he slowly developed enough confidence to assign him the leadership role in bringing into reality that dream.

I gained more from this relationship than he did. It gave me a deep sense of history, which I cherish today and without which I could not attempt this address.

He gained very little except the occasional explanations about what caused outages. I was then the expert on outages!

The Rt. Hon. Dr. Eric E. Williams



Then there was the Prime Minister with a vision, a dream, of what this small country could achieve, and an engineer inspired by that dream, and in whom he slowly developed enough confidence to assign him the leadership role in bringing into reality that dream.

## THESIS

It is simple. Yes, there was activity in the exploring and production of the nation's hydrocarbon treasures since 1857. [In] 1857, the first well was drilled for oil, 61 metres deep in the vicinity of the Pitch Lake.

My contention is that those activities, spread over 100 years, until 1957, had no national identity. The emergence of a National Energy Sector began only when Eric Williams took leadership of this country.

In support of this thesis, let us quickly review the first 100 years.

Some may argue with justification that one should go back to 1595, when Sir Walter Raleigh visited the Pitch Lake to repair leaks in his boat and had this to say:

*"There is that abundance of stone pitch, that all the ships of the world may be ... and we made trial of it in trimming our ships to be most excellent good, and melteth not with the sun as the pitch of Norway..."*

Indeed, one may claim that he was the first exploiter of our hydrocarbon resources and did the first analysis of a sample of those resources.

We could well have imagined Sir Walter returning to these shores for more of the most excellent pitch. He did—a second trip in 1617 for further exploration. Of course, he could not make a third visit to further explore and exploit as he did lose his head on returning to England.

### The Early Years

The names Cochrane, Darwent, Rust and Lee Lum surfaced in those early days: pioneers and entrepreneurs to whom we owe a debt of gratitude.

1856 – Lord Cochrane granted concession for working Pitch Lake

1859 – Colonel Drake's well in Pennsylvania, USA

1866-1869 – Exploration Activities of Darwent, Rust, Lee Lum

1907 – First "Commercial" Well

1910 – First Cargo of Oil Exported

Then followed the so-called boom years, 1910 to 1920. The boom years had less to do with dramatic increases in oil production and resulting economic activity in Trinidad. It resulted from some successes in finding oil on British soil—Trinidad and Tobago—and the reaction to this by the London Stock Exchange.

This was tied to the fact that Sir Winston Churchill in 1910, then Lord of the Admiralty, took the decision that "the Royal Navy would convert from coal to oil".

The rush for oil from Trinidad was on!

I quote from the local paper at the time, the Port of Spain Gazette:

*"Brighton – not the Brighton of England, but our Brighton of La Brea – could become one of the fuel depots of the Empire."*

What an ambitious vision! A quote from Randolph Rust, a key pioneer in the early years, is worth repeating. In an address at the Victoria Institute [he said]:

*"It has also been manifest that Great Britain, before adopting oil as fuel for her navy, must be sure of a source of supply which the outbreak of war will not cut off, and that it is therefore important that sources of supply should,*

*if possible, be found on British territory... In the light of my discoveries I felt that Trinidad, England's most valuable possession in the West Indies, being as it is one of the keys to the Panama Canal, now rapidly approaching completion, might herself one day be one of the chief sources of supply of oil fuel, and thanks to that and her unique position, might become one of our most important naval bases...."*

New oil companies blossomed, numbering over 30 in 1910. By 1917, 1.6 million barrels had been produced.

I will not bore you with the activities of the depression years (1930 – 1939) except to make the point that during this period, for the very first time, there were signs that some nationals were significantly concerned to raise their voices in protest against the exclusively foreign exploitation of these resources for the benefit of foreign entrepreneurs and in the interest of other countries, in particular the Mother Country.

1937 was the year Tubal Uriah Buzz Butler was the man.

Tubal Uriah Butler, a Grenadian by birth, a Trinidadian by adoption, and the founder of the Workers and Citizens Home Rule Party, surfaced and made the right noises but at the wrong time. Six years' internment resulted.

With Butler safely out of the picture, business continued as usual. Earlier in 1926, Captain Cipriani had dared to seek additional revenue from the oil production. He proposed:

*"Whereas the finances of the Government are at present in such a state as to preclude the Government from undertaking certain works and/or schemes of paramount importance to the inhabitants of the Colony, be it resolved*

*that the Government be pleased to take immediate steps to introduce a Bill for the imposition of an export tax on crude and fuel oil"*.

The proposed tax was dismissed by Sir Thomas Holland, a consultant employed by the British Government. He proposed instead a cess of 1 cent per barrel of oil produced and 1 cent per foot drilled! Trinidad and Tobago was at that time the largest oil producer in the British Empire!

Then came World War II. Sufficient to say that, during this period, Trinidad and Tobago's hydrocarbon resources came firmly under the control of the United States and United Kingdom, through:

- *the Petroleum Industry War Council of the U.S.;*
- *the Petroleum Administration for War;*
- *and the Office of the British Petroleum Representative (OBPR).*

Their responsibilities extended to handling the requirements of the companies operating in British areas.

And so history moves on quickly to the Eric Williams era and the awakening of a national identity!

This quick review of 100 years was necessary to set the scene for the period 1956 to 1981—a period of 25 years when Eric Williams, Chief Minister then Premier and then in 1962 Prime Minister, accomplished what escaped the country for some 100 years, if not longer: the creation of a national identity with the Energy Sector.

**The task was not easy.**

As recent as 1956, one reads in the preamble of the Administration Report on the Energy (oil) Sector:

*“Honourable Colonial Secretary, I have the honour to submit for the information of his Excellency the Governor, the following Report on the Petroleum and Asphalt Industries of the Colony for the year 1956.”*

If there were any doubts that the Energy Sector had no national identity except for the fact that there were several activities—exploration, production and refining—located in Trinidad and Tobago, refer to a debate in the House of Commons of the British Parliament when the subject of the proposed purchase of TLL by Texaco became a matter for national debate—in the Parliament of the United Kingdom. The debate took place in 1956.

The then Chancellor of the Exchequer, Mr. Harold Macmillan, in his contribution to that debate, said, among other things:

*“I felt a sense of regret, even dismay, at the thought that an important asset of this kind, hitherto owned and managed by British interests should pass out of our immediate control”.*

We now come to the second part of my address that treats exclusively with the Eric Williams era.

I have categorized this era into three periods:

- *Pre-Independence, 1957 to 1962*
- *Post Independence and Pre-Gas, 1962 to 1974*
- *The Natural Gas Period, 1974 to 1981*

There are 25 years of history to be covered in a few minutes. I have therefore structured this part of my address in the form of defining moments. I have selected 10 such defining moments.

**Pre-Independence**

Eric Williams began laying the foundation for the creation of a National Energy Sector as early as 1955, a year before he assumed leadership of the country.

In his People’s Charter he made reference to the Energy Sector as follows:

*“(1) Oil, where all the evidence, from the earliest times, has indicated a subordination of local interests to those of external capital.”*

No significant event that can be classified as a defining moment in the emergence of a National Energy Sector occurred for the next five years, as the difficult process of transition from colony to nation occupied the attention and resources of all. However, the groundwork was being laid, judging from the several pronouncements of Eric Williams.

**Defining Moment No. 1  
1963/1964**

**The Mostofi Commission**

In 1963, one year after Independence, a Commission was established by the Government with the following Terms of Reference:

*“(1) To examine the present situation and future prospects of the oil industry of Trinidad and Tobago in the context of the economics of the world oil industry;*

*Aerial view of La Brea/Brighon circa 1994*

Continues on page 18

30TH ANNIVERSARY COMMEMORATIVE ISSUE

1953

Natural gas used for power generation at Penal Power Plant

1954

Natural gas used in cement manufacture

1959

Natural gas used by FedChem as feedstock for ammonia

1963

Port of Spain power plant begins operations, using gas-driven turbines

1968

Amoco discovers large reserves of natural gas off the south-east coast

1975

Best Uses of Our Petroleum Resources Conference

Start of development of Point Lisas Industrial Estate

National Gas Company (NGC) formed

Coordinating Task Force (CTF) formed

1976

Construction of 24-inch line from Beachfield to Picton and 24-inch marine line from Teak to Galeota via Poui

NGC assumes responsibility for the purchase, transportation and sale of natural gas

NGC takes over the operation and maintenance of existing natural gas lines

NGC participates in negotiations between the Government and Amoco for the supply of up to half a bcf/d of gas

1979

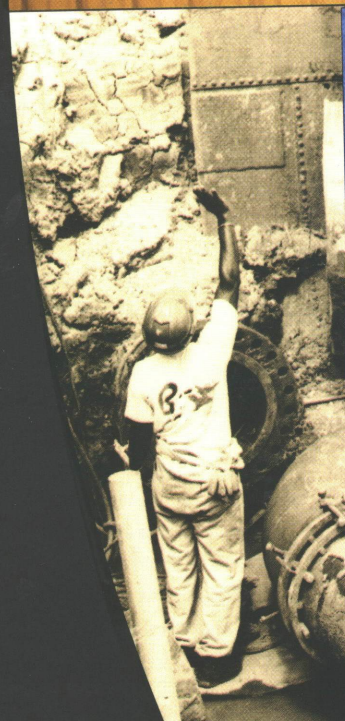
National Energy Corporation (NEC) established to continue the work of the CTF

Flare Gas Conservation Project initiated

Construction of 30 miles of 20-inch land line from Picton to Point Lisas

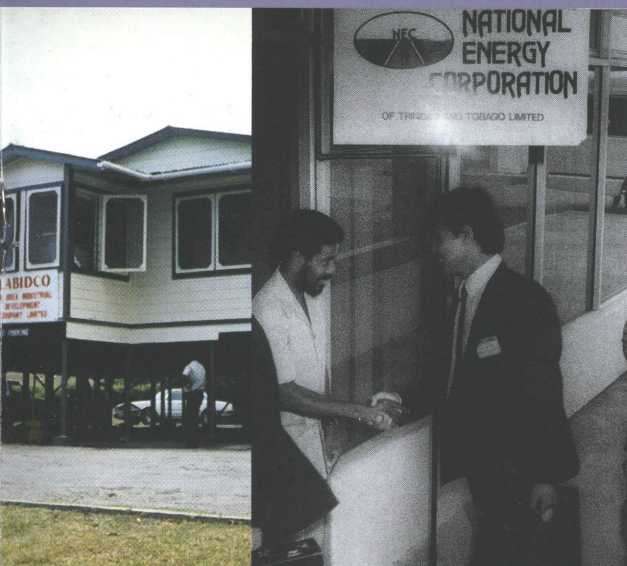
1980

Iron and Steel plant (Iscott) established at Point Lisas





# Highlights



1981

NGC commissions two offshore compression platforms in Teak and Poui

Fertilisers of Trinidad and Tobago (Fertrin) established at Point Lisas

1982

Construction of 75 miles of 30-inch line to Phoenix Park via Beachfield

1984

First methanol plant in Trinidad and Tobago (TTMC) established at Point Lisas

Urea plant (TTUC) starts production at Point Lisas

1987

Three solar compressors installed on NGC's Teak Platform

1988

NGC acquires 20 per cent in the first locally owned marine gas-producing company, Trintomar, to develop the Pelican field

1990

NGC moves to new Head Office at Point Lisas

1991

Phoenix Park Gas liquids recovery plant (PPGPL) commissioned with production capacity of 13,000 bpd

1992

NGC signs gas supply contract with BG/Texaco

LNG Train I project initiated by NGC and Cabot LNG

National Energy Corporation (NEC) is merged with NGC.

NGC's mandate expanded to be 'prime mover in gas based development

1993

New gas pricing mechanism introduced

Construction of first iron carbide plant in the world at Point Lisas

SECC/Enron Agreement signed

Construction of Savonetta Pier No. II

NGC project manages and funds Phase I of the Brian Lara Promenade

NGC reconstructs Rivulet Road

30TH ANNIVERSARY COMMEMORATIVE ISSUE

1994

Completion of NGC's Field Office Complex

NGC's Control Building at Abyssinia completed

Start of construction of La Brea Industrial Estate and Port of Brighton. Labidco is formed to manage its development

1995

LNG Consortium forms Atlantic LNG

1996

Start of construction of 450MMscf/d Atlantic LNG facility at Point Fortin

Dolphin field comes on stream

Government opens third round of competitive bidding for 13 offshore leases

NGC formulates new Vision and Mission - Vision 2001

1997

Start of construction of Cliffs Circored HBI iron plant at Point Lisas

Start of construction of fifth methanol plant at Point Lisas

1998

NGC records 100 per cent transmission reliability for the third consecutive year

A new 36-inch-diameter land line from Beachfield to Atlantic LNG in Point Fortin is completed

Construction of Savonetta Pier IV

Gas cooling introduced in Trinidad and Tobago

Farmland/MissChem establishes ammonia plant at Point Lisas

1999

NGC constructs a 36-inch-diameter gas line from Beachfield to Point Lisas, taking transmission capacity to 1.4 Bcf/d

PPGPL increases its liquids production capacity to 33,500 bp/d

Atlantic LNG starts production and export

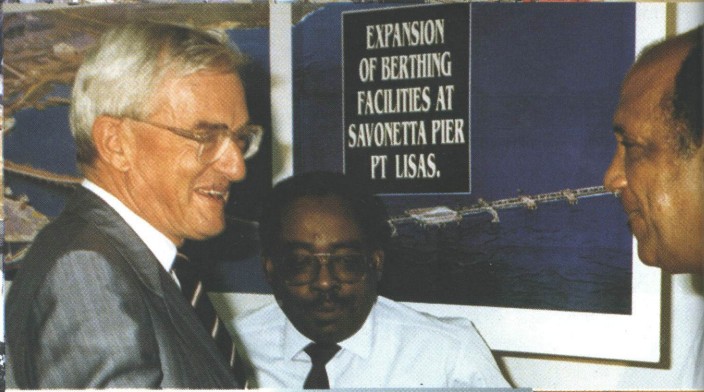
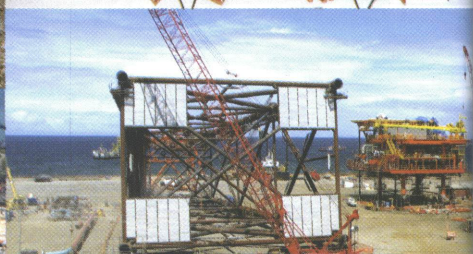
NEC reoperationalized

NGC co-hosts, with IGT, the Natural Gas in the Americas V Conference as well as the first Caribbean Gas Cooling Conference

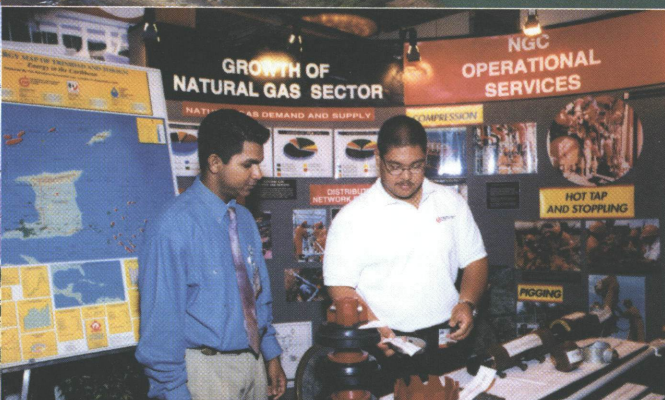
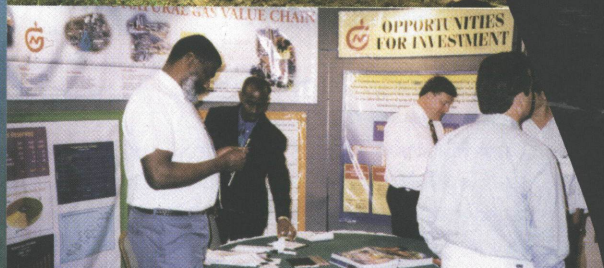
2000

Agreement reached for expansion of Atlantic LNG Trains II and III

NGC records 1 Bcf of gas sales per day



# Highlights



**2001**

NGC exchanges 37.84% and 20% of its shareholding in NGC LNG and NGC NGL with National Enterprises Limited (NEL) for the benefit of local investors

NGC records one million man hours in a year without lost time

**2002**

Ninth ammonia plant on stream

PPGPL signs Trains II and III NGLs agreement with ALNG

NGC introduces polyethylene pipe technology in gas distribution

NGC hosts second Best Uses of our Petroleum Resources Conference at UWI

NGC receives PM's award for Innovation and Invention

**2003**

NGC records 100 small customers on stream

NGC initiates Cross Island Pipeline (CIP) and Beachfield Upstream Development (BUD) pipeline projects

NGC records \$1 billion in after tax profit

**2004**

NGC finances construction of new industrial sites at Union, La Brea.

NEC given new mandate to develop new industrial sites and to promote gas-based development

Completion of Labidco Fabrication Yard

7th methanol plant established

**2005**

NGC completes construction of 56-inch CIP project, adding 2.4 Bcf without compression and 3.2 Bcf with compression to transmission capacity

NGC acquires 15% shareholding in the Teak, Samaan and Poui (TSP) marine fields

NGC adopts a 'No Net Loss' Principle with regard to forest resources

NGC given credit ratings of AAA, BBB+ and A3 from CariCRIS, Standard & Poor's and Moody's Investment Services respectively

10th ammonia plant established

NGC commemorates 30th Anniversary



The Rt. Hon. Dr. Eric E. Williams

Natural gas had crept onto the national agenda, and Eric Williams' clear message was that priority must be given to our domestic plans of industrial diversification, fuelled by natural gas

Continues from page 13

- (2) *To recommend a legal framework for the oil industry of Trinidad and Tobago which would stimulate the operations of foreign investors while safeguarding the interests of the nation;*
- (3) *To make recommendations designed to ensure the greatest possible stability compatible with growth in the industry, including the level of employment”.*
8. *Have we taken adequate stock of our international position in all our activities in the industry?*
10. *To what extent are laws which may have been appropriate for the operations of the industry under the colonial system compatible with the aims and aspirations and the status of an independent nation pledged to a democratic form of government?*
11. *To what extent has there been a plan of development for the industry, and how far has this been coordinated in the Development Plan for the nation as a whole?*

The Commission was chaired by Baghair Mostofi, with Hamel L. Legall as Secretary.

The recommendations of this Report led to major changes in the legislation that governed petroleum activities in the country and broadened the mandate of the Ministry of Petroleum and Mines, which had itself only been established in 1963.

Two defining moments rolled into one.

As interesting and far-reaching as the recommendations of this Commission, the questions posed to the Commission by the Government in its official submission are very significant:

1. *Have we exploited the natural resources with diligence?*
3. *Has there been a just division of the proceeds of this natural heritage?*
5. *To what extent have we utilized the proceeds of the industry for the betterment of the national as a whole?*
7. *To what extent have we undertaken the training of our nationals for the further exploitation of these resources in the national interest?*

We glean from these questions the hand of Eric Williams, as the concept of a national identity for the Energy Sector began to develop.

These questions are relevant today as they were 42 years ago.

#### **Defining Moment No. 2 Acquisition of BP's Assets (1969)**

This acquisition of BP's producing assets gave a clear signal that Dr. Williams had begun to take the steps in the pursuit of a policy that would lead to the creation of a National Energy Sector.

The joint venture with Tesoro Corporation to acquire the local producing assets of BP was the first bold step of state ownership in strategic industries. It was prompted by the concern that the closing down of BP's local production would have led to a serious economic and unemployment situation in the St. Patrick area. It tied in with the Eric Williams thinking articulated as early as July 1955 in an address at the University of Woodford Square. He stated:

“There will come occasions when the state may have to take the initiative as an investor, without prejudice to the policy of encouraging and supporting private enterprise, in order to protect and promote the NATIONAL INTEREST”.

This bold step of investing in a complex industry such as the petroleum sector took courage and a strong political will. A key defining moment, less to do with the size of the investment, but more to do with this dramatic move.

Notwithstanding this bold move in the late sixties, one gets a sense of Eric Williams struggling to find a clear strategy and the resources to realize his dream and vision of a National Energy Sector.

Three five-year plans were taken to Parliament and while these hinted at this dream the strategies so far as the Energy Sector was concerned were vague and not well articulated. In the last five-year development plan (1969-1973), we read a shopping list of petrochemicals, which became the subject of studies:

- Ethylene
- Thermoplastics
- Synthetic Fibers
- Methyl Alcohol, etc.

These were, as expected, all based upon potential products from an oil-based refinery. None of these went beyond these initial studies and none of them had little chance of being realized.

Of greater interest in that document was the statistic that over the period 1963 to 1968 the natural gas flared was in excess of 50 per cent of the total gas produced. This simple fact, while receiving no comment in the plan, was to trigger the Eric Williams

strategy into looking at natural gas for his strategy of industrialization, rather than oil-based products.

### **Defining Moment No. 3 Natural Gas Discovered off the North Coast (1971)**

The story of this discovery and the subsequent commercial production of oil in 1972 is itself a fascinating one, in which Eric Williams played a significant role in persuading AMOCO to have one last try, after a succession of dry holes!

That story will have to await another time, [at] which time persons like Charlie Carr can provide the details.

No question – another defining moment.

### **Defining Moment No. 4 Trinidad and Tobago National Petroleum Marketing Company established by an Act of Parliament – (1972) No. 41.**

The purchase of BP’s assets in 1969 led inevitably to the need to the national ownership and management of BP’s marketing outlets.

The Trinidad and Tobago National Petroleum Marketing Company came into existence in 1972 as a creature of Parliament and took over BP’s local marketing activities. ESSO followed in the same year, then Shell, then Texaco.

By December 1976, all the local marketing operations previously owned and operated by multinationals were assigned to NATIONAL – TTPMC. The word “National” appearing for the first time, associated with the Energy Sector.

A National Petroleum Company had also been formed but never functioned—a story featuring Ben Primus and the late George Weekes.

### **The Energy Crisis (1974)**

On January 1, 1974, Eric Williams made the first of five nationwide addresses to the population, all treating with the energy crisis that had impacted on all countries in the world. Oil prices had jumped overnight from US\$2/barrel to \$3.50 overnight and in less than one year had reached \$12.

The emergence of a National Energy Sector, which began in the sixties in a tentative manner, now began to take a more definite shape, catalyzed by discoveries of large reservoirs of natural gas and the dramatic increase in oil prices.

Natural gas had crept onto the national agenda, and Eric Williams’ clear message was that priority must be given to our domestic plans of industrial diversification, fuelled by natural gas.

Point Lisas and Point Fortin received formal attention in his second address of February 14, 1974. Plipdeco shifted majority ownership from the private sector to the Government—a necessary decision to afford the substantial sums needed for its development.

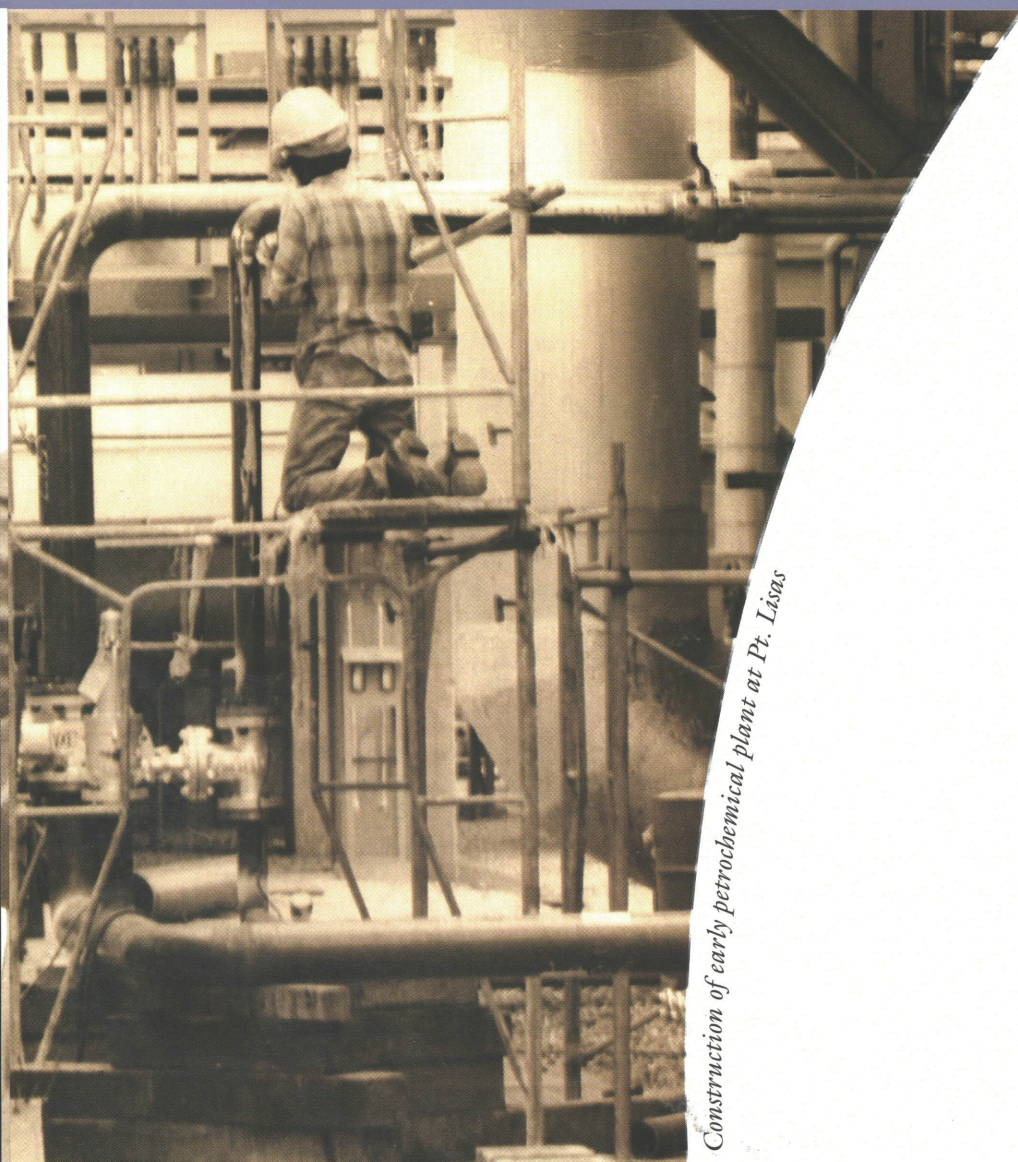
Now, there was natural gas in abundance with the producers having no interest in its value. Oil was being chased for its ready dollars. But certain other critical ingredients were needed:

- Political will—always strong but fortified by the fact that he was persuaded not to give up his leadership role in 1973;
- Surplus dollars for investment;
- Human resources to support and implement the vision.

At the political level, he found ready allies in Errol Mahabir, Mervyn De Souza, Bunny Padmore, and Patrick Manning. And at the public service and technical level, there was a group of enthusiastic technocrats: Eugenio Moore, Doddridge Alleyne, Eldon Warner, Bascharrat Ali, and Kenneth Julien.

All [were] enthusiastic about following Eric Williams, as he took the country down this bold passage in fulfillment of the vision. Let me describe the environment of the mid-seventies to illustrate the boldness of that journey:

- *Trinidad and Tobago had less than 1 per cent of the natural gas reserves of the world;*
- *We had never produced a single kg of steel;*
- *No new harbour or port facilities had been created since colonial times;*
- *Ammonia had been produced in limited amounts since 1962, but no new plant had been erected for 12 years;*
- *Our peak demand for electricity was 300MW; the demand of the steel plant was 180MW, half the peak demand of the whole country;*
- *Methanol was a foreign word;*
- *A single 16-inch gas pipeline existed between Penal and Port of Spain. There were no natural gas offshore or cross-country lines;*
- *The challenges to monetize our natural gas were forbidding and formidable, including a skeptical national community that had not historically identified with the Energy Sector.*



Construction of early petrochemical plant at Pt. Lisas

‘Point Lisas is the symbol of this fundamental reorientation of the international economy. Sugar cane gives way to wire rods. Sugar has separated us as wire rods will weld us back together’

Notwithstanding the environment and the challenges that this country faced, defining moments came fast and furious.

**Defining Moment No. 5 – Independence Day 1974  
Shell Trinidad became the Trinidad and Tobago Oil Company**

The changes of names of this company were significant:

*From UBOT (United British Oilfields of Trinidad) to Shell Trinidad.*

And then finally the national identity emerged as TRINIDAD AND TOBAGO OIL COMPANY – TRINTOC – August 31, 1974. Here is an extract from [Dr. Williams’] address, on that day:

*“As we proceed to lower the flag of yesterday (the honour falls to the worker with the longest service in Shell, 42 years exactly today) and hoist the flag of today and tomorrow, the flag of the nation as against the flag of an external corporation, as we see the flag, our flag, flying high and riding proud in the breeze, symbolizing the ascent of the nation and the higher destiny of the citizens of Point Fortin, let us say, with pride but yet with humility, we are going well, and may God bless our nation.”*

**Defining Moment No. 6 - 1975  
The National Gas Company established in 1975**

The National Gas Company was established in 1975. This company was established for an initial single purpose: to capture the “so-called free gas” from Amoco that was being flared, and bring it onshore with the expectation that there would be a plan for its use.

NGC was born out of this vision—no feasibility study was done or needed.

The gas was ours! We had to utilize it. We had to find the money to build the transmission line to bring it onshore.

**Defining Moment No. 7  
Decision to Invest in ISCOTT – January 17, 1976**

Here are some of his words, which said more about his vision of the National Energy Sector rather than about ISCOTT:

*“This was the basis of the policy for colonial development, the classic exposition of which was the prohibition on the colonies, especially the mainland colonies in America, expressed by a British Prime Minister, that the colonies were to manufacture not a nail, not a horseshoe. They were to produce raw materials only, which were to be sent to England, to enable downstream manufacturing operations, to provide jobs, to expand.”*

*“Our presence here today at Point Lisas testifies to the fundamental changes that have taken place in the world economy and in the economic balance of power. On the one hand sugar has gone; only Cuba and Brazil survive today to recall the so-called glory that was sugar in the ancient colonies. Beet sugar in Europe and America has supplanted us, and Australia has revolutionized the old colonial policy by exploding the fallacy that the sugar industry was not for white people.”*

He continued:

“Point Lisas is the symbol of this fundamental reorientation of the international economy. Sugar cane gives way to wire rods. Sugar has separated us as wire rods will weld us back together.

*“There have been attempts to persuade us that the simplest and easiest thing*

*to do would be to sit back, export our oil, export our gas, do nothing else and just receive the revenues derived from such exports and as it were, lead a life of luxury – at least for some limited period. This, the Government has completely rejected, for it amounts to putting the entire nation on the dole. Instead, we have taken what may be the more difficult road and that is, accepting the challenge of entering the world of steel, aluminium, methanol, fertilizer, petrochemicals. We have accepted the challenge of using our hydrocarbon resources in a very definite industrialization process.”*

**The die was cast.**

**Defining Moment No. 8  
Joint Venture with WR Grace –  
Tringen was born 1977**

At the opening of the Tringen plant, [Dr. Williams’] words can say much more than I can about this rapid emergence of the National Energy Sector:

“Eighteen years ago, the supply of natural gas to the plant was negotiated between WR Grace and a transnational oil company, with little or no reference to the Government. For the Tringen Project, negotiations took place between Tringen and the Government who owns the gas and the transmission facilities which bring the gas to the plant, 18 years ago, the average price negotiated for the gas was 27 cents per thousand cubic feet. Today, the gas is being sold by the Government to Tringen at \$1.68 cents per thousand cubic feet some six times more”.

**Defining Moment No. 9  
Signing of Contract—Fertrin**

This was a joint venture between the Government of the Republic of Trinidad and Tobago (GORTT) and Amoco.

At the ceremony marking this occasion, he made the point that it was the first time that the Government was entering into a joint venture (51% GORTT, 49% Amoco) “with a major oil-producing company—one active in oil and gas production in Trinidad and Tobago”. What he did not disclose publicly was the agonizing and private debate that went on before responding to this proposal from Amoco.

Firstly, [there was] the question of Amoco’s motives. Amoco had committed to establishing a refinery once a certain level of oil production had been reached. This proposal for a joint venture provided Amoco with an opportunity to remove that commitment which did not at the time fit into their global plan.

Secondly, a joint venture with a large multinational was contrary to his thinking that the sardines of this world have to keep their distance from the sharks.

He summed it up in graphic language, which I will convey into words more befitting this audience:

“Professor, whenever a developing country gets into bed with a large multinational, it is very, very, likely that it will lose its virginity. It is a risk we have to take but ensure that we do not give up any of our sovereignty”.

The national identity and aspirations must be preserved at all costs! Did Trinidad and Tobago lose its virginity? Did we preserve our sovereignty? Another story, another time. But these words have guided us even to this date, as we continue to treat with the several industrial giants in our midst, hopefully with greater confidence. An academic question: how many times can we lose our virginity?

*Aerial view of early petrochemical plant under construction on Pt. Lisias*



‘We have taken what may be the more difficult road and that is, accepting the challenge of entering the world of steel, aluminium, methanol, fertilizer, petrochemicals. We have accepted the challenge of using our hydrocarbon resources in a very definite industrialization process.’

Bright, intelligent and literate young people. Clean, precious and abundant energy. That will be the story of Trinidad and Tobago in the eighties”.

Whenever the challenges seem to be beyond our capability, or his impatience became obvious, he would repeat the mantra:

- *Tie-up the Petro-dollar in the Productive Sector; and*
- *Invest in our Youth.*

*In December of 1980, after the Budget of 1981 speech, in a lighter moment:*

- *Steel production was a few weeks away;*
- *Fertrin was on schedule [with] ammonia and urea*
- *There was no loss of sovereignty;*
- *Work in a methanol plant—100% state owned—was at an advanced stage;*
- *Proposals for the use of natural gas were flowing;*
- *There was an agreed plan flowing from the conference for the best use of our petroleum resources.*

I ventured the observation of how blessed this country was. I made the point that everything appeared to come together at the right time. A reinforcement of his mandate by the Party and the community was made after his September 1973 announcement at the 15th PNM Convention that he had decided to retire from his leadership role and pursue his personal plans and work programme:

- *the World Energy Crisis coinciding with increased oil production that generated the petro-dollars.*

- *the availability of natural gas which the producers did not want and saw as an embarrassing by-product as they chased after increased oil production.*

- *the identification of individuals who shared his vision and were prepared to follow the difficult road he had charted.*

#### **How lucky this country was!**

I remember he chided me for that remark. “It was not luck”, he said. “What you did not know”, he continued, “was that I have been in continuing conversation with my god father!”

I was puzzled! I was unaware of a godfather visiting him for such conversations or that a godfather even existed or was alive. He put me out of my misery by pointing out with some amusement that I had assumed that the “God Father” he referred to was a single word.

So using that incident as a trigger, I ask you now to stretch your imagination and eavesdrop on a conversation taking place between Dr. Eric Williams—some 24 years after his untimely passing away with his God Father (two words).

In that conversation, he will recall the criticisms here and abroad—some hostile and patronizing; the weekly editorials, which sometimes hinted that madness, stupidity or a combination of these had penetrated the mind of the Prime Minister. A small country some 300 miles north of us had made the scathing observation that Trinidad and Tobago had more dollars than sense. He provided his own description – UPPITYNESS.

He will recall with great amusement his display of rudeness to Premier Kosygin of the USSR in response to the advice offered to the delegation



NGC offshore personnel

‘The answers lie in you and the organizations that are represented here today: youth and energy. Young people of a young nation and energy for the development of a young nation: the two ingredients that will surely dominate the Trinidad and Tobago of 1980 and indeed of the eighties and the nineties’.





*Aerial view of DRI complex at Pt. Lisas*

‘A use has been found for our natural gas, the alternative to which would have been flaring it and burning it, or saving it for export to some large metropolitan country with a thirst for cheap energy’

### **Defining Moment No. 10 The Start of Operations of Iscott**

On December 5, 1980, Dr. the Honourable Eric Williams, then Prime Minister and Minister of Finance, presented the 1981 Budget Presentation. One extract of that Presentation reads as follows:

“The decision of the Government to move boldly into the field of industry based on the use of our energy resources has been the subject of discussion, debate, criticisms, and at times outright hostility generated both internally and externally. Those decisions have been translated into one producing unit, Iscott, and by the middle of 1981, another additional to the productive sector of our economy, Fertrin.

“In parallel with these developments and in support of them, have been the establishment of a modern industrial estate, 1,500 acres in extent at Point Lisas, a modern Port and Harbour facilities to accommodate vessels of 50,000 tons dead weight and a Power Plant to meet the demand of proposed industries at Point Lisas and the country as a whole.

“Within a matter of four years, the gas consumption dedicated to these industrial developments will have increased from almost zero to some 500 million cubic feet per day.

“A use has been found for our natural gas, the alternative to which would have been flaring it and burning it, or saving it for export to some large metropolitan country with a thirst for cheap energy”.

This was very likely his last major public statement.

**On March 29, 1981, he passed away.**

Iscott had by then produced its first tonne of Direct Reduced Iron and

he had agreed to a date for a Grand Opening Ceremony as soon as the first billet was produced. He wished to see the flowing of hot metal. He was denied that experience.

Those are the ten defining moments chosen by me that shaped the emergence of the National Energy Sector. From 1974 onwards, two objectives always dominated the discussions relating to the Energy Sector. I quote:

#### **One: Investment for the Future:**

“What I wish to stress today is that we must not behave as if we just have a windfall. We must use the additional revenue to accelerate the restructuring of our economy. We must have something concrete and tangible to show when the crisis is all over — a new petrochemical complex, the realization of Point Lisas”.

“The first is that we should shape our strategy to ensure that the advantages we have where oil is concerned are used to provide tangible and lasting benefits for our entire population”.

A policy of sustainable development as early as 1974 before it came a fashionable buzzword.

#### **Two: The Youth:**

“The answers lie in you and the organizations that are represented here today: youth and energy. Young people of a young nation and energy for the development of a young nation: the two ingredients that will surely dominate the Trinidad and Tobago of 1980 and indeed of the eighties and the nineties. If ever an opportunity was presented to a country to make significant strides in a decade, the decade would be the eighties and the country would be Trinidad and Tobago. Young people and energy.



Aerial view of ALNG's jetty at Pt. Fortin

LNG tankers are leaving every day and providing over 70 per cent of the LNG needed for the USA.

led by him that we natives should stick to calypso, steelband and limbo for the tourist! He will not be aware of the fear experienced by the remainder of the delegation, with the possible exception of his daughter, that we will all be dispatched to Siberia never to be heard of again!

He will point out to the God Father his satisfaction that some of the decisions taken were bearing fruit:

- *NGC had grown from a State enterprise with an initial investment of less than \$100,000 to one of the more profitable and largest enterprises in the Caribbean, its profits in 2004 exceeding the combined total of the two largest conglomerates in Trinidad and Tobago, with over 13 billion dollars in assets by 2006.*
  - \* *National Energy Corporation of Trinidad and Tobago (NEC), which grew from the CTF (Coordinating Task Force), faltered in the period 1986 to 1991 but with renewed vigour has today attracted private investment in:
 
    - five other methanol plants;
    - six other ammonia plants after Fertrin; and
    - two other steel companies after Ispat
    - investments of US\$3.3 billion over the period 1975 to 1985 and another US\$3.2 billion over the period 1986 to 1996, but with the Government's share being reduced from 30 per cent to 6 per cent.*
- *The world's largest companies in steel, methanol and ammonia;*
- *Plipdeco is now being traded in the local stock market at over \$20; in the eighties it stood at less than 60 cents;*
- *Traffic—the Point Lisas Harbour having an average of 125 ships per month;*
- *The second Petro-Pole, Point Fortin, has been established. LNG tankers are leaving every day and providing over 70 per cent of the LNG needed for the USA;*
- *He will marvel over the graphs showing how gas utilization has grown and flaring diminished;*
- *Point Lisas Industrial Estate*
- *He will rejoice over the fact that the local private sector has awakened to the possibilities of the importance of the Energy Sector to the country, notwithstanding original skepticism and disbelief. In particular he will welcome the lead shown by Clico – a company founded by his old friend Cyril Duprey.*

He will remind the God Father of the struggles within his own party when it became apparent that his plans called for spending billions of dollars in an area of Central Trinidad, which some members of his party argued would never provide a single seat for the PNM. His simple counter: the national interest must come first!

There are six other projects at advanced stage of development. He will marvel over the fact that Trinidad and Tobago now has as corporate citizens:

He will express pride that many developing countries, including several from Africa, look to Trinidad and Tobago as a model of development of their energy sectors.

\*In 1992, NEC was merged with NGC and NGC given the mandate to attract and promote investment in the natural gas sector. In 2004, this responsibility reverted to NEC.

He will remember the vision articulated by Britain that Trinidad and Tobago should become a fuel depot for the British Navy. Not a nail. Not a horseshoe.

Instead, Trinidad and Tobago is a major exporter to countries of both the developed and developing world. Nails today, aluminium horseshoes tomorrow.

He will note, with satisfaction, that one of his protégés, Patrick Manning, has nurtured and led the growth of the National Energy Sector—remarking to the God Father that he hoped it would not take 25 years before someone delivers an address on Patrick Manning and the growth of the National Energy Sector.

In all of this, as he thinks of his other objective—investment in the children—he will express the hope, with some sadness, that someone will remind the children now at school of his 1962 Independence message when he entrusted them with a serious responsibility.

**It is worth repeating:**

“Let your ambition be the development of a nation which, whatever its limitations, is distinguished in the eyes of the world by the honesty and integrity of its citizens. And so I say to you young people: forward to Independence. Do not allow anyone to disrespect our National Flag. Do not allow anyone to destroy one single National Bird. Do not allow anyone to desecrate our National Anthem. They are your Flag, your Birds, your Anthem. It is your Nation, even more than it is the Nation of your parents. You are the future; we are at best the present, at worst the past.

“To your tender and loving hands the future of the Nation is entrusted. In your innocent hearts the pride of the Nation is enshrined.”

And to the children of yesteryear, many of whom would have heard that address in their teens or younger, he will remind those adults of his words as the Father of the Nation:

“The only mother we recognize is Mother Trinidad and Tobago, and Mother cannot discriminate between her children. All must be equal in her eyes.”

And as the God Father reflects on these words he will claim that evidence of his biggest achievement in the creation of a National Energy Sector is not in the plants at Point Lisas or Pointe-a-Pierre or Point Fortin; it is in the recognition that the people who are the CEOs and Senior Managers of the energy sector, products of the Petro-dollar, include: the Malcolm Jones; Frank Look Kins; Ian Welchs; Rampersad Mootilals; Anthony Chan Tacks; David Dandrades; Mark Loquans ; Prakash Saiths; Andrew Jupiters; Eugene Tiahs, and Tony Greens—a callaloo of surnames that can only exist in Trinidad and Tobago and confuse anyone but a Trini.

And as with great pride, he will recall for the God Father his statement as he ended his 1977 Budget:

“And so, Mr. Speaker, I close: with malice toward none; with clarity for all; with firmness in the right, as God gives us to see the right’ inviting, appealing to, pleading with one and all to mount a national effort in the national cause of our greatest capital investment, our children, so that each and every one of us could say as we see our children go by, well fed, well clothed, well served by public transport, well housed above all, ‘there go my petro-dollars’.”

With arrogance and charm—a mixture only an Eric E. Williams can combine—while the God Father digests these words, he will say – “WE DID IT, DIDN’T WE!”



NGC offshore personnel at work

‘And so, Mr. Speaker, I close: with malice toward none; with clarity for all; with firmness in the right, as God gives us to see the right, inviting, appealing to, pleading with one and all to mount a national effort in the national cause of our greatest capital investment, our children.’



NGC's CIPP during HDD activities

The output of this research is intended to be used as a framework for the eventual publication of a book prospectively entitled *The History of the Natural Gas Industry in Trinidad and Tobago*.

## RESEARCHING THE HISTORY OF THE TRINIDAD AND TOBAGO NATURAL GAS INDUSTRY

By Jo Anne Lodge

The National Gas Company of Trinidad and Tobago Limited (NGC) is celebrating 30 years of existence in 2005. In its recognition of the invaluable contribution of the natural gas sector to the local economy, achieved primarily through facilitation of wide-ranging industrial and commercial activities such as LNG, methanol, ammonia, urea, steel and other gas-based products and services, NGC has commissioned research to accurately document the industry's inception and growth. Such an exercise will ensure the existence of a permanent record of this ongoing achievement.

The output of this research is intended to be used as a framework for the eventual publication of a book prospectively entitled *The History of the Natural Gas Industry in Trinidad and Tobago*.

Several methods are being used to conduct the research. Information from key players of the industry who played a role as far back as the 1960s has been gathered. This process began during 2001 with correspondence to these persons, both locals and foreigners in Trinidad and Tobago and abroad. Individuals were quite willing to engage in the exercise, many commending NGC for taking up the task of documenting these major industry events. These individuals assisted with establishing the key

phases by which the industry's history would be documented.

Concurrently, oral research was also conducted with several individuals. This took the form of face-to-face recorded interviews which allowed individuals to freely express their recollection of how the industry existed when they played their role. These interviews assisted with establishing the order of key events which make up the industry's story. Opinions on approaches to development and landmark decisions were also obtained. Care was taken to interview persons who played major roles in various phases of the industry's development, as well as in the planning and implementation of specific projects.

A document search and review was also conducted and continues to be done as more material is made available to the process. This entailed visits to Hansard, the Trinidad and Tobago National Archives, NGC Archives, the Library of the Ministry of Energy and Energy Based Industries and quite specially the George Hamel Legall Collection of papers and articles.

Much of the research work began in 2001. The exercise continues with the remaining phases still in progress:

- *Review of documents*
- *Writing and editing*
- *Publication of a mainly pictorial version*

- *Publication of a detailed text with analytical chapters on natural gas and the economy, energy policy and human resource development.*

The research so far has provided many interesting insights at each phase of the industry's development. It is commonly known among industry experts that the world's first well was drilled for oil in 1857 at Aripero in South Trinidad. This event pre-dated drilling activity in the United States. Natural gas production and utilization accompanied that of petroleum as early as the 1900s and recommendations by the Inspector of Mines to reduce wastage of natural gas came as early as the 1930s.

The genesis of the local natural gas industry came in the pre-independence period of the 1950s. Natural gas was being discovered both on land and offshore. Foreign investors such as W. R. Grace and the Rugby Portland Cement Company Limited of the UK thought it enterprising to invest in natural gas-based industries during this time in Trinidad and Tobago. Various events provided the fertile background for developing a vision for industrialization by Dr. Eric E. Williams.

During the first decade of Trinidad and Tobago's independence, several factors contributed to the establishment of the industry. Natural gas continued to be discovered both on land and off the west coast of Trinidad during the early 1960s; Trinidad and Tobago experienced its first commercial discovery of natural gas off the east coast of Trinidad in 1968; the formation of the South East Coast Consortium in 1973 and the close off of this period with the first oil shock when significant increases in oil revenue to Government commenced. These events combined to provide the critical elements for industrialization

and diversification of the economy utilizing natural gas resources.

Over the next decade from 1975, the institutional framework for the early development of the industry was put in place. The year 1975 began with the first of a series of conferences titled "Best Uses of our Petroleum Resources" at which many decisions on the way forward were made, that is, the type of industries in which the Government would invest and the institutions that would be needed for proper coordination and execution of the vision.

The structural adjustment period, 1985 to 1991, can be easily marked as a period of learning for Trinidad and Tobago. Many difficulties were encountered with the management of commodities such as methanol and urea, overcoming technological challenges of iron and steel production and embarking on our own production of natural gas in the Pelican Field. The Trinidad and Tobago economy no longer had the benefit of high revenues from oil and government now had to manage the newly established assets at Pt. Lisas.

The more recent period, 1992 to the present, is clearer in our memory as this covers the period of renewed growth and the age of liquefied natural gas (LNG) with first product delivered in 1999.

Many benefits are expected from this research exercise leading to the final publications. The detailed text is expected to provide accurate information and analysis that can be used by secondary school students and tertiary level students of the industry. The book will also provide much needed documentation of the entire natural gas industry, from inception to current times, an industry that contributed so much to Trinidad and Tobago's economy.

NGC's BUD project - Land segment





*Arrival of NGC's pipelines - Laydown Yard at La Brea Industrial Estate*

## BOARD OF DIRECTORS

### 1975-1981

Bernard Primus, Chairman  
 Dr. Kenneth S. Julien  
 Eldon G. Warner  
 Basharat Ali  
 George Maxwell Richards  
 Samuel A. Martin  
 Knollys Ahloy  
 Kamla Bhoolai, Company Secretary (1975-1977)  
 K. Espinet, Company Secretary (1977-1981)

### 1981-1987

George Hamel Legall, Chairman  
 John A. Charles  
 Andre R. Alphonse  
 Robert T. Yorke  
 George Maxwell Richards  
 Basharat Ali  
 Kamla Bhoolai  
 Eldon G. Warner  
 K. Espinet, Company Secretary

### 1987-1992

Dominic D. Mahabir, Chairman from January 1987 to January 1988

Shiraz M. Rajab, Chairman from January 1988 to March 1988

Cecil Anthony Beaubrun, Chairman from March 1988 to February 1992

Malcolm A. Jones  
 Knollys Ahloy  
 Frank Look Kin  
 Kenrick G. Haynes  
 Phillip Hamel-Smith  
 Jadoonath Bhimull  
 C. A. David Elder  
 Vernon L. Gilbert  
 Dhana Maharaj  
 Zameer Mohammed  
 Phyllis Atherton,  
 Workers' Representative  
 Daniel Sankar, Company Secretary (1987-1989)  
 Grantley Wiltshire, Company Secretary (1989-1992)

### 1992-1996

Prof. Kenneth S. Julien, Chairman  
 Malcolm A. Jones  
 Kenrick G. Haynes  
 Sharon Christopher  
 Ramnarine Ramdass  
 Neville Browne  
 Frank Look Kin  
 McNichols Herbert  
 Grantley Wiltshire, Company Secretary

### 1996-2000

Steve Ferguson, Chairman  
 Kenneth M. Birchwood  
 Clinton Ramberansingh  
 Indera Sagewan  
 Dave N. Cowie  
 Gerry S. Hadeed  
 Garvin Akeung  
 Ansar Ali  
 Errol Mc Leod  
 Vishnu Ramlogan  
 Maria Thorne, Company Secretary

### 2000-2001

Steve Ferguson, Chairman until January, 2001

Vishnu Ramlogan, Chairman from September, 2001  
 Indera Sagewan-Alli  
 Kenneth M. Birchwood  
 Clinton Ramberansingh  
 Kelvin Ramnath  
 Dave N. Cowie  
 Errol Mc Leod  
 Maria Thorne, Company Secretary

### 2001-2002

Vishnu Ramlogan, Chairman until January, 2002  
 Myrnelle V. Akan  
 Himansurai Rambarran  
 Wilfred O. Espinet  
 Satu-Ann I. Ramcharan  
 Franco Siu Chong  
 Alvin Stephenson  
 Maria Thorne, Company Secretary

### 2002 - present

Chiang Keith Awong, Chairman  
 Lisle Ramyad  
 Clarence L. Mitchell  
 Wilson Lalla  
 Errol Mc Leod  
 David Small  
 Dr. Cheryl A. Bennett  
 Carol Pilgrim-Bristol  
 Maria Thorne, Company Secretary