

# OIL, NATURAL GAS AND DIVERSIFICATION

## ASSESSING THE LAST FIFTY YEARS



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At independence in 1962, Trinidad and Tobago's (T&T) oil industry was already 54 years old and had produced billions of barrels of crude but was poised for a new take-off that few at the time could have predicted.

The year before (1961), Pan American Trinidad Oil Company (later to become Amoco Trinidad Oil Company and then, today's bpTT), in alliance with two other US firms, Sun Oil and Pure Oil, had been granted an exploration and production (E&P) licence for a large swath of acreage (1.2 million or 1,875 sq miles) off the east coast of Trinidad.

After the first well, Offshore Point Radix 1

(OPR 1) proved dry, both partners dropped out, leaving Amoco to soldier on alone.

It eventually hit paydirt in 1968 but with the discovery of gas, not what it was really looking for, since gas, at that time, was considered only flareable or as a lifting mechanism for the real thing – crude oil.

This eventually happened in 1969 after Amoco returned to the Offshore Point Radix area and sunk the OPR 2 well which was both an oil and gas producer, and subsequently became the Teak field. The Samaan discovery followed in 1971 and Poui in 1972.

Teak and Samaan began producing in 1972 and Poui in 1975, so, with 10 years of independence under its belt, the country was experiencing a resurgence in the production of what was then its most important commodity, yielding the then People's National Movement (PNM) government, led by Prime Minister Dr Eric Williams, the first post-independence head of government, a much welcome fiscal gift.

By 1978, thanks to Amoco, since output had already peaked in the historic land province (1976) and in the nearshore Gulf of Paria separating Trinidad from Venezuela to the west (1968), oil production had reached the highest level ever in the country's history – an average of 229,589 b/d.

With the two oil price shocks of the 1970s, which sent the income obtained from oil trading to what were then historic highs, the government gained a windfall from taxation by tweaking the system to make collections more favourable to itself. The industry was also becoming better regulated, with the establishment of the first government department to oversee the sector – the Ministry of Petroleum and Mines.

In 1973, the Mostofi Commission of

Photography courtesy of Paria Archive



Now and then: A Trinidad oil rig in the late 1950s

Enquiry, headed by Dr Baghair Mostofi of Iran, was also set-up to provide recommendations for the government on where a newly-reenergised petroleum industry should be heading, one of them being “greater control by the ministry of oil companies’ activities.”

Remarkable as it may seem today, the seven oil-producing companies at the time, were all foreign-owned, as were the then two refineries at Pointe-a-Pierre and Point Fortin in south-central and south-west Trinidad, respectively and all petroleum product distribution and marketing. That no longer obtains today, with the state-owned Petroleum Company of Trinidad and Tobago (Petrotrin) being by far the biggest crude producer (34,357 b/d) and the only refiner. Gas production, however, is in the hands of international companies like BP and BG/Chevron.

The Mostofi Commission offered a number of suggestions on the need for more exploration and the use of enhanced oil recovery (EOR) methods for extracting more known oil, but its most prescient was undoubtedly that relating to natural gas.

It noted that: “The important development of a petrochemical industry in Trinidad requires the assurance of reserves in years to come. The commission is satisfied that the existing gas reserves should take care of the requirements of this industry and its expansion programme as it is known today. The use of gas for the production of electricity and other domestic requirements should be encouraged as much as possible.”

Amoco duly offered that “assurance” in 1973 when it identified the Cassia gas field, which contained several trillion cubic feet (tcf) of gas-well gas and provided the country with the essential foundation for a gas-based heavy industrialisation programme going forward.

Gas urgently needed to take up the slack, with crude production in free-fall after 1978, (in 2012, it is now down to around 69,400 b/d, from the 229,589 b/d reached in that year, though condensate capture takes the overall liquids figure up to about 82,400 b/d).

It has done so magnificently but in a different way from oil. Gas sales did not yield anything like the amount of public sector revenue obtainable from crude and made a much smaller contribution to gross domestic product (GDP), but it did open the way to a plethora of industries mounted on the availability of gas reserves.

These were centred on petrochemicals, as mentioned by the Mostofi Commission, as

**Because private sector investors were hesitant, the government had to take the lead in building the first generation of gas-using steel and petrochemicals plant**



Photograph courtesy of Bayfield Energy

A helicopter takes off from Bayfield Energy’s Rowan Gorilla rig off Trinidad’s east coast, 2012

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well as steel. (Though T&T had the oil which could have been the foundation of an oil-based petrochemicals industry, as has happened in most industrialised economies, this had never been seriously considered by the owners of the domestic refineries, who preferred to remain basically as processors of transportation fuels. All of Amoco's crude, in any case, was exported by agreement with the government).

Gas was a different kettle of fish because Amoco, which remained the only gas-well gas producer for 16 years, badly needed commercial outlets for its trillions of cubic feet of reserves and only the government could initially provide that.

The state-owned National Gas Company (NGC) was set-up in 1975, precisely to be the conduit through which gas could be commercialised: NGC would do the purchase deals with Amoco and the others which came after, such as Trintomar (1990) and BG/Texaco (1996) and would sell on the gas to industries needing it, which were sited at a purpose-built estate on the west coast, called Point Lisas.

Because private sector investors were hesitant, however, the government also had to take the lead in building the first generation of gas-using steel and petrochemicals plant.

Between 1977, when the government persuaded the US's W.R. Grace, which had already

been operating an ammonia plant near the Point Lisas estate since 1959, to join in as minority partner in the Tringen ammonia facility, and 1993, when the first privately-funded Point Lisas industry, the Caribbean Methanol Company, owned by what eventually became today's Methanol Holdings Trinidad Ltd, (MHTL), was established, the government of T&T built one steel plant, one methanol plant, one urea plant and another ammonia plant (though Amoco did, reluctantly, also agree to come in as a 49 per cent partner in this).

In effect, the T&T government became the biggest risk-taker, probably in the entire western hemisphere, during this period, using a mixture of surplus tax funds and loans. This visionary initiative has never been fully appreciated by commentators: without it, there might have been no gas-based industrial sector, still the only one of its kind in the whole of the Caribbean and Central America, or it would have taken much longer to come about. Having led the way, the government eventually decided to sell off its holdings to private investors, including MHTL and the predecessors of today's PCS Nitrogen of Canada.

Methanex of Canada is also in the gas-based industrialisation picture today owning the Titan methanol plant at Point Lisas outright and 63.1 per cent of the Atlas methanol plant.



Photograph courtesy of Methanex





Between them, they produced 206,430 tonnes of methanol in April, 2012, (the latest figures available to this publication at the time of writing), which was actually well below normal output, the reason being a shortage of gas supply from offshore producers, specifically bpTT, which has been heavily engaged in “platform and well integrity” exercises, following its Gulf of Mexico well blowout disaster in 2010.

NGC, as the gas aggregator, can do nothing about this because it has no gas of its own but its new president, Indar Maharaj, promises to try his best to alleviate the situation on a permanent basis. Charles Percy, Methanex’s managing director and CEO, fervently hopes this is so, because uncertainty over gas could jeopardise any long-term plans the Canadian methanol giant could have for expansion in T&T.

In face of the attraction of low-cost shale gas for petrochemical companies in North America, T&T as a location for gas-related industry, could become less competitive were gas availability,

not to mention pricing, called into question. Mr Percy points out that Methanex has no expansion activities planned for Trinidad in the short term. “In the face of concerns around renewal of natural gas contracts and availability of long-term supply, it is necessary to be prudent at this time,” he says.

The Ministry of Energy and Energy Affairs (MEEA) insists, however, that the problem is essentially a short-term one and has every confidence that it will be rectified in the medium term.

Mr Percy may have less to worry about in light of the reported settlement of a new contract with MHTL for NGC to provide it with near 100 million cubic feet a day (mmcf) of gas for 20 years for its new

US\$1.9 billion AUM 2 complex, which will produce ammonia, urea, melamine, ammonium sulphate and melamine urea formaldehyde resin (MUF) in a nine-plant cluster at Point Lisas. It follows the earlier AUM 1 plant that also goes downstream to melamine, which the government sees as a major input into a variety of new light manufacturing industries in dinnerware, adhesives, coatings, laminates, plasticisers and so on.

The People’s Partnership (PP) government, now in office calls this a “backward linkage” approach, which involves deciding what products can be produced by local manufacturers and then traces that back upstream to determine what the original inputs should be. So while the petrochemical and steel industries have served the country well in export earnings – joined in 1999 by the first exports of liquefied natural gas (LNG) by the Atlantic company at Point Fortin, which now produces 15.2 million tonnes a year, making it the seventh-largest LNG trader in the world – the accent now is on using gas to go

**The accent now is on using gas to go downstream into a wider range of light industries that expands the reach of local manufacturers**

Opposite: Panorama of Methanex’s plant at Point Lisas. Above: bpTT’s Cassia B platform

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downstream into a wider range of light industries that expands the reach of local manufacturers.

“Local value added” is now among the prime goals for natural gas, with gas only being sanctioned for primary petrochemical or steel production that goes downstream to materials that can be used locally. This is not to say that LNG, for example, is being abandoned – far from it. In fact, plans are afoot to capture the market for LNG in small and medium-sized parcels that is expected to emerge in the Caribbean archipelago.

The backward linkage approach is one aspect of the move to diversify to a greater extent away from the petroleum sector, though industries like melamine are still dependent on natural gas as an input.

The Ministry of Planning and Sustainable Development, under former University of the West Indies (UWI), St Augustine, principal, Dr Bhoendradatt Tewarie (universally known as “Bhoe”), has a key responsibility in this regard and a number of initiatives are in train.

Under the overall Medium Term Policy Framework, 2011-2014, the ministry is committed to, in Dr Tewarie’s words, “creating a new growth dynamic, supporting diversification.” This will involve “widening and deepening the production base and building new production clusters, developing culture and supporting the development of creative industries, developing green industry and alternative energy sources, developing information and communications technology and related knowledge and service industries.”

All analysts acknowledge that the energy sector’s contribution to GDP is substantial, though with the loss of crude oil output its now less substantial than it used to be, as the figures in the table below show.

Dr Tewarie’s ministry is determined to build up other productive sectors, such as those mentioned above, so that the energy component in GDP progressively falls, though, as he admits: “It will take a lot of effort and business creation and investment in manufacturing and services to match even a small percentage of the contribution of the energy sector to GDP.”

Increasing productivity in existing non-energy industries is a short-term way of doing this. The Minister of Planning concedes “the level of productivity in the country is lower than it should be and needs to be addressed at the firm level, the institutional level and across the country as a whole. Productivity is at the heart of building competitive capacity.”

So, as T&T reaches its 50th year of independence and pushes on into the next 50 years, both oil and gas face reserves and production challenges, though the betting is that both will be overcome to some extent, while the major job of diversification into other economic activities proceeds. Will the latter be successful eventually?

Dr Tewarie, for one, is putting a positive spin on it. “The government of T&T will work with sectors of the society as a willing partner to achieve prosperity for all, through purposeful activity that is creative, collaborative and innovative,” he pledges. ■

**Energy’s share of Trinidad and Tobago’s GDP**

Year	2007	2008	2009	2010	2011
Percentage	45%	50.8%	37.1%	43.9%	45.3%