1 THE EXTRACTIVE INDUSTRIES IN TRINIDAD AND TOBAGO

1.1 OVERVIEW OF THE PERFORMANCE OF THE OIL AND GAS SECTOR

The performance of the extractive sector worsened over the years 2014 and 2015, the period covered by this EITI Report. A precipitous collapse of oil prices and consequent weakening of the markets for all export commodities adversely impacted on the value derived from the sector. The factors driving the price collapse are more structural than cyclical and therefore the fall out may be permanent.

Price weakness was compounded by a further decline in oil production to below 80,000 bbl / day, the lowest level in sixty years. At the same time prolonged problems with gas supply to major downstream plants resulted in shortfall in output across the sector.

The latest available audits suggest the reserves to production ratio (RTP) for oil is about 12 years while for gas it declined further to a little over 8 years. Government has responded to falling RTPs by the introduction of new fiscal incentives to spur exploration and awarding several production sharing contracts to successful bidders.

The combined impact of lower prices and output resulted in a drastic reduction in the sector’s contribution to the economy in terms of Government revenue GDP and export earnings. As a result, the economy slipped into recession and the Government faces serious fiscal constraints.

The economic situation has forced Government to cut expenditure in an attempt to align with lower current and project revenue. One major adjustment has been reduction of the fuel subsidy by increasing prices of diesel and super gasoline. Government made the first withdrawal from the Heritage and Stabilisation Fund (HSF), in order to reduce the large fiscal deficit.

As Government explores options for boosting revenue, audit reports have highlighted the need for reform and efficiency in tax administration in order to plug loopholes and minimize revenue loss in the minerals sector, LNG contracts and in the Production Sharing Contract (PSC) agreements.

Environmental regulations are improving as is degree of compliance. Over 500 CEC applications were submitted by the energy sector and only three were denied. However, both the severity and frequency of oil spills increased. The country witnessed its worst spill in history as a result of faulty infrastructure at Petrotrin, which resulted in them being fined for an environmental violation.

Notwithstanding depressed economic conditions and outlook, NGC spend on CSR ballooned to TT$150 million over the period 2014 and 2015. Moreover, Government requested and received dividend

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1 Section 3 is reproduced from a study by Gregory Maguire and Nazera Abdul Haqq (VSL Consultants Ltd) commissioned by the TTEITI Steering Committee. The contents of Section 3 have not been reviewed or validated by the Administrator.
payments from NGC amounting to over TT$10 billion over the 2014 and 2015 fiscal years, in a clear effort to close the fiscal gap.

1.2 THE OIL AND GAS VALUE CHAIN

The term ‘extractive industries’ refers to those industries engaged in the exploration, production, processing and sale of natural resources such as oil, gas and minerals. The extractive sector is categorized into three major parts or sectors namely the upstream, midstream and downstream.

Generally, companies operating in the upstream sector such as BPTT, BGTT, BHP Billiton, and Petrotrin are involved in finding oil and gas resources under land and sea, drilling exploratory wells and successively developing these wells in order to bring the hydrocarbons to the surface. As such, this sector is commonly referred to as the exploration and production sector (or E&P sector).

The resources are then sent to the midstream sector which refines, processes, stores, transports and markets natural gas, crude oil and refined oil and gas products. There are several midstream operators in Trinidad and Tobago. The National Gas Company of Trinidad and Tobago (or “NGC“) plays an instrumental role as a midstream player to purchase, compress, sell, transmit and distribute natural gas to a cross-section of consumers mainly on the Point Lisas Industrial Estate. These consumers include petrochemical, steel and power generation plants. Another midstream operator is Petrotrin, which operates the only oil refinery in Trinidad and Tobago, while Phoenix Park Gas Processors Limited (PPGPL) extracts propane, butane and natural gasoline from the natural gas stream. The conversion of natural gas to liquefied natural gas is also classified as a midstream activity which is undertaken solely by Atlantic (formerly Atlantic LNG).

Lastly, the downstream sector takes the natural gas and converts it to petrochemicals (e.g. ammonia and methanol) which are then exported to other countries of the world. These petrochemicals are used to produce many other intermediate and finished goods including plastics, resins, lubricants, gels and fertilizers. Methanex, Methanol Holding Trinidad Limited PCS Nitrogen and Yara are among the downstream operators which produce petrochemicals. The use of natural gas as fuel in power generation, transportation (CNG) and in the manufacture of cement, steel and several other light manufacturing activities are also classified as downstream activities.

As our natural resources move from its raw state in the upstream sector, to being refined in the midstream sector and then converted into petrochemicals by downstream operators, more and more value is added to the resource. This underlying relationship is described as the oil and gas value chain.
1.2.1 UPSTREAM SECTOR ACTIVITY

The upstream or exploration and production (E&P) sector is the first stage of oil and gas production. It involves drilling for undiscovered resources and, if successful, bringing the resources to the surface for sale and/or processing. Because of the high cost and technology required to extract oil and gas in marine areas, the T&T offshore upstream sector is dominated by large multinationals such as bpTT, BGTT (now Shell), BHP Billiton and Repsol. State-owned company Petrotrin dominates in the onshore upstream activity.

1.2.1.1 Offshore and Onshore Producing Areas

There are six main areas in which oil and gas fields and upstream activities are concentrated in T&T. Offshore, there are those located on the North Coast (North Coast Marine Area), the East Coast (East Coast Marine Area) and the South West Coast (South Coast Marine Area). On land, drilling and production are concentrated in South-East Trinidad (e.g. Guayaguayare Moruga), South West Trinidad (e.g. Point Fortin, Guapo and Forest Reserve) and in Central Trinidad (e.g. Central Range Block & Central Block). The Government invites upstream operators to competitively participate in Bid Rounds for parts of these acreages to extract hydrocarbons. These smaller areas are referred to as ‘blocks,’ and successful operators can only produce after the appropriate production sharing agreements with the Government have been negotiated and signed. Section 4.2 further explains how these contractual arrangements work.
## Onshore and Offshore Fields/Blocks Drilled in 2014 & 2015

<table>
<thead>
<tr>
<th>ONSHORE (LAND)</th>
<th>OFFSHORE (Marine)</th>
<th>ONSHORE (LAND)</th>
<th>OFFSHORE (Marine)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest Reserve</td>
<td>Cruse</td>
<td>South Quarry</td>
<td>Moruga North</td>
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<td></td>
<td>Immortelle</td>
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<td>Kapok</td>
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<tr>
<td>Quinam</td>
<td>Parrylands</td>
<td>Barrackpore</td>
<td>Moruga East</td>
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<tr>
<td>South Quarry</td>
<td>Erin</td>
<td>Galeota</td>
<td>Cory Moruga Block</td>
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<td></td>
<td></td>
<td>Pt. Fortin Central</td>
<td></td>
</tr>
<tr>
<td>South</td>
<td></td>
<td>Cory Moruga Block</td>
<td>South West Soldado, West Soldado &amp; South East Soldado</td>
</tr>
<tr>
<td>Quarry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palo Seco</td>
<td>Fyzabad</td>
<td>Pt. Fortin West</td>
<td>Goudron</td>
</tr>
<tr>
<td></td>
<td>Teak</td>
<td></td>
<td>Block 5C and Block 5D</td>
</tr>
<tr>
<td>Guapo</td>
<td>Point Fortin West</td>
<td>South West Soldado</td>
<td>Oropouche</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pt. Fortin East</td>
<td></td>
</tr>
<tr>
<td>Cory Moruga Block</td>
<td>Point Fortin Central</td>
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<td>Juniper</td>
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<td>Goudron</td>
<td>Coora</td>
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<td>Parula</td>
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<td>Morne Diablo</td>
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<td>Mahogany</td>
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<td>Guayaguayare</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cashima</td>
</tr>
</tbody>
</table>


### 1.2.1.2 Crude Oil Reserves

The Ministry of Energy and Energy Industries (MEEI) engaged petroleum consultants Netherland, Sewell and Associates of Dallas (NSAI) to conduct an audit of the crude oil reserves of Trinidad and Tobago as at December 31st 2011. The report was finalized and submitted to the MEEI in 2013.
The results of the crude oil audit, as at December 31st 2011, showed proved reserves were 199.5 million barrels of oil, probable reserves 85.5 million barrels of oil and possible reserves 124.8 million barrels. The total crude oil figure of the proved plus the probable plus the possible reserves for crude oil (3Ps) was estimated at 409.8 million barrels. The ratio of reserves to production (RTP) is typically used in the industry as an indicator of the number of years that the proven reserves can sustain current production levels. In the case of oil, as at Dec 2011, the RTP on proven reserve was just 6.6 years, while for proven probable and possible reserves it stood at 13.6 years. This outlook would have changed in the period to 2015 as several new discoveries have been made including - Petrotrin (Jubilee), Repsol (Teak Bravo) Trinity Exploration and Production (Galeota, Trintes and East Galeota).

The consultants also estimated Exploration or Prospective Resources, which are those quantities of petroleum which are estimated to be potentially recoverable from undiscovered accumulations by the application of future development technologies. They represent exploration opportunities (identified by operating companies) and quantify the development potential in the event a petroleum discovery is made. The high estimate of prospective resources of crude oil in 2011 was 811.5 million barrels of crude oil, with the best estimate and low estimate reported as 368.2 million barrels and 194.7 million barrels respectively. It should be noted that since December 31st 2011 the MEEI has signed 21 new production sharing contracts or licences. These would not have been included in that 2011 audit. The two deep-water blocks and the three land blocks licensed in 2014 all have potential for oil.

1.2.1.3 Natural Gas Reserves

With the start-up of LNG plants in Trinidad and Tobago in 1999 and the rapid expansion thereafter natural gas has surpassed oil as this country’s most important economic resource. As a result, the MEEI keeps abreast of the industry’s future outlook by commissioning annual gas reserves audit. Over the last 15 years these audits have been conducted by the firm Ryder Scott.
Trinidad and Tobago EITI Report
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Table 2 gives the reserves picture as at December 2014 - the latest available. Proven gas reserves are estimated at 11.5 trillion cubic feet (tcf) down from 12.2 tcf in 2013. Probable reserves amounted to 5.47 tcf while possible reserves were set at 5.70 tcf, bringing the total 3Ps reserves as at 31st Dec. 2014 to 22.7 tcf compared with 23.9 tcf a year earlier. This represents a continuing trend in which the rate of production is exceeding the rate of replacement via new discoveries. As a result, as of the end of 2014, the proven reserves to production ratio was 8.3 years and the Proven + Probable (2P) RTP ratio was 13 years.

4 Table 2 Natural Gas Reserves (as @ Dec2014 (tcf)

<table>
<thead>
<tr>
<th>Reserves</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proved</td>
<td>12.2</td>
<td>11.5</td>
</tr>
<tr>
<td>Probable</td>
<td>5.53</td>
<td>5.47</td>
</tr>
<tr>
<td>Possible</td>
<td>6.1</td>
<td>5.7</td>
</tr>
<tr>
<td>Total</td>
<td>23.9</td>
<td>22.7</td>
</tr>
</tbody>
</table>

Source: Ryder Scott – Gas Reserves Audit 2014

The BP Statistical Review of World Energy gives a proven (1P) RTP ratio of 8.2 years as of the end of 2014. It is however likely that the natural decline in deliverability of the gas fields are depleted. This may result in gas production falling below the current consumption level of 3,883 MMcf/d or 1.41 Tcf/y significantly earlier than the 8-11 year durations calculated by Ryder Scott. The deep-water offshore area is considered to have significant hydrocarbon potential although any realization of this potential will take some time and is unlikely to provide gas before 2024.

Maintaining consumption at even 4 bcf/d between 2016 and 2024 would therefore require planned but as yet unsanctioned upstream projects being sanctioned and executed by the operators on their currently envisaged timelines. If these projects are not sanctioned or delayed, cross-border (Loran-Manatee) and cross-border (Dragon) gas supplies from Venezuela will become critical to the sustainability of the sector.

5 Figure 3: T&T Gas Reserves Evolution
Exploration and Development Drilling

The total number of feet drilled, as well as the total number of days that companies operate rigs (i.e. rig days), are the main indicators of the level of activity in the upstream sector. Upstream companies first engage in exploratory drilling both on land and in marine areas, to locate oil and gas reservoirs beneath the earth. After hydrocarbons are discovered, these companies engage in development drilling to determine the size and quality of the deposits. Once deposits are considered sizable, facilities are then built to enable extraction of reserves from the reservoirs.

The total number of feet drilled increased marginally by 2% between 2013 and 2014. However, in 2015 there was a further 33% increase in drilling activity as illustrated in Figure 4 in response to new government tax incentives. In 2015, both exploratory and development drilling activity increased by 76% and 29% respectively as a result of activities by EOG, Advance Oil Trinidad, BGTT (now Shell) and Parex companies (MEEI, Various Years). The award and signing of E&P licences and production sharing agreements for the land and deep water acreages respectively following the 2013 Onshore and Deepwater Bid Rounds, bode well for even greater exploration activity in the short to medium term. The Ortoire, Rio Claro and St. Mary’s blocks were the onshore blocks that were awarded to Touchstone Exploration (formerly Primera), Lease Operators Limited and Range Resources Trinidad respectively. While the BG-BHP Billiton consortium was successful at obtaining the licences to produce in the Trinidad and Tobago Deep Atlantic Areas 3 and 7 (TTDAA3 and TTDAA 7).

6 Figure 4
Trinidad and Tobago EITI Report  
October 1st 2013 - September 30th 2015

1.2.1.5 Crude Oil, Natural Gas and Mineral Production

The years 2014 and 2015 were marked by the continued decline in both oil and gas production, while the issue of illegal mining endured.

1.2.1.5.1 Crude Oil and Condensates

Total oil production is measured by the combined output of both crude oil and condensates. When companies drill for hydrocarbons, a typical well may produce oil and/or gas in different proportions. The liquids produced with gas are called ‘condensates’.

T&T has been producing oil for 107 years and therefore most of its oil fields are mature. Therefore, it is not surprising that oil production has been following a general downward path, following peak production of 229,000 bopd in 1978. The downturn was temporarily reversed by higher condensate output from increased gas production in 2003 along with the coming on-stream of the Angostura field in 2004. A year after, oil production climbed from 133,000 bopd in 2001 to a peak of 144,400 bopd in 2005. Since 2006, however, average annual oil production has declined steadily to a low of 78,650 bopd in 2015, the lowest level in over 60 years (MEEI, Various Years) (See Figure 5). The decrease in oil production was also partly due to natural decline of mature wells coupled with lower levels of condensate production.

Small operators make an important contribution to sustaining oil production and prolonging field life because they are able to extract oil from mature fields at a cheaper cost than larger companies. As the largest producer of oil, Petrotrin contracts smaller companies under arrangements known as Lease Operatorships (LO), Farm Outs (FO), or Incremental Production Sharing Contracts (IPSC). Together they produced approximately 11% of total oil supplies in 2014 and in 2015, while Petrotrin and Trinmar (a division of Petrotrin that operates offshore); produced approximately 16% and 28% respectively in those two years (MEEI, Various Years). The first five months of 2016 reveals a similar pattern with roughly 10.4%
of oil production of supplies coming from small and independent contractors, 27.5% by Trinmar and 16.8% Petrotrin (MEEI, 2016). (See Figure 6)

![Percentage Share of Total Oil Supplied 2014 & 2015]

**Figure 6**

1.2.1.5.2 *Natural Gas Production*

Between 2000 and 2010, the general upward trend in natural gas production was stimulated by the growth in the demand for gas. Production rose by about 189%, from 1498 million standard cubic feet per day (mmscf/d) in 2000 to 4330 mmscf/d in 2010 (MEEI, Various Years).

However, natural gas production went through a series of sharp slips post 2010, as a result of scheduled and unscheduled maintenance and upgrade programmes of offshore platforms by major producers, notably bpTT and BGTT (now Shell). Upstream operators also have been more stringent in observing international safety regulations post the 2010 BP Deepwater Horizon Disaster, which may have had knock-on effects on production.

Average annual production fell from 4330 mmscf/d in 2010 to 3833 mmscfd in 2015 (MEEI, 2015). The declining trend in gas supplies has continued during the first five months of 2016. (Figure 7) Ageing gas fields and temporary disruptions to supply as a result of the movement of rigs under active drilling programs also account for the decrease in natural gas supplies.
In 2014, the Government contracted consultants to develop a comprehensive Natural Gas Master Plan for Trinidad and Tobago. One objective of the Master Plan was to provide recommendations to help better ensure that there are sufficient gas supplies to meet the needs of strategic downstream industries. The government is currently reviewing the Master Plan with a view to developing policy.

### Figure 8

**Average Annual Natural Gas Production 2000-2016**

- **20% decrease**

#### 1.2.1.5.3 Mineral Production

Similar to oil and gas, mineral deposits such as copper, andesite, fluorspar and iron can also be found below the earth’s surface in T&T. However, only those that are sedimentary in origin (e.g. sand and gravel, limestone, oil sand and asphalt, clay and porcellanite) are quarried or mined. While the data does not allow for an analysis of production of oil sand and asphalt, Figure 9 below shows that the highest volumes of minerals produced between 2010 and 2015 were of blue limestone (8,894,291 cubic yards), sand and gravel (8,631,203 cubic yards) and red sand (5,560,346) (MEEI, 2015).
In the Northern Range, blue limestone as well as sharp sand and gravel are quarried and used in the construction industry. Red sand is quarried in central Trinidad and used as a low grade fill material and as a construction finishing material. Nearby in south central Trinidad yellow-coloured limestone is quarried, while clay is extracted from Central and Southeast Trinidad. As is well known, clay is used in the manufacture of blocks, tiles and pottery. Oil sands and asphalt, used for paving roads, and porcellanite, an alternative for Portland cement, are extracted in South Trinidad (MEEI, 2016). According to the White Paper on National Minerals Policy 2015 the most recent data from the Ministry of Energy places the number of active quarries or mining operations in the country at 90.

Estimates of Trinidad and Tobago’s recoverable mineral reserves were calculated by GWP LLP Consultants for the Ministry of Energy and Energy Industries. The Strategic Environmental Impact Assessment Study places T&T’s recoverable mineral reserves at 467 million metric tonnes, equivalent to 25 years of today’s production.

Activities in the mineral sector are not just limited to exploration and production (i.e. mined/quarried). The scope of the sector is wide and also includes mineral processing, the manufacture of mineral based products, minerals trading, transportation and machinery, land management and other professional services. Both State-owned companies and the private sector are engaged in these activities.

National Quarries Company Limited and Lake Asphalt of Trinidad and Tobago (1978) Limited (‘Lake Asphalt’) are two state owned companies that are engaged in mining activities in T&T. National Quarries Limited has the responsibility of supplying products for the construction sector, stabilizing the prices of construction aggregate and ensuring that the State’s mineral resources under its control is optimized. Lake Asphalt on the other hand commercially develops (i.e. mines, refines, manufactures and distributes) the asphalt deposits in the Pitch Lake in La Brea. Not many are aware that T&T, through Lake Asphalt, exports
asphalt related products to many countries across the world, including China, Nigeria, Japan, Germany, the United Kingdom and the US.

1.2.2 MIDSTREAM SECTOR ACTIVITY

After the hydrocarbon resources are extracted by upstream operators they are sent to the midstream sector which refines, processes, stores, transports and markets natural gas, crude oil and refined products. As the extracted resources are refined and processed in the midstream sector they become more valuable.

1.2.2.1 Oil Refining

State-owned Petrotrin operates the only local refinery that processes and refines crude oil to make a range of useful products which it sells locally and abroad. These products include fuel oil, gasoline, kerosene, diesel, aviation fuel and LPG. Because local crude oil production is less than Petrotrin’s refinery capacity, the Company imports supplemental crude oil to boost refinery capacity utilization.

As a result, Petrotrin imports crude oil from other countries and refines it either on its own account or for clients under processing agreements. Gabon, Russia, Norway and Colombia were the leading sources of imported supplies to Petrotrin’s refinery between 2014 to May 2016 (MEEI, Various Years).

In 2012, downtime at several refinery plants and industrial unrest negatively affected refining activity. According to the MEEI, refinery throughput fell from 4.17 million barrels in 2011 to 3.06 million barrels the following year. The refinery was back to running at near full capacity by June of 2013, leading to a recovery in both throughput and sales that year. Nevertheless, refinery operations worsened in 2014 as a result of global excess supply and low demand for gasoline (Central Bank of Trinidad and Tobago, 2014), which resulted in Petrotrin taking 13 of its units offline. In 2015 refinery throughput recovered 18.4 per cent to 45.7 million bbls compared to 38.2 million bbls in the previous year (MEEI, 2015). The improvement in refining activity and sales has been carried over to 2016. Given the positive relationship between crude imports and refinery throughput, it is expected that imports will mirror the increase and fall in refinery activity.
1.2.2.2 Natural Gas Transmission and Distribution

The National Gas Company (NGC) is responsible for purchasing gas from upstream producers, compressing and transporting the gas as well as selling and distributing it to industrial users in T&T. NGCs major customers are Methanol and Ammonia plants, and steel and power generating plants, most of which are located on the Point Lisas Industrial Estate. Figure 12 below shows that together Methanol (31.9%) and Ammonia plants (33.2%) bought more than half (65.1%) of NGCs supplies over the last five years. Power generators represented (17.9%) of gas sales while iron and steel manufacturers accounted for 6% (MEEI, Various Years).

Note: Other- Refinery, Cement Manufacture, Urea Manufacture, Small Consumers, Gas Processing.
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At its processing plant, Phoenix Park Gas Processors Limited (PPGPL), receives the raw natural gas from NGC’s gas pipeline system and feeds it through its fractionating towers to extract propane, butane and natural gasoline. PPGPL is one of the largest gas processing facilities in Latin America and the Caribbean (PPGPL, 2016). The processed natural gas largely methane, is returned to the NGC system and then sold to local downstream facilities which use the product as fuel and feedstock. The propane and butane and natural gas liquids are marketed in the Caribbean and Central America.

As result of the downward trend in natural gas production over the period, PPGPLs output of NGLs in 2015 was 10.9 million barrels, some 31.5 per cent below the 16.0 million barrels produced in 2011. Similarly exports of NGLs fell by 26 percent from 14.7 million barrels in 2011 to 10,181,668 barrels in 2015 (MEEI, Various Years).

12  Figure 11

1.2.2.3 Liquefied Natural Gas LNG) Production

Unlike methanol and ammonia users on the Point Lisas Industrial Estate, Atlantic (formerly Atlantic LNG) processes natural gas and converts it into a liquid form or LNG. Liquefying natural gas occurs through a process that involves the use of large refrigerator- type plants or Trains that cool the gas to -161 degrees Celsius. This must be done in order for the gas to be transported and exported to different countries. Special purpose LNG ships fitted with refrigerated tanks are used to ensure that the LNG does not revert to its gaseous form while being transported to its destination.

Atlantic has always been the largest single consumer of natural gas in the country, using more gas than ammonia and methanol plants combined. Between 2011 and 2015, Atlantic accounted for roughly 55% of total gas demand while ammonia and methanol manufactures bought 28% of total supplies (MEEI, Various Years).
Like NGC, Atlantic was also impacted by the reductions in gas production over the 2011-2015 period, as evidenced by its lower production volumes.

As a result of maintenance work by Atlantic and downtime from natural gas producers, LNG production fell by 1.7% from a peak of 32,700,292 cubic metres in 2013 to 32,159,352 cubic metres in 2014. However, by the end of 2015 LNG production slipped drastically by an additional 10% to 28,909,491 cubic metres.

During the first half fiscal 2015 (i.e. October 2014 to March 2015), the country exported a total of 468.5 trillion British thermal units (BTUs) of LNG to 21 different markets. This was 1.2% less than the 474.1 trillion BTUs exported for the same period of fiscal 2014 (Ministry of Finance, 2015). The leading export destinations for LNG from T&T, between October 2013 and March 2014, were Chile (18.1%), Argentina (16.8%) and Spain (8.5%). In 2015, Chile (22.4%) and Argentina (14.2%) as well as to Brazil (11.9%) showed increases in exports from T&T, partly as a result of higher prices and demand in these countries, compared to Europe and Asia. The United States also increased its demand for T&T’s LNG (10.1%) during the first six months of fiscal 2015 (Ministry of Finance, 2015).

1.2.3 **DOWNSTREAM SECTOR ACTIVITY**

The downstream sector purchases natural gas from NGC and converts it into Ammonia, Methanol and Urea which are referred to as petrochemicals. Petrochemicals are valuable chemicals used to produce many other intermediate and finished goods including plastics, resins, lubricants, gels and fertilizers. Methanex, Methanol Holdings Trinidad Limited, PCS Nitrogen and Yara are among the downstream operators that produce petrochemicals. Downstream activities also include the use of natural gas as fuel in power generation, transportation (i.e. CNG) and in the manufacture of Cement, Steel and several other light manufacturing products.
1.2.3.1 Petrochemical Production

Between 2011 and 2015, operations at Ammonia and Methanol plants were adversely affected by gas curtailments which forced companies to shut down for unscheduled maintenance work. These companies located on the Point Lisas coordinated their plant downtime/ turnarounds with the downtime of gas producers. In doing so they sought to minimize the impact of gas curtailments. However, the impact on petrochemical production was mixed during this five-year period (Figure 15).

For example, maintenance activity did not adversely affect methanol supplies in 2013 despite repairs to MHTL M5000 and Titan plants. In 2013, methanol production grew to 5,632,924 MT from 5,490,678 MT in 2012. Nevertheless, methanol production declined as gas supply issues intensified in the following year but then rebounded marginally by 0.63% in 2015 (Figure 16). There was a related 4.1% growth in the volume of methanol exported in 2013, while shipments decreased in 2014 and 2015 by 3.3% and 0.82% respectively (MEEI, Various Years).

On the other hand, 2013 recorded the lowest production levels of ammonia as Caribbean Nitrogen, Yara, Tringen, AUM-NH3 and PCS Nitrogen shut down for maintenance work. Ammonia production decreased by 5% from 4,887,956 metric tons (MT) in 2012 to 4,639,796 MT in 2013 (MEEI, Various Years). Point Lisas Nitrogen Limited and AUM-NH3 plants also experienced downtime in 2014, however ammonia production increased marginally by 2% in 2014 and rose again by 3.8% at the end of 2015. Ammonia exports did not perfectly mirror production volumes.
1.3 ECONOMIC CONTRIBUTION OF THE EXTRACTIVE INDUSTRIES

The extractive industries contribute significantly to T&T’s economy in terms of gross domestic product (GDP), exports earnings (hard currency inflows) and government revenues. The recent worldwide decline in commodity prices coupled with lower domestic production has negatively affected the sector’s economic contribution.

16 Table 4

Summary of the Economic Contribution of the Energy Sector

<table>
<thead>
<tr>
<th>Selected Economic Indicators</th>
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<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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<tbody>
<tr>
<td>Energy Sector Share of GDP (%) @current prices</td>
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<td>41.4</td>
<td>38.3</td>
<td>37.2</td>
<td>32.1</td>
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<tr>
<td>Energy Sector Share of Gov’t Revenue (Fiscal Years) %</td>
<td>57.6</td>
<td>54.0</td>
<td>50.4</td>
<td>48.1</td>
<td>39.3</td>
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<tr>
<td>Energy Sector Share of Export Receipts (%)</td>
<td>86.9</td>
<td>75.7</td>
<td>89.2</td>
<td>83.0</td>
<td><strong>77.9</strong></td>
</tr>
<tr>
<td>Energy Sector Share of Total Employment (%)</td>
<td>3.2</td>
<td>3.3</td>
<td>3.3</td>
<td>3.3</td>
<td>3.4 (Q4 2015)</td>
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Source: Central Bank of Trinidad and Tobago; Ministry of Finance; Central Statistical Office.
1.3.1 GROSS DOMESTIC PRODUCT (GDP)

The gross domestic product (GDP) is a widely used measure for gauging the health of a country’s economy. Simply put, GDP is the total dollar value of all of the goods and services produced within the borders of a country in a given year. It includes the value of goods and services produced in the energy sector and in the non-energy sector.

Over the period 2011-2015, the energy sector share of GDP declined steadily from 44.8 percent in 2011 to 37.2 percent in 2014 and further to 32.1 percent in 2015. The latter two years represent the smallest energy sector GDP contribution since 2009, when the global financial crisis triggered the collapse of all commodity prices. Within the energy sector the largest contributors to energy GDP are the Exploration & Production (E&P), Refining and the Petrochemicals Subsectors, while the Distribution, Service Contractors and Asphalt Production subsectors contribute the least (Figure 17). Between 2011 and 2015, the E&P sector accounted for 22% of energy GDP on average. In 2015 the contribution of the E&P business fell to 17%, well below the average for the period and reflecting the depressed state of the market. Also, on average the Refining and the Petrochemicals subsectors represented 6.6% and 5.5% of energy GDP (Ministry of Finance, 2015).

17 Figure 15
In fiscal year 2014/2015 (i.e. 1 October 2014 to 30 September 2015), total GDP (at current prices) rose from TT$ 170.3 million in 2013 to TT$ 174.9 million in 2014. This 2.6% expansion occurred because of the growth in the non-energy sector, particularly in the Services subsector, which overshadowed the .3% contraction in energy GDP (Ministry of Finance, 2015). In fiscal year 2015, the expansion of the non-energy sector was not sufficient to offset the sharp drop in energy GDP. All of the energy subsectors registered sharp declines except the Asphalt Production subsector which by itself contributed on average .086% over the past 5 years to energy GDP (Ministry of Finance, 2015). Still, the mineral sector’s contribution to GDP grew almost four times its amount in fiscal year 2001 from TT$51.3 million to TT$157.4 million in fiscal year 2013.

1.3.2 GOVERNMENT ENERGY REVENUES

The government receives revenue from the energy sector from taxes and royalties’ paid by oil and gas companies as well as from dividends paid by state owned energy enterprises namely NGC and Petrotrin. Between fiscal 2011 and fiscal 2014, total government revenue increased due to the growth in non-energy revenues, increases in government capital revenue, and higher dividend payments from NGC (Figure 18). In fiscal 2014, Government revenue peaked at TT$ 49.8 billion, of which NGC contribution was $6.5 billion or 13 per cent of recurrent revenues (Ministry of Finance, 2015).

However, in fiscal 2015, revenues dropped significantly by roughly 13%. This huge drop occurred largely because of the precipitous fall in oil prices compounded by shrinking output (Table 4).
While Government overall revenue increased up to 2014, the contribution of the energy sector to Government revenues declined consistently between 2001 and 2015. In 2011 petroleum revenues accounted for 57.6% of total Government revenue. By 2013 that share dropped to 50 per cent and in the last fiscal year- 2015, it amounted to just 30.5%, the lowest level in 15 years (Ministry of Finance, 2015).

Table 4: Prices of Selected Export Commodities 2011-2015

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Oil (Brent; US$ per barrel)</td>
<td>111.30</td>
<td>111.80</td>
<td>109.10</td>
<td>99.60</td>
<td>52.30</td>
<td>39.18</td>
</tr>
<tr>
<td>Crude Oil (WTI; US$ per barrel)</td>
<td>95.10</td>
<td>94.20</td>
<td>97.90</td>
<td>93.10</td>
<td>48.70</td>
<td>39.36</td>
</tr>
<tr>
<td>Natural Gas (Henry Hub; US$ per mmbtu)</td>
<td>4.00</td>
<td>2.80</td>
<td>3.70</td>
<td>4.40</td>
<td>2.70</td>
<td>2.05</td>
</tr>
<tr>
<td>Ammonia (FOB Caribbean; US$ per tonne)</td>
<td>534.20</td>
<td>559.90</td>
<td>506.30</td>
<td>505.60</td>
<td>413.20</td>
<td>273.80</td>
</tr>
<tr>
<td>Urea (FOB Caribbean; US$ per tonne)</td>
<td>435.80</td>
<td>476.40</td>
<td>347.30</td>
<td>360.30</td>
<td>262.90</td>
<td>213.80</td>
</tr>
<tr>
<td>Methanol (FOB Rotterdam; US$ per tonne)</td>
<td>430.00</td>
<td>429.70</td>
<td>517.30</td>
<td>513.50</td>
<td>381.80</td>
<td>273.17</td>
</tr>
</tbody>
</table>

Source: Central Bank of Trinidad and Tobago; US EIA

1.3.2.1 Mineral Revenues

The mineral sector has the potential to contribute significantly more to Government revenue considering the longstanding challenge of accurate computation and poor collection of revenue due to the State. According to the White Paper on National Minerals Policy 2015, between fiscal 2001 and fiscal 2013, the State collected less than 10% of the total revenue due from royalties and all other payments. This represents an estimated shortfall of TT$120 million in royalty payments, excluding revenues from production not accounted for and illegal quarrying. Over the 10-year period, total revenues collected from the sector totalled TT$14.5 million of which the majority came from royalties from mineral types (excluding asphalt) and from licence fees and applications.
### Revenues Collected from the Minerals Sector for the Period Fiscal Year 2003-2012

<table>
<thead>
<tr>
<th>Fiscal Year (Oct-Sep)</th>
<th>Royalties from Asphalt (TT$)</th>
<th>Royalties from Other Mineral Types; Licence Fees &amp; Application Fees (TT$)</th>
<th>Fees for Competitive Bid Rounds (TT$)</th>
<th>Total Revenue (TT$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>0.00</td>
<td>859,269.00</td>
<td>0.00</td>
<td>859,269.00</td>
</tr>
<tr>
<td>2004</td>
<td>146,313.00</td>
<td>187,962.00</td>
<td>0.00</td>
<td>334,275.00</td>
</tr>
<tr>
<td>2005</td>
<td>0.00</td>
<td>2,664,203.00</td>
<td>0.00</td>
<td>2,664,203.00</td>
</tr>
<tr>
<td>2006</td>
<td>111,384.00</td>
<td>947,301.00</td>
<td>334,000.00</td>
<td>1,392,685.00</td>
</tr>
<tr>
<td>2007</td>
<td>107,680.00</td>
<td>1,676,448.00</td>
<td>0.00</td>
<td>1,784,128.00</td>
</tr>
<tr>
<td>2008</td>
<td>191,482.00</td>
<td>944,369.00</td>
<td>0.00</td>
<td>1,135,851.00</td>
</tr>
<tr>
<td>2009</td>
<td>163,852.00</td>
<td>1,471,328.00</td>
<td>295,500.00</td>
<td>1,930,680.00</td>
</tr>
<tr>
<td>2010</td>
<td>49,504.00</td>
<td>1,601,154.00</td>
<td>0.00</td>
<td>1,650,658.00</td>
</tr>
<tr>
<td>2011</td>
<td>12,672.00</td>
<td>1,528,842.00</td>
<td>0.00</td>
<td>1,541,514.00</td>
</tr>
<tr>
<td>2012</td>
<td>157,644.00</td>
<td>1,028,518.00</td>
<td>0.00</td>
<td>1,186,162.00</td>
</tr>
<tr>
<td>2013</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Total</td>
<td><strong>940,531.00</strong></td>
<td><strong>12,909,394.00</strong></td>
<td><strong>629,500.00</strong></td>
<td><strong>14,479,425.00</strong></td>
</tr>
</tbody>
</table>

**Source:** White Paper on National Minerals Policy 2015

### 1.3.3 EXPORT EARNINGS

The energy sector accounts for the vast majority of export earnings and hard currency inflows in T&T, accounting for an annual average of 84% of total export receipts between 2011 and 2015 (Central Bank of Trinidad and Tobago, 2014). Typically, crude oil and refined crude oil contribute the most to total energy export receipts (US$ 4,368.1 million), followed by natural gas (US$ 3,187.6 million) and petrochemicals (US$ 2,479.2 million).
There was a sharp decline in export earnings over the years 2014 and 2015. In 2014 the value of energy sector exports fell by 20 percent followed by a further 30.3 percent slump in 2015 to US $8,422.6 million (Table 7). The reduction in energy export revenues by US$ 6.7 billion between 2013 and 2015 reflected both the decline in commodity prices and lower gas and petrochemical production due to gas curtailments and enforced maintenance activity.

### 1.3.4 LABOUR CONTRIBUTION

The number of persons employed in the energy sector has always been marginal relative to other sectors of the economy given its requirement for equipment rather than human labour. The sector’s share of the total labour force averaged 3.42% between 2001 and 2015. According to the CSO, at the end of the fourth quarter in 2015, there were 19,800 persons with jobs in the sector compared to 21,700 persons in the fourth quarter of 2014. The lower employment numbers reflect job losses from the closure of two downstream manufacturers - Acelor Mittal (644) and Centrin (200) as well as a slowdown in activity upstream, as the industry began adjustment to the new economic realities.

The available data is not disaggregated to show the local and foreign composition of the labour employed in the sector. However, locals are more likely to provide services to the upstream and downstream sectors such as maintenance services, drilling services; fabrication of oil and gas platforms and pipeline installation; engineering design, project management and plant construction. Foreign personnel are hired usually on a short term or project basis as project managers, captains, and engineers (drilling, directional, foremen and crews) (The Energy Chamber of Trinidad and Tobago, 2007).

### 1.4 LEGAL FRAMEWORK AND FISCAL REGIME

#### 1.4.1 LEGISLATION AND TAX LAWS

All enterprises in the oil, gas and mining industries, including the Government, must operate in the best interest of the citizens of T&T. To ensure that this occurs, there is a set of legal instruments that specify the various requirements of the different actors within the extractive industries. These laws/acts seek to achieve several broad objectives namely:
i. **Petroleum Industry:** To provide contractual arrangements, such as Production Sharing Contracts (PSCs) under which companies can explore and develop hydrocarbons. Among other things, PSCs require companies to pay special taxes on their net profits and gross income. The fiscal package also provides incentives to stimulate continued exploration of hydrocarbon provinces.

ii. **Minerals:** To make provisions for royalties to be paid to the Government by companies with mining licences, to rehabilitate lands affected by mining and to regulate mining activities on State and private land.

iii. **Energy Mid and Downstream.** To ensure that NGC and petrochemical companies pay differential taxes on the profits that they earn and that operators contribute towards conserving the environment. The tax rate on these companies (35 percent) is above that of the other non-petroleum companies in Trinidad and Tobago. The framework is also set up to encourage operators to invest by providing them with capital allowances. Further, it seeks to safeguard against the mismanagement of extractive revenues received by the Government through the use of audits of state enterprises completed by the Auditor General.

iv. **Health, Safety and Environmental:** To minimize or avoid any negative biophysical or social effects on the environment from extractive industry development projects (e.g. drilling and mining). Further it ensures that operators and their employees adhere to health and safety regulations to prevent bodily harm and the loss of life.

v. **Freedom of Information:** To ensure that certain documents and information held by public authorities relevant to the operations of the sector are made available to the public. The Freedom of Information Act 1999 outlines specific documents that are exempt from being accessed by the public. However, it gives citizens the right to access a range of reports and audits of public authorities such as departments of the Ministry of Energy and Energy Industries and Joint Select Committees.
1.4.2 MINERALS LEGAL FRAMEWORK

The Minerals Act 2000 is the predominant instrument that governs the minerals sector in Trinidad and Tobago. This Act seeks to manage activities of minerals sector and regulate the environmental impact of the exploration, mining, and processing operations and also encourage land rehabilitation after abandonment. It makes provisions to grant mining licences and approve mining zones to promote the efficient management of mineral resources. Under the Minerals Act, mining activities are regulated through:

1. Oversight of exploration, mining, and processing authorized by a licence
2. Enforcement of regulations and monitoring of operations
3. Termination of illegal mining on State and private lands
4. Refusal of mining licences in areas that contain freshwater resources; on national parks, protected areas, and environmentally sensitive areas; on the foreshore and sea bed; and in archaeological sites unless they are approved by the Minister.

5. Enforcement of the rehabilitation of State lands affected by mining.

The Minister of Energy is responsible for the general administration of the Act while the Director of Minerals is responsible for implementation. The Minerals Advisory Committee performs an advisory role to the Minister on all mineral related activities.

## 1.4.3 CHALLENGES FACING THE MINERALS SECTOR

Although these procedures and laws are specified in the Minerals Act, the sector has been plagued with problems due to a lack of enforcement and an outdated Minerals Policy. The Minerals Act for example details the powers of the Director to enforce the Act, however there is no mechanism in place to ensure that this happens. Moreover, operators are sometimes unwilling to comply with requests from the regulatory agencies.

In 2015, the Government introduced the Mineral (General) Regulations 2015 under Section 48 of the Minerals Act and also finalized a national mining policy—i.e. the White Paper on Nationals Minerals Policy. These complementary legislative and policy prescriptions aim to improve the regulation and performance of the sector given the range of problems that have consumed the sector over the past decade. Among the challenges outlined in the Minerals Policy are:

1. **Unlicensed mining operations**: according to data from the MEEI, of the 90 active mining operations in the country, 82 operate under expired licences while only 8 are licensed. These 82 operators are awaiting licences from the MEEI. In addition, the Ministry has 60 new licence applications waiting to be approved and a further 55 mineral processing plants are also operating without licences.

2. **Environmental Challenges**: these include forest degradation, land degradation and destruction to watercourses due to illegal quarrying. Licensees are also required to pay rehabilitation bonds yet the problem of non-rehabilitation of areas quarried has endured over the past several decades.

3. **Poor health and safety practices**: Health & safety practices of several operators are well below acceptable standards. Many participants also lack education & training in health & safety standards.

4. **Leakages of revenue out of the sector**: As mentioned in Section 3, poor collection of royalties and other payments prevents citizens from enjoying the maximum benefits generated by the sector. To ameliorate this, the Whitepaper states that the Government will adopt a new system of accounting, introduce a new system of verification at each quarry to quantify production and improve the MEEI’s as well as licensee’s capacity for record-keeping.
Mining Rights in T&T

In order to be able to legally explore for, mine, process or trade minerals, one must obtain the right to do so by acquiring a mining license from the owner of the mineral resources which can be either the State or private individuals. Interestingly, T&T is one of the few countries of the world in which private individuals own mineral rights. This is because prior to 1904, the Crown (State) would have granted land to private owners but did not reserve for itself the right to the minerals at the subsurface. Since land rights do not necessarily imply mineral rights (unless mineral rights are also conferred), private individuals involuntarily gained not only ownership of the land at the surface but also benefitted from the minerals at the subsurface. While there is no register of mineral rights, a significant portion of mineral rights in the country are privately held because of this practice. Only after the year 1904, did the State begin to grant lands to private grantees while retaining mineral rights for itself.

All applications to obtain exclusive mineral rights to explore for, to mine, process, import or to export minerals are sent to a Mineral Advisory Committee (MAC) and all fees are paid to the MEEI. The MAC reviews the application and advises the Minister of Energy and Energy Industries, who then decides to refuse or grant the license. After obtaining licenses grantees are required to pay rehabilitation bonds and performance bonds as well as royalties. Royalties are the payments made in exchange for the use of the mineral resources over a period of time.

The Minerals Regulations 2015 increase royalty payments, licence fees, rehabilitation bonds and performance bond rates that operators will have to pay to the State. It also requires the creation of a minerals register, outlines duties of the licensee, requires training of employees and puts forward rules for specific mining zones. On paper, these are critical additions but mechanisms need to be set up to ensure that they are enforced if citizens are to reap the full rewards of the sector.

1.4.4 OIL AND GAS LEGISLATIVE FRAMEWORK

1.4.4.1 Contractual Arrangements

1.4.4.1.1 Production-Sharing Contracts (PSCs) and Exploration Licences (E&P Licence)

Companies wishing to explore for and produce oil and gas in Trinidad and Tobago must first be granted the rights to do so by signing a contract with the Government. During the early days of the sector (i.e. from 1900 to the 1970’s) the main contractual instrument used was the Exploration and Production Licence. With this licence (concession) agreement the Government would have granted the upstream company the exclusive right to own, explore and produce a defined acreage (field) for a certain period of time - typically 20 years. In return for this right, the Company would have paid the state royalties on production and taxation on profits from its operation.

However, as the sector developed rapidly, there was a need for better administration of contracts and improve the state share of the value derived from production. Today, Production Sharing Contracts or
PSCs have largely replaced E&P Licences not only in T&T, but across the world. Under this contractual arrangement, the State receives a predetermined share of production, based on value and profit calculations. Rather than paying royalties and taxes, the operator allocates a percentage of production to recover the costs incurred to produce and splits the remaining profit with the State. The State ensures that the share of oil profits it receives adequately covers all taxes payable by the upstream operator.

1.4.4.2 Auditing and Value Added Under the PSC

To ensure that Contractors uphold their obligations and accurately account for all costs, the PSC requires (1) accurate financial reporting, (2) auditing of reports for each calendar year and (3) verification of all costs to be recovered. In 1999, the MEEI also set up a PSC Audit Unit with the responsibility of assuring the Minister that Contractors complied with the requirements of the PSC. However, according to the Auditor General’s Report for the financial year 2013 the reliability of this internal control (i.e. the Audit Unit and PSC provisions) cannot be assessed given that the work plans and the status reports of the Audit Unit were not provided. The Ministry highlights broad findings of the Audit Unit on its official website which includes duplicate payments, overstatement of expenses by the Contractor and an understatement of the Minister’s/State’s share of profits. Given these findings, civil society should seek answers on how the Government plans to address these issues and how citizens can access more information on these reports.

The Auditor General’s Report, which is available on the official website, documents the amount of money collected by the Board of Inland Revenue from upstream companies under the PSC arrangements for the financial year. However, there was no report on this value in fiscal year 2013/2014. Between fiscal 2012 and fiscal 2015, there was a drastic decline in payments made to the Board of Inland Revenue by upstream
companies under PSC arrangements. In 2011/2012, the total amount collected stood at roughly TT$6.31 billion and fell by almost 60% in 2014/2015 to just $2.6 billion. This slippage is not surprising given the simultaneous decrease in commodity prices over the period.

26 Figure 18

1.4.4.3 Taxes Payable by Contractors under PSC Arrangements

Companies which are engaged in the exploration and production of oil and gas are taxed under the Petroleum Taxes Act, while petrochemical companies and NGC are taxed under the Corporation tax Act. The Petroleum Taxes Act outlines the taxation rules or laws governing businesses engaged in E&P, refining and marketing. The Act details the type of taxes applicable (e.g. PPT and SPT), how these taxes are calculated and administered and the general principles of taxation. It also outlines incentives and explains how these are to be applied. The Government also obtains revenue from Lease Operatorships and Farm Outs (LOFOs) which are also taxed under the Petroleum Taxes Act.

The main taxes paid to the government are the Supplemental Petroleum Tax (SPT), the Petroleum Profits Tax (PPT), the Unemployment Levy, the Petroleum Production Levy, Petroleum Impost, Green Fund Levy and the Withholding Tax. Table 8 below shows that most of the Government’s energy tax revenue comes from the PPT (20.5%), the SPT (8.6%) and Corporation tax (11.3%) (Central Bank of Trinidad and Tobago, 2014). The PPT is a tax charged on the profits that upstream companies make, while the SPT is levied on the gross income from the sale of oil. There is no SPT on income from gas. Corporation taxes are imposed on the profits of petrochemical companies and NGC.
On the other hand, incentives may take the form of tax rebates and various allowances which generally serve to lower the tax burden on the companies. These include the Sustainability Incentive, Investment Tax Credit, the Workover Allowance and the Deepwater Allowance, among others.

### Table 8

<table>
<thead>
<tr>
<th>Energy-Based Tax Revenues as a Percent of Total Gov’t Revenues</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Profits Tax</td>
<td>20.5%</td>
</tr>
<tr>
<td>Supplemental Petroleum Tax</td>
<td>8.6%</td>
</tr>
<tr>
<td>Corporation Tax</td>
<td>11.3%</td>
</tr>
<tr>
<td>Royalties</td>
<td>4.1%</td>
</tr>
<tr>
<td>Unemployment Levy</td>
<td>2.1%</td>
</tr>
<tr>
<td>Withholding Tax</td>
<td>1.2%</td>
</tr>
<tr>
<td>Oil Impost</td>
<td>.1%</td>
</tr>
<tr>
<td>Exercise Duty</td>
<td>.2%</td>
</tr>
<tr>
<td>Other</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>48.1%</td>
</tr>
</tbody>
</table>

Source: Central Bank of Trinidad and Tobago

Note: Numbers may not add up due to rounding off.

In fiscal years 2013 and 2014, the following amendments were made to the Petroleum Taxes Act:

1. **PPT Incentive**
   
   Any company that drills exploratory wells in deep horizon on land or in shallow marine areas and incurs capital expenditure, will be granted capital allowances of 140% of that expenditure provided that certain criteria are met.

2. **SPT incentives**
   
a) **Harmonization of SPT Rates for Marine Areas**

   A fiscal regime change in 2010 created two separate SPT rates for upstream operators which held E&P licences before 1988 and those who held licences after 1988. This distinction of Pre-1988 and Post-1988 SPT rates was removed in 2013 so that only one SPT rate applies for all marine areas except for deep-water marine areas and new field development. Companies now pay a base rate of 33% if oil prices fall between US$50 and US$90 per barrel. The SPT rate in 2013 for marine areas was set at the base rate of 33% for prices ranging from US$50/bbl.–US$90/bbl., compared with 2010 base rates of 42% and 33% for Pre 1988 and Post 1988 marine areas respectively. No STP is payable for prices under US$50/bbl.
b) Introduction of a Special SPT Rate for New Field Development

A new field is an area that is within the licenced area or contracted area which has a petroleum reservoir or several reservoirs grouped on the same geological structure or in which the total proved reserves do not exceed 50 million barrels of oil equivalent. A SPT rate of 25% was introduced for new field developments which produced at prices above US$90 per barrel to US$200 per barrel.

3. Investment Tax Credits- in 2010 an investment tax credit was introduced which allowed companies to deduct from amounts owed to under the STP, an amount up to 20% of expenditure incurred to develop mature fields and in enhanced oil recovery projects. The incentive was further expanded to allow unused credit to be carried forward for one year.

4. Capital Allowances-
   a) Exploration: A new allowance was introduced to allow for 100% of exploration costs to be written off in the year the expenditure is incurred. This applies to exploration costs incurred over the period 2014-2017. From 2018, there will be an allowance of 50% in the first year of the expenditure, an allowance of 30% in the second year of the expenditure and an allowance of 20% in the third year.
   b) Development: Annual allowances were replaced by new ones that permit 50% of the spending on machinery and wells to be written off, in the first year in which they were incurred. In the second year and third year there will be a 30% and 20% allowance respectively.
   c) Workovers and Qualifying Sidetracks: an allowance of 100% of the total costs of workovers and qualifying side-tracks in the year incurred was given.
   d) Gas Compression Facilities: The wear and tear allowance for compression facilities was increased from 25% to 33.3%. 
## Summary of Energy Sector Taxes

<table>
<thead>
<tr>
<th>Petroleum Tax/Levy/Impost</th>
<th>Description</th>
<th>Tax Rate</th>
<th>Paid to</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Profits Tax</td>
<td>Charged on the profits of companies engaged in E&amp;P of hydrocarbons</td>
<td>50% of chargeable profits (Deepwater operations 35%)</td>
<td>Board of Inland Revenue (BIR)</td>
<td>Does not include LNG business</td>
</tr>
</tbody>
</table>
| Supplemental Petroleum Tax     | Levied on gross income from the sale of crude. Purpose is to capture a greater share of oil rents. | **Applicable from January 1st 2013:**
  a) For crude prices < US$50.00 per barrel: Marine (0%); New Field Marine Development (0%); Land and Deepwater (0%)
  b) For crude oil prices less than or equal to US$90.00 per barrel: Marine (33%); New Field Marine Development (25%); Land and Deepwater (18%)
  Note: if the price per barrel = US$90.00 per barrel, the SPT rate is calculated using the following formula:
  \[ \text{SPT Rate} = \text{Base SPT Rate} + 0.2\% \left( P - 90 \right) \]
  where \( P \) = price
  c) If the price per barrel is greater than US$200 then the SPT rate is: Marine (55%); New Field Marine Development (47%); Land and Deepwater 40% | BIR | Not applicable to gas sales. Measured on a sliding scale. SPT amended several times. |
| Petroleum Production Levy      | Applies only to a production business if business produces petroleum at a daily average rate in excess of 3500 barrels and the company is beneficially entitled to receive the proceeds of the sale of petroleum | Lower 4% of income from crude for producers of >3500 barrels of oil per day or proportionate share of petroleum subsidy | MEEI | Due monthly |
| Oil Impost                     | Imposed to meet the administration expenses of the MEEI.                     | Proportionate share to offset MEEI expenses                              | MEEI | Due annually |
| Royalties                      | A payment for the right to produce natural resources                         | Historically 10-15% for crude oil and US$0.015 per million cubic feet for natural gas. | MEEI | Rate varies and depends |
## Summary of Energy Sector Taxes

<table>
<thead>
<tr>
<th>Petroleum Tax/Levy/Impost</th>
<th>Description</th>
<th>Tax Rate</th>
<th>Paid to</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Withholding Tax(WHT)</td>
<td>Levied if a payment (as defined under the Income Tax Act) is made to a non-resident of T&amp;T, who is not engaged in trade or business in T&amp;T</td>
<td>WHT on Payments - 15%; HT on Distributions to Parent company- 5%</td>
<td>BIR</td>
<td></td>
</tr>
<tr>
<td>Corporation Tax</td>
<td>Tax imposed on the profits of petrochemical companies and NGC</td>
<td>Petrochemical Companies -35%</td>
<td>BIR</td>
<td></td>
</tr>
<tr>
<td>Unemployment Levy</td>
<td>Used to support unemployment relief programmes.</td>
<td>5% of chargeable profits</td>
<td>BIR</td>
<td>Due quarterly</td>
</tr>
</tbody>
</table>

Source: Ernst & Young, Board of Inland Revenue, Ministry of Energy and Energy Affairs
Companies operating within the extractive sector must not only adhere to tax laws but they also have to ensure that their operations do not negatively harm the environment. As such, there are environmental laws to minimize the effect of and prevent environmental hazards such as the destruction of sensitive species, pollution (e.g. land, sea and air), increased loss of topsoil and flooding, threats to livelihoods and human health.

By far the most important piece of legislation is the Environmental Management Act administered by the Environmental Management Authority (EMA). The EMA regulates the activities of the extractive sector by ensuring that the effects of development are managed through co-ordination of environmental programmes, public education, legislation, and economic and financial incentives and fines.

A major part of the EMA’s regulations is the Certificate of Environmental Clearance (CEC) Rules and the CEC (Designated Activities) Order which together, aim to provide an integrated environmental management approach on a national level. The Certificate of Environmental Clearance Rules, 2001 is a set of regulations generated from the Environmental Management Act Chapter 35:05. The CEC Rules guides the assessment of small and large-scale developmental projects which may have both positive and negative environmental effects. Section 62 of the Environmental Management Act mandates a person or entity, to apply for and obtain a CEC before engaging in any of the 44 designated activities which are listed in the Certificate of Environmental Clearance (Designated Activities) Order, 2001. Operators wishing to engage in the following designated activities 24 to 28 must obtain environmental clearance:

a. The exploration of crude oil or natural gas.

b. The establishment of a facility for primary or secondary production of crude oil, condensate, or associated gas.

c. The establishment of a facility for natural gas or condensate production.

d. The establishment of infrastructure for pipeline systems, for crude oil refining and for the storage of petroleum or liquid petroleum gas or their derivatives.

As such, the granting of a CEC by the Environmental Management Authority (EMA) is an indication that the project is environmentally acceptable under the laws and policies of the Government of Trinidad and Tobago.

The CEC Process

An application for a Certificate of Environmental Clearance should be submitted to the EMA together with the prescribed fee, which is currently $500. The CEC Rules lay out all the requirements of the process along with all stipulations for the applicants and the ways in which the EMA must deliberate over the application. General requirements for the applications are available on the EMAs website.
In considering the applications, the EMA looks at all impacts which may arise out of any new or significantly modified construction, process, works or other activity. At the preliminary phase of the assessment of the proposed project, if potential significant environmental and human health impacts have been identified, the applicant may be asked to conduct an Environmental Impact Assessment (EIA).

Once the applicant is advised that an EIA is required the EMA develops a Terms of Reference (TOR) which is a set of guidelines within which the EIA must be done. Rule 10 of the CEC Rules sets out the requirements for the provision of the EIA. The final TOR issued by the EMA however sets out specifically what is required in each particular case. General guidelines for the provision of an EIA include:

(i) A description of the proposed project including the nature and scale of specific activities involved;

(ii) The location and environmental setting for the project and baseline environmental, social and cultural information;

(iii) The potential positive and negative environmental, health, social, economic and cultural aspects of the proposed activity;

(iv) Plans to mitigate the potential adverse impacts and respond to emergencies;

(v) Information on public consultation programs undertaken with respect to the proposed activity and actions taken by the applicant to reserve public concerns; and

(vi) An assessment of the cumulative effects, which are the combined effects of the project and other activities which are occurring or may be reasonably expected to occur within the area.

Following the submission of an EIA, the EMA does a preliminary review to check for completeness. If it is not accepted the applicant is given the reasons and asked to resubmit. If the EIA is deemed acceptable for public review, a more in-depth review is undertaken where the technical content of the report is assessed in detail by a multi-disciplinary team. Site visits or public hearings may also take place during this process. Based on this review the EIA is accepted or the applicant is advised of the need to more closely follow the TOR set out by the EMA and resubmit the EIA. At the end of the process a decision is made by the EMA about whether to grant the CEC.

Granting a CEC requires a great deal of analysis and evaluation by the EMA, and not all applications are approved. The EMA can refuse to grant a CEC if the proposed project was started before a CEC was obtained, if the project does not meet the environmental standards or if the negative impacts cannot be lessened to acceptable levels. The EMA will also refuse to award a CEC if there is insufficient information about the proposed project to properly determine the environmental issues. Figure 18 below depicts the CEC process.
If the EMA reasonably believes that a person has broken any of the environmental rules, or has not adhered to a condition in the CEC, a Notice of Violation will be served requesting modifications to the activity. Failing this, the Authority will issue an Administrative Order, which can direct a company to stop committing the violation. In addition to this the EMA can seek a restraining order to prevent the continued violation, seek an order to close any facility or an order to prohibit the continued operation.

The EMA can fine persons up to $5,000 and companies up to $10,000, for each violation. In the case of continuing or recurrent violation, $1,000 and $5,000 respectively, per day until the violation is remedied or abated.

The decision by the EMA can be challenged at the Environmental Commission. The Environmental Commission is a Superior Court of record, established by and under the EM Act Chap 35:05. It is a specialized “environmental court” charged with the resolution of certain environmental disputes brought before it.

**CEC Applications 2011-2015**

Over the period 2011 – 2015 there have been roughly five hundred and thirty (530) CEC applications from within the Oil and Gas Industry. Those applications sought clearance for a range of works from actual exploration and production activity such as drilling to the construction of supporting infrastructure such as storage tanks and also to the construction of facilities for administrative purposes.

In the vast majority of these cases the applications for a CEC had been approved by the EMA. There were only three (3) refusals of CEC from the EMA over the period in question. The first was for a construction project; the second for storage tanks and the third for an upgrade to an existing facility. There were roughly twenty (20) cases where it was determined that a CEC was not required. In most cases the applications were for expansion or upgrade works on an existing site. However, in one particular case where such a determination was made, the application was for the establishment of a CNG Conversion Centre. Its bears concern that a CEC is not required for that type of operation. Just over ten (10) the applications were withdrawn prior to a CEC being granted.

There is some concern among civil society for what they perceive is the vast number of CECs being granted for activities within the oil and gas sector. In the almost five hundred (500) cases of CEC applications in the Oil and Gas industry most of the timelines do suggest that the proper procedures were followed.

**Environmental Impact**

*Air Pollution: Carbon Emissions*

The impact of carbon emission on planet earth is a global concern. At the recently concluded UN Conference on Climate Change (COP21), the Paris Climate Change Agreement was adopted by all 195 participating countries, including Trinidad and Tobago. This is the first ever universal legally binding agreement on climate change. The agreement sets out a global action plan to put the world on track to
Trinidad and Tobago EITI Report
October 1st 2013 - September 30th 2015

avoid dangerous climate change impacts by limited global warming to below 2 percent. The action plan includes strategies for reducing carbon emissions, setting targets for reduction supported by a framework for transparency and accountability and strengthening the society’s capacity to deal with impacts.

As a country that ranks among the leaders in emissions per capita, T&T must take immediate steps to be compliant with the treaty obligations. The country currently has no inventory for GHG emissions. A consultant was hired to develop this system and is expected to complete work on the system by Q1 2017. After this system is developed, the EMA will more than likely be the agency charged with making it operational. The recently approved Air Pollution Rules 2014 do not require companies to report on GHG emissions only nitrogen dioxide and sulphur dioxide emissions. Companies were supposed to register with the EMA and report under these rules by May 2016 however the related EMA national register is not currently populated with any information. The MEEI also does not require companies to report on their emissions. Having independent verification of information is a key tenet of EITI reporting and without independent data from state agencies on emissions the process will be flawed. The civil society members of the TTEITI Steering Committee requested that the EITI report include information on environmental impact transparency and also drafted an environmental reporting template. The dearth of independent information and data on several environmental issues rendered this impossible on this occasion. However, the TTEITI Steering Committee plans to formulate a strategy to tackle environmental reporting in future EITI reports.

Figure 19

Land Pollution: Oil Spills

The EMA and the MEEI are the main entities which monitor and advise those companies which have generated oil spills. The EMA is responsible for issuing fines and overseeing remediation measures to return the environment to its original condition. In the case of marine oil spills the Institute of Marine Affairs also conducts assessments and provides advice to the offenders. In the case of land spills, the Office
38

1.5 ALLOCATION OF REVENUES FROM EXTRACTIVE INDUSTRIES

Spending on capital goods (e.g. machinery, equipment and infrastructure) and on current goods and services (e.g. consumer goods, salaries and services and transfer payments and subsidies) are the two main avenues to allocate extractive revenues to citizens. Through transfers and subsidies, oil and gas wealth is allocated directly to the citizens via the Petroleum Fuel Subsidy, or indirectly through social programmes. Some of the revenues are also saved in in the Heritage and Stabilization Fund to stabilize the economy in the case of an economic downturn and to provide for future generations.

On October 1st each year (i.e. the beginning of the new fiscal year) when the National Budget is presented, the Minister of Finance informs the country of how government plans to split its energy revenues.

To determine the size of allocations, the government makes assumptions about the most likely oil and gas prices and energy revenues that it expects to receive. Only then can it determine how much of the projected/ budgeted revenue will be spent. This is important to understand because the higher the budgeted price of crude oil and natural gas, the more revenue the Government expects to receive and this may translate into higher government spending.
However, it is possible for actual revenues to be lower if actual prices received on the market are lower than anticipated. For example, the 2015 National Budget was based on a predicted WTI oil price of US$45 per barrel and on a Henry Hub gas price of US$2.75 per million cubic feet. These projections were lower than those made in 2014 to match the worsening slump in oil prices. The continuous decrease in prices forced the government to further revise its budgeted oil and gas prices to reflect the reality of market prices. In its Mid-year Budget Review in 2016, it was announced that for fiscal operations from April 2016 to September 2016, the budgeted prices of oil and gas were adjusted downward to WTI US$35 per barrel and Henry Hub US$2.00 per mmbtu respectively. This revision meant that government’s budgeted expenditure had to be cut to ensure that more is not spent than is received.

1.5.1 CURRENT AND CAPITAL EXPENDITURE

Total government spending in fiscal year 2014 was TT$61.8 billion which was 1.62% less than spending in the previous fiscal year (i.e. TT$ 62.8 billion) owing to less current and capital expenditure (Central Bank of Trinidad and Tobago, 2014). In terms of current expenditure, the 21% increase in wages and salaries and the 8.3% rise in spending on goods and services between fiscal 2013 and 2014, were offset by the large contractions in interest payments and transfers and subsidies. As a result, total current expenditure decreased marginally by 1.8% to TT$53.4 billion between FY 2013 and FY 2014. Further, despite greater spending on the Public Sector Investment Programme, total capital expenditure also declined from TT$8.45 billion in fiscal 2013 to TT$ 8.38 billion in the following financial year due to lower payments to the Infrastructure Development Fund and less spending on acquiring foreign fixed assets (Central Bank of Trinidad and Tobago, 2014).


<table>
<thead>
<tr>
<th>Table 10: Current Expenditure and Transfer Payments FY 2012- FY 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages &amp; Salaries</td>
</tr>
<tr>
<td>Goods and services</td>
</tr>
<tr>
<td>Interest Payments</td>
</tr>
<tr>
<td>Transfers and Subsidies</td>
</tr>
</tbody>
</table>

Source: Ministry of Finance, Review of the Economy 2015

1.5.2 THE HERITAGE AND STABILIZATION FUND (HSF)
The HSF was introduced in 2000 as the Interim Stabilization Fund and was later formalized in 2007 via the Heritage and Stabilization Fund (HSF) Act. The purpose of the Fund is to cushion or stabilize the economy in case of a sustained shortfall in Government revenue, occasioned by a collapse in petroleum prices. The Fund is also has a heritage objective which is to provide oil and gas wealth for future generations.

Under the HSF Act, the Ministry of Finance is required to deposit a minimum of 60% of surplus petroleum revenues (i.e. the difference between projected and actual annual revenue) into the HSF during the financial year. The value of the Fund increases, not only when these deposits are made, but also when it receives returns on its investment. Figure 24 shows the Fund’s strategic asset allocation. The Fund is governed by strict legal rules of deposits and withdrawals, it is overseen by a Board and is audited by the Auditor General to prevent any financial mismanagement.

The HSF has been consistently increasing since its inception in 2000. By the end of September 2015, the value of the Fund was approximately US $5.7 billion which represents a US $.12 billion increase from its value in September 2014 (Ministry of Finance, Various Years). This small increase in the fund came from returns on investment since no deposits were made in the previous fiscal year. Additionally, worsening petroleum prices in FY 2015 meant that there were no excess petroleum revenues to deposit and again no deposits were made. As seen in Figure 25 below, as the price of oil declines over time so too does the amount of oil revenues deposits.
It should be noted that the HSF, for the year 2015, was not audited because of the absence of a duly constituted Board. The Auditor General Report 2015 stated that this problem was not rectified as at April 2016.
With the TT$ 10 billion projected shortfalls in income (from all revenue streams), the Minister of Finance announced in June 2016 that a withdrawal of TT$2.5 billion had to be made from the Fund. This amount is well within the legally allowed limit of TT$4.5 billion. The withdrawal was not done to finance any specific budget item but to finance the budget deficit. All requirements under the HSF Act were met before withdrawals were made.

34 Figure 22
The Petroleum Fuel Subsidy was introduced in 1974 as a means of directly sharing oil and gas revenues with citizens and also to cushion consumers from high fuel prices.

Both Government and the E&P companies share the burden of the fuel subsidy. In practice, Petrotrin supplies products to the domestic market at a price well below the international price of the fuel. Government and the E&P companies then compensate Petrotrin for the loss incurred on fuel sales. Specifically, E&P companies pay up to 4% of their gross income as a petroleum levy towards meeting the cost of the fuels subsidy. This amount is deposited annually into the Petroleum Products Subsidy Fund. The government, using its own funds, is responsible for paying any additional amounts in excess of this 4% (Figure 27). The Ministry of Finance makes the subsidy payments on behalf of the government. However, the Government has not always paid its contribution on time to Petrotrin and fuel distributors. Table 11 shows that total value of the subsidy averaged TT$ 3.61 billion and registered a 204% increase over the 6-year period from fiscal year 2009-2014.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Cost of Subsidy (TT$ billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008/2009</td>
<td>1.356</td>
</tr>
<tr>
<td>2009/2010</td>
<td>2.681</td>
</tr>
<tr>
<td>2010/2011</td>
<td>4.232</td>
</tr>
<tr>
<td>2011/2012</td>
<td>4.457</td>
</tr>
<tr>
<td>2012/2013</td>
<td>4.436</td>
</tr>
<tr>
<td>2013/2014</td>
<td>4.129</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>25.292</strong></td>
</tr>
</tbody>
</table>
In the 2016 Mid-year Budget Review, the Minister of Finance revealed further changes to the structure of the Fuel Subsidy as Government sought to align its expenditure to the sharp drop in revenues induced by the collapse of oil prices. Under the new arrangement, premium gasoline and super gasoline, TT$5.75 per litre and TT$3.58 per litre respectively at the pump, are no longer subsidized. However, diesel, with a pump price of TT$2.00 per litre still benefits from a subsidy of approximately TT$1.00 per litre. The Government opted to gradually reduce the diesel subsidy to minimize the effect on public transport and is exploring options to lessen the impact on lower income groups.

The Government plans to use the savings to enhance social safety nets. According to the Minister, over the last 10 years, the fuel subsidy cost TT$31 billion. The IMF estimates that had the Government contributed the amount spent on the fuel subsidy since 2008 to the HSF instead, the HSF would now be worth an additional US $ 3.6 billion, or 62 percent higher than its current value.

1.6 STATE OWNED ENTERPRISES IN ENERGY SECTOR

1.6.1 THE NATURE AND STRUCTURE OF STATE OWNED ENTERPRISES IN ENERGY SECTOR

State Ownership in the energy sector is concentrated in three companies – The Petroleum Company of Trinidad and Tobago (Petrotrin), the National Gas Company of Trinidad and Tobago (NGC Group) and the National Petroleum Marketing Company (NP), and their respective subsidiaries. Historically, state involvement in the energy sector has been driven by several factors. In the initial years- 1968-1975, the state participation was impelled primarily by two factors:

1. The need to save jobs of workers of private foreign owned enterprises that had decided to shut down local operations. This was the case with the formation of NP in 1968, when Government purchased the assets of BP Caribbean the local marketing arm of British Petroleum.
2. The imperative to own and control a stake in the commanding heights of the economy.
Both factor accounted for the nationalization of the E&P assets of BP to form the joint venture Trinidad Tesoro and all the assets of Shell Trinidad limited in 1974 to form Trintoc. Both companies along with the assets of Texaco acquired in 1985, evolved into what is known today as Petrotrin.

Post 1975, the state took a deliberate decision to lead the resource based industrialization strategy by becoming directly involved in productive investment in the energy sector. This lead to the creation of a number of energy sector wholly owned state enterprises and joint ventures including the National Gas Company, the National Energy Corporation, the Iron and Steel Company of Trinidad and Tobago and Trinidad and Tobago Methanol Company and the Trinidad Nitrogen Company –Tringen.

The economic difficulties of the late 1980s resulted in a partial reduction of state ownership as several companies were sold to the private sector. Due to the resurgence in natural gas investments in the late 1990s, the state, through the National Gas Company became involved in the LNG business as a project developer and equity partner.
1.6.2 COMPANY PROFILES

1.6.2.1 National Gas Company of Trinidad and Tobago Limited

The National Gas Company (NGC) Group is a diversified group with assets worth US$ 7.3 billion spread across the entire value chain. The Group comprises several operating companies and paper companies. The core business of the parent, National Gas Company of Trinidad and Tobago Limited is the purchase, transmission compression, distribution and sales of natural gas. NGC has four main subsidiary companies:

- National Energy Corporation of Trinidad and Tobago Limited (National Energy) which is 100 per cent owned and is involved in the conceptualization, promotion, development and management of industrial estates and port and marine facilities;

- Phoenix Park Gas Processors Limited- which is majority owned and engaged in natural gas processing and the aggregation fractionating and marketing of Natural Gas Liquids – Propane Butane and natural gasoline to Latin America and the Caribbean.

- NGC CNG Company Limited (NGC CNG). This company is mandated to develop the CNG market in Trinidad and Tobago by promoting CNG and installation of network of CNG stations as well as implementing Government incentives for the sector.

- Trinidad and Tobago NGL Limited (TTNGL) – a company incorporated to hold 39% of PPGPL and which was listed ON THE Trinidad and Tobago Stock Exchange in 2015, to allow citizens to own a stake in the energy sector.

NGC has always been a profitable state enterprise. In 2015, the NGC Group recorded a profit of TT$ 561 Million, a significant reduction of TT$ 3.9 billion from the TT$ 4.5 billion earned in 2014. The sharp drop in profitability was due to a combination of factors including a sharp decline in Ammonia and Methanol prices by 18 per cent and 20 percent respectively, lower gas sale volumes as a result of supply shortages and impairment charges of TT$ 2.4 billion arising from Company’s investment in external projects.

Table 12 NGC Group gives a full listing of NGC subsidiaries, the nature of their business and the relationship with the parent.
<table>
<thead>
<tr>
<th>Company Name Subsidiaries</th>
<th>Principal Activity</th>
<th>Place of Inc.</th>
<th>Group Equity 2015</th>
<th>Group Equity 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Energy</td>
<td>Management of certain marine infrastructural facilities at the port of Point Lisas and the promotion and development of the Union Industrial Estate at La Brea</td>
<td>Trinidad and Tobago</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>NGC Pipeline Company Limited</td>
<td>Own, finance, construct, operate and maintain a 56-inch cross island pipeline (CIP) from Beachfield on the south east coast of Trinidad to Point Fortin on the south west coast of Trinidad</td>
<td>Trinidad and Tobago</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Trinidad and Tobago LNG Limited</td>
<td>Shareholding in a liquefied natural gas plant in Trinidad and in the processing and sale of liquefied natural gas ('LNG') and natural gas liquids ('NGLs') in partnership with others</td>
<td>Trinidad and Tobago</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>La Brea Industrial Development Company Limited</td>
<td>Promotion and development of and industrial estate and marine infrastructure facilities at La Brea</td>
<td>Trinidad and Tobago</td>
<td>81%</td>
<td>81%</td>
</tr>
<tr>
<td>Trinidad and Tobago NGL Limited</td>
<td>An investment holding company with a 39% effective ownership interest in Phoenix Park Gas Processors Limited (PPGPL). This company commenced trading on the Trinidad and Tobago Stock Exchange on 19 October 2015</td>
<td>Trinidad and Tobago</td>
<td>51%</td>
<td>100%</td>
</tr>
<tr>
<td>NGC NGL Company Limited</td>
<td>An investment Company which holds a 51% interest in PPGPL</td>
<td>Trinidad and Tobago</td>
<td>80%</td>
<td>80%</td>
</tr>
<tr>
<td>NGC Trinidad and Tobago LNG Company Limited</td>
<td>Shareholding in LNG Plant in Trinidad in partnership with others</td>
<td>Trinidad and Tobago</td>
<td>62.1%</td>
<td>62.1%</td>
</tr>
<tr>
<td>NGC CNG Company Limited</td>
<td>Construct operate and maintain compressed natural gas service stations throughout Trinidad and Tobago</td>
<td>Trinidad and Tobago</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>NGC E&amp;P (Barbados) Limited</td>
<td>Provides certain material needs and services for its member (NGC E&amp;P Netherlands Cooperatief UA.</td>
<td>Barbados</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
NGC E&P Investments (Barbados) Limited | Provides certain material needs and services for its investee (NGC E&P Netherlands Cooperatief UA) | Barbados | 100% | 100%

NGC Petrochemicals Limited (22 April 2015) | Investment Holding company which holds 20% share investment in Caribbean Gas Chemicals Limited | Barbados | 100%

Downstream Petrochemicals Research and Development Limited | Manage the initial DME and Downstream Promotion Fund and the subsequent DME Promotion Fund | Trinidad and Tobago | 100%

Phoenix Park Gas Processors Limited | Natural Gas processing, aggregation fractionation and marketing of natural gas liquids | Trinidad and Tobago | 60.69% | 79.80%

NGC E&P Netherlands Cooperatief U.A. | Exploration, development and production of oil and gas in Trinidad and Tobago | INc. Netherlands; Operating in T&T | 100% | 100%

NGC E&P (Netherlands) BV. | Exploration, development and production of oil and gas in Trinidad and Tobago | INc. Netherlands; Operating in T&T | 100% | 100%

NGC E&P (Netherlands) BV. | Exploration, development and production of oil and gas in Trinidad and Tobago | INc. Netherlands; Operating in T&T | 100% | 100%

1.6.2.2 Petroleum Company of Trinidad and Tobago Limited

Petroleum Company of Trinidad and Tobago Limited (Petrotrin) is an integrated oil and gas company engaged in the full range of petroleum operations including the exploration for, development of and production of hydrocarbons, and the manufacturing and marketing of a wide range of petroleum products. Petrotrin was born in 1993 from the merger of two national companies. Trintoc which inherited the assets of both Shell (1974) and Texaco (198) and Trintopec which had inherited the assets of Trinidad Tesoro in 1988.

As at September 30th 2015, Petrotrin’s subsidiaries were:

1. Trinmar, a 100 % owned subsidiary, was formed for the specific purpose of holding certain licences. These licences assign certain rights to explore for, drill, develop, produce and take oil, natural gas and other hydrocarbons from certain geological areas within the jurisdiction of Trinidad and Tobago. Trinmar was inherited from the former foreign multinationals whose assets were acquired by the state during the 1970 and 1980s.
2. Trinidad and Tobago Marine Petroleum Company Limited (Trintomar) 80% majority owner, is principally engaged in developing and producing natural gas from the Pelican Field which originally formed part of the South East Coast Consortium area.

3. Petrotrin EAP Services Limited (PEAPSL) a 100 % owned subsidiary, provides counselling services for employees and third parties.

4. World GTL Trinidad Limited (WGTL TL) was formed to undertake the construction, completion, ownership and operation of a gas to liquids plant to be located at Petrotrin’s Pointe-a-Pierre refinery complex. The said plant is still in the construction phase. After an extended legal battle stretching from 2010 to 2015 judgments were made confirming Final Arbitration Awards. As a result, WGTL TL is now a wholly owned subsidiary of Petrotrin.

5. PETROTRIN holds a 19 percent stake in La Brea Industrial Development Company Limited (LABIDCO) which is principally engaged in the promotion and development of an industrial estate as well as marine infrastructure facilities at La Brea.

Petrotrin also holds multiple contracts and joint venture arrangements for offshore acreages ranging from 16 percent to 40 percent interest. In most of these joint ventures Petrotrin’s involvement in the exploration phase is paid for by the joint venture partner. This arrangement defers expenditure to the development phase if such takes place.

Table 13 provides a listing of Petrotrin’s joint venture activity upstream.

### Table 13 Petrotrin Joint-Venture Interests

<table>
<thead>
<tr>
<th>Acreage</th>
<th>2015</th>
<th>2014</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCMA Block 9 Unitisation – Offshore</td>
<td>19.50%</td>
<td>19.50%</td>
<td>19.50%</td>
</tr>
<tr>
<td>Central Block</td>
<td>35.00%</td>
<td>35.00%</td>
<td>35.00%</td>
</tr>
<tr>
<td>East Brighton Block</td>
<td>30.00%</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Moruga West</td>
<td>40.00%</td>
<td>40.00%</td>
<td>40.00%</td>
</tr>
<tr>
<td>Point Ligoure, Guapo Bay, Brighton Marine (PGB)</td>
<td>30.00%</td>
<td>30.00%</td>
<td>30.00%</td>
</tr>
<tr>
<td>South East Coast Consortium</td>
<td>16.00%</td>
<td>16.00%</td>
<td>16.00%</td>
</tr>
<tr>
<td>South West Peninsula</td>
<td>27.50%</td>
<td>27.50%</td>
<td>27.50%</td>
</tr>
<tr>
<td>Parrylands ‘E’ Block</td>
<td>25.00%</td>
<td>25.00%</td>
<td>25.00%</td>
</tr>
<tr>
<td>Teak, Samaan, Poui (TSP)</td>
<td>15.00%</td>
<td>15.00%</td>
<td>15.00%</td>
</tr>
<tr>
<td>Block 1a</td>
<td>20.00%</td>
<td>20.00%</td>
<td>20.00%</td>
</tr>
<tr>
<td>Block 1b</td>
<td>20.00%</td>
<td>20.00%</td>
<td>20.00%</td>
</tr>
<tr>
<td>Block 22</td>
<td>10.00%</td>
<td>10.00%</td>
<td>10.00%</td>
</tr>
<tr>
<td>Block 3A</td>
<td>15.00%</td>
<td>15.00%</td>
<td>15.00%</td>
</tr>
<tr>
<td>Galeota</td>
<td>35.00%</td>
<td>35.00%</td>
<td>35.00%</td>
</tr>
<tr>
<td>Guayaguayare Shallow</td>
<td>35.00%</td>
<td>35.00%</td>
<td>35.00%</td>
</tr>
<tr>
<td>Guayaguayare Deep</td>
<td>20.00%</td>
<td>20.00%</td>
<td>20.00%</td>
</tr>
<tr>
<td>Block 2ab</td>
<td>--</td>
<td>30.00%</td>
<td>30.00%</td>
</tr>
</tbody>
</table>
Mayaro/Guayaguayare & -- & 30.00% & 30.00% \\
NCMA 2 & 20.00% & 20.00% & 20.00% \\
NCMA 3 & 20.00% & 20.00% & 20.00% \\
NCMA 4 & 20.00% & 20.00% & 20.00% \\
Rio Claro Block & 20.00% & -- & -- \\
Ortoire Block & 20.00% & -- & -- \\
St. Mary’s Block & 20.00% & -- & -- \\

### 1.6.2.3 National Petroleum Marketing Company Limited (NP)

The National Petroleum Marketing Company (NP) Limited is the most diversified petroleum marketing company in the English speaking Caribbean. NP markets the fuels manufactured by Petrotrin as well as its own lubricants through its large network of service stations in Trinidad and Tobago.

The NP product range includes petroleum fuels, lubricating oils and greases, Liquefied Petroleum Gas and Compressed Natural Gas, and automotive specialty products – radiator coolant, car wash, windshield washes etc. Automotive fuels and LPG are the largest contributors to sales volume. The NP brands such as Ultra are available across the Caricom region.

Natpet Investments Company Ltd is NP’s only subsidiary, operating an LPG filling plant on behalf of NP.

In 2013, NP reported an after tax profit of TT$ 23.5 million and TT$ 12.9 million for the financial years ended March 2012 and March 2013 respectively. (Trinidad Guardian Oct. 3rd 2014). No new information was provided or is publicly available on the Company’s financial position.

### 1.6.3 THE FINANCIAL CONTRIBUTION OF ENERGY BASED SOES.

Government receives revenues from the state owned enterprises in the form of dividends and taxes.

The rules and guidelines governing the relationship between the State and the enterprises are captured in the State Enterprises Performance Monitoring Manual published by the Ministry of Finance in 2011. The Manual covers several issues of governance including reporting relationships and functions, guidelines on performance monitoring, including procurement guidelines, and oversight and compliance.

State Corporations like any other private corporations are liable to pay all taxes levied on companies in Trinidad and Tobago. In the case of Petrotrin, the E&P business is subjected to the Petroleum Taxes Act at a rate of 55 percent while the refining and marketing business is taxed at 50 percent. However, NGC and other midstream operators are taxed under the Corporation Taxes Act, but at a rate of 35% of gross profits. For the period under review NGC was the only one of the energy sector state enterprises making a substantial contribution to the Government’s coffers.
Table 14 shows the contributions over the period Fiscal 2011-2015 for NGC and Petrotrin

<table>
<thead>
<tr>
<th></th>
<th>NGC</th>
<th>Petrotrin</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dividends ($ TT M.)</td>
<td>Taxes ($ TT M.)</td>
<td>Dividends ($ TT M.)</td>
</tr>
<tr>
<td>2011</td>
<td>350.00</td>
<td>1,530.60</td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
<td>965.00</td>
<td>1,277.60</td>
<td>0</td>
</tr>
<tr>
<td>2013</td>
<td>1,500.10</td>
<td>1,564.00</td>
<td>0</td>
</tr>
<tr>
<td>2014</td>
<td>4,850.00</td>
<td>1,642.70</td>
<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>5,772.00</td>
<td>1,050.40</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>13,437.10</td>
<td>7,065.30</td>
<td>0</td>
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</tbody>
</table>

Among the state enterprises, NGC was the major contributor to Government revenue in the period. In fact, Petrotrin recorded losses in the years 2013 to 2015 in the face of declining oil price, declining output and shrinking refinery margins (Petrotrin Financial Statements 2015). On the other hand, the NGC contribution was astounding. Over the five-year period 2011 to 2015, NGC contributed TT$ 20.5 billion to the treasury. In fiscal year 2015, a year in which the Company’s profits were the lowest in over 15 years, NGC made its highest ever dividend payment to Government totalling $TT 5.772 billion. This comprised retroactive dividends for 2013 and 2014 as well as the 2015 dividend. While the claims on NGC retained earnings for retroactive special dividends may be alarming, they appear to be consistent with the policy framework as laid out in the State Enterprises Performance Monitoring Manual. The guidelines on dividend policy states inter alia:

- State enterprises with retained earnings in excess of working capital may be required to pay Special Dividend.

- All profitable state enterprises would be required to pay dividends up to 100 per cent of distributable profits

- The profitability of the enterprise, its liquidity and legal restrictions/ Loan covenants and the replacement costs of essential capital goods are considered in determining the quantum of dividends that a company would be required to pay.

In the context of the turbulent business environment faced by the NGC, the decision of the Board to accede to the shareholder’s request for Special Dividends brings to the fore questions about the Corporate Governance Structure for state enterprises and the supremacy of the Corporation Sole in these matters.

In sharp contrast to NGC profitability, Petrotrin recorded losses of 150.3 million and 819.4 million in 2014 and 2015 respectively.
1.6.4 CORPORATE SOCIAL RESPONSIBILITY OF SOE IN ENERGY SECTOR

State enterprises in the energy sector have had a long and proud history of investing in the economic social and environmental sustainability of the communities. There is a clear understanding that the profits generated by these companies are derived from the natural resources which belong ultimately to the citizens of the Republic. As may be expected, the economic downturn resulted in some trimming of corporate budgets for social expenditure but nevertheless the companies remained committed to positively impacting lives of the communities.

1.6.4.1 National Gas Company of Trinidad and Tobago Limited

NGC Group pursued a varied and dynamic Corporate Social responsibility (CSR) strategy that seeks to inspire, develop and transform lives and the national landscape. NGC’s CSR programme is classified into three broad areas- Sports, Civic Life and Empowerment. Over the period 2011 to 2015, NGC expended a total of TT$ 216.6 million community social and infrastructure projects. In the last two years 2014 and 2015 in particular NGC corporate social expenditure amounted to a staggering TT$ 151.1 million or an average of TT $75 million per year, compared with an average of TT$ 15 Million per year over the period 1991 to 2011. (TTEITI 2013 Report). The bulk of the expenditure (83 per cent) was classified as social expenditure.

Some of the signature projects under the umbrella of Sport, included:

- As part of a three-year sponsorship deal NGC Group contributed $4.45 million to the Trinidad and Tobago Cricket Board (TTCB). This included the sponsorship of the national cricket team and enabled the TTCB to undertake several development programmes including the NGC/TTCB Youth Academy.

- The NGC “Right on Track”, now in its 16th year, was formally extended through a new Partnership agreement signed between NGC and the respective national associations, i.e. the National Association of Athletics Administrators (NAAA) and the National Basketball Federation of Trinidad and Tobago (NBFTT). This agreement will see the introduction of new initiatives such as the NAAA’S Kids Athletics Programme and the NBFTT’s Mini to Masters Programme.
Civic Life includes investments in arts, culture, education, the community infrastructure and the environment all designed at enriching the individual and community life. Significant projects include:

- Sponsorship of the Signature events such as the San Fernando Arts Festival (Sanfest) and the Bocas Lit fest and the iconic Lydians Singers have now become synonymous with the NGC Group and delivering excellence.
- Direct sponsorship of three steelbands in Trinidad and one in Tobago. As well as two tassa groups.
- NGC reforestation programme now in its 11th year.

Empowerment - The NGC group sponsored several skills development courses in targeted communities across Trinidad and Tobago. Course offerings in conjunction with NESC, YTEPP and MIC included plant maintenance, building construction trades and boat engine repairs.

1.6.4.2 Petrotrin

Petrotrin’s commitment to the continuous development of its people, facilities and communities has distinguished the Company not only as a leader in the energy sector but as a preferred neighbor and partner in national development. In this role Petrotrin contributes to the Treasury, develops indigenous capabilities and ensures human development within the Company and through its many community investments. To this end, the Company has consistently supported several groups within the national community to ensure the sustainability and preservation of Trinidad and Tobago’s multifaceted culture and colourful traditions. In 2014 and 2015, Petrotrin spent $16,146,994 and $15,295,076 respectively on its CSR programme. Petrotrin’s CSR Programme focuses on: culture, sport, environment, education and training, and community development.

Culture - In 2014 and 2015, Petrotrin continued to invest heavily in the many facets of the steelbands movement. The Company maintained sponsorship for four (4) prominent Steel Orchestras namely Phase...
II Pan Groove, Siparia Deltones, Hatters and Katzenjammers of Tobago. The Company also provided assistance to a further sixteen (16) and fourteen (14) steel orchestras in 2014 and 2015 respectively. Petrotrin also maintained sponsorship of the Pan for Blue competition and in 2015 celebrated the competition’s 16th year as part of the Point Fortin Borough Week activities. This steel band competition is designed to promote the use of the national instrument amongst primary schools within the South/Central Region of Pan Trinbago. In 2015, Petrotrin was also the main sponsor of the National Small and Single Pan Finals.

Additionally, Petrotrin provides support for various cultural groups and events throughout the national community. These include Petrotrin Boodoosingh Tassa Group, Petrotrin Levantamientos Parang Group, Voices of Petrotrin, and Trinmar Chorale.

Sport - Petrotrin has always played a prominent role in sport in Trinidad and Tobago. The featured initiatives in the period 2014 to 2015 included:

- Women’s Football Development Programme - In 2015, Petrotrin celebrated its third successful edition of the Women’s Development Football Programme. This two (2) month long initiative focused on exposing young ladies, aged 11-17, to the basic techniques of football. In 2015, the programme accommodated secondary school students in addition to students from fenceline primary schools.
- Women’s Premier League Football - In 2015, Petrotrin was a proud sponsor of the Petrotrin Oilers Football Team for the 2015 Women’s Premier League (WPL). The WPL aims to be an international tournament and in 2015 included national, club and college athletes from Trinidad and Tobago, the Caribbean, North and South America and Europe. The Petrotrin-sponsored team, the Petrotrin Oilers, was the only developmental team in the League. The team consisted of players from the Company’s Women’s Team as well as players from within Petrotrin’s fenceline communities.
- Support for National Futsal League – As part of Petrotrin’s drive to support national progress in all aspects of sport, the Company was the main sponsor of 2015 National Futsal League. The League ran from 2015 May to August and was held primarily to identify and prepare players for the national team. At the League’s end, forty-four (44) players were selected and offered the opportunity to train with the National Futsal Team with the goal of World Cup participation in Columbia in 2016.

Environment

- Pointe-a-Pierre Reforestation Programme – Petrotrin has developed an ongoing reforestation programme. In 2014 a total of 100 trees were planted by Company employees in commemoration of World Environment Day. Additionally, over 180 trees were also distributed to employees.
- Petrotrin Petting Zoo and Biodiversity Display – This display is aimed at creating a significant educational link towards awareness and promotion of environmental conservation in Trinidad and Tobago. Through this initiative, children are given the opportunity to learn about wildlife and their habitats and get to directly interact with a variety of animal species. In 2014 approximately ten thousand (10,000) students participated in this initiative.
Coastal Care – In 2014, Petrotrin once again partnered with the Ocean Conservancy to help clean beaches in Trinidad. Company volunteers visited the Beach Camp, Palo Seco site and cleared over five hundred and fifty-nine (559) pounds of rubbish from the coastal area.

Education and Training

Graduate Training Programme – In an effort to positively impact development and growth at the national level, the now two (2) and a half year Graduate Training Programme aims to build key business capabilities by creating a talent pool equipped with the right mix of competencies. The programme is intense and is focused on developing strong, capable and well-rounded professionals through rigorous on-the-job training as well as exposing them to Petrotrin’s culture of volunteerism, community outreach and personal wellness. In 2014, Petrotrin welcomed sixty-eight (68) graduates.

Undergraduate Training Programme – This annual eight (8) week programme takes place during the July/August months and is targeted toward second and third year university students. It is designed to focus on developing critical professional competencies including business etiquette, protocol and business ethics. In 2014, Petrotrin welcomed sixty-seven (67) undergraduates.

Craft Apprenticeship Programme – In 2014, Petrotrin welcomed seventy-two (72) apprentices and immersed this group in a structured training programme which comprised both field based and classroom training. Apprentices are exposed to various machine ranges processes and procedures which aim to develop their competencies in the range of industry equipment and various industry process knowledge requirements. This initiative not only bridges the gap between academic qualifications and practical hands-on training, it also provides persons with the necessary skills to pursue employment opportunities within the wider community.

Community Development

Petrotrin Cadet Corps – Based in Fyzabad, the Petrotrin Cadet Corps is intended to motivate and develop young people and to provide an alternate source of activity with hopes that eventually Cadets will join State bands and services. Cadets are trained in music theory, military drills, leadership skills, self-discipline and self-training. To date, over five hundred (500) cadets have graduated from the Corps.

Global Young Leader Conference - Petrotrin is a proud sponsor of nation's future leaders as the Company continues to contribute significantly by giving Trinidad and Tobago’s youth the opportunity to attend the Global Young Leader’s Conference (GYLC). This conference brings together outstanding young people from several parts of the world and provides an out-of-classroom learning experience that equips students with the confidence, independence, skills and global competitiveness required of the next generation of future leaders. Petrotrin assisted twenty-five (25) and twenty-three (23) students in 2014 and 2015 respectively.

References for Section 3

Trinidad and Tobago EITI Report
October 1st 2013 - September 30th 2015

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<th>Source</th>
<th>Reference</th>
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