Trinidad and Tobago Energy Milestones

Galeota No. 1 becomes the first exploratory well drilled offshore the East Coast of Trinidad. Well produces oil but considered uneconomic

1857

First well drilled for oil in Trinidad - 61 metres deep in the vicinity of the Pitch Lake by the Merrimac Company

1901

Randolph Rust and John Lee Lum drill and test a well which produces 455 litres of oil in 2 hours

1908

Commercial oil production begins in Trinidad near the Pitch Lake, La Brea

Production reaches 1 mn bbl/vr with 1,200 employed in the oil industry

British Admiralty converts Royal Navy's ships from coal to fuel oil. First export cargo of crude oil shipped by tanker from Brighton, La Brea

1911

Discovery of

field, the most

northerly oilfield

found on land in Trinidad to date

Tabaquite

1919 Refinery capacity increased to 9,000 bbl/day. 66 per cent of crude oil produced refined locally

1955

Discovery of the northernmost gasfield in Trinidad at Mahaica, by Dominion Oil Ltd. First offshore production commences in the Soldado Field off the West Coast of Trinidad

1953

1939

Pointe-a-Pierre

of aviation fuel

to the RAF and

USAF following the

outbreak of WWII

refinery becomes the main provider

> First commercial use of natural gas to generate electricity at the Penal power station in South Trinidad

1962

T&T gains independence from Great Britain. Ministry of Petroleum and Mines is formed

1866

First successful oil well drilled by Walter Darwent at Aripero

1904

Mines Department instituted as a branch of the **Public Works for** the production of manjack

Guayaguayare No. 3 - first well to be drilled with rotary equipment

Walter Darwent founds the Paria Oil Company to drill for oil in South Trinidad

1916

World's first use of gas recycling re-injection of gas into wells to recover more oil - in Tabaquite

Small refinery built at Point Fortin. Following the outbreak of WWI it becomes a major supplier of fuel to the Royal Navy

1940

Refining capacity increased to approximately 285,000 bbl/day

1948

Formation of

Petroleum

Department

Widespread labour unrest in the oilfield area

Electrical well logging introduced in Trinidad

Crude oil production increased to 10 mn bbl/yr. First importation of oil from Venezuela for refining in Trinidad

1959

Federation Chemicals Ltd pioneers the use of natural gas in Trinidad and Tobago as a chemical feedstock in the manufacture of ammonia. Start up of Yara

First well started on platform 1.2 miles offshore from Brighton. The structure was designed to accommodate 36 wells, a world record for this type of platform

Marine drilling for oil begun in the Soldado Field by Trinidad Northern Areas Ltd. Deepest well drilled on land by Apex, Fyzabad Well No. 560, drilled to 16,155 feet

1970

First marine concessions given out under the new Petroleum Act – North Coast Marine Area

1974

On August 31, the Government acquires the local operations of Shell Trinidad Ltd and forms the Trinidad and Tobago Oil Company Ltd (TRINTOC).

Petroleum Taxes Act splits the petroleum industry into three parts for tax purposes – production, refining and marketing, and introduces the Refinery Throughput Tax. PSCs introduced on the Peruvian model, with no cost recovery prior to profits split. Later amended to permit cost recovery prior to profit split.

Large-scale commercial natural gas production begins at Amoco's Teak field off Trinidad's East Coast. Government builds 16in, 24mile offshore gas pipeline to bring gas ashore

1968

First commercial oil discovery off the East Coast of Trinidad (off Point Radix), well OPR-2. Government and the United Nations carry out a seismic survey off Trinidad's North Coast

1966

Point Lisas Industrial Port Development Corporation (PLIPDECO) is incorporated

1972

Trinidad and Tobago National
Petroleum Marketing Company created.
Commercial production begins off the
East Coast of Trinidad from AMOCO's
Teak Platform.
First delivery of East Coast oil ashore

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1971

Drilling begins off the North Coast of Trinidad. Natural gas discovered

1973
Opec embargo sends
oil price rocketing from
US\$1.66 to US\$14 a barrel

1977

1976

Trinidad and Tobago

becomes a Republic.

T&TEC's Point Lisas power

plant becomes the first

tenant at the Point Lisas

1980

Industrial Estate

GORTT takes its option of an additional 20% participation in South Coast Consortium as a commercial discovery is announced.
Start up of Trinidad Nitrogen 1 (Tringen).
First shipment of ammonia to the USA and Europe

1978

T&T's oil production peaks at 230,000 bbl/day

1980

Commissioning of the Iron and Steel Company of Trinidad and Tobago (ISCOTT). Formation of the National Energy Corporation (NEC)

1970

1967

A new production high of 65 mn bbl/yr is achieved

1963

Appointment of Commission of Enquiry into the Oil Industry, one of the first acts of the newly independent Government

1969

On July 1, the Government, in a joint venture with Tesoro Corporation of the US, acquires the local assets of British Petroleum; Government's first venture into national ownership of an oil company. National Petroleum Company established by law

1975

Formation of the National Gas Company (NGC) for the transmission and sale of natural gas

KEY:

GORTT – Government of the Republic of Trinidad and Tobago PSC – Production Sharing Contract

SECC - South East Coast Consortium

mn – million, bn – billion, mcf/day – million cubic feet per day SPT – Supplemental Petroleum Tax

bbl/day, bbl/yr - barrels per day, barrels per year

4004

Crude oil production registers its first increase since 1978 with production rising from 155,078 bbl/day to 163,937 bbl/day.
Start up of PCS Nitrogen II.

Start up of Trinidad and Tobago Methanol Company (TTMC). First Methanol Plant at Point Lisas begins commercial production. GORTT carries out marine seismic survey over unlicensed areas off the North and East Coast of Trinidad.

SPT on marine operations is reduced from 60% to 55% with effect from 1 January 1984

198

Oil price collapses to US\$8 per barrel. Compressed natural gas pilot project is launched and the first CNG filling station inaugurated

1982:

TRINTOC enters into a processing agreement with Texaco Trinidad Inc (Textrin) for the processing of 1 mn bbl of crude oil. Installation work begins on the second cross-country pipeline by the National Gas Company (NGC)

Start up of Hydro-Agri Trinidad. Phoenix Park Gas Processors Ltd commences operations

1990

Venezuela and T&T sign oil cooperation agreement

1992

 ${\sf EOG}$ Resources begins operations. ${\sf EOG}$ is currently contracted to sell gas to NGC and condensate to Petrotrin.

Petroleum Taxes Act is amended to introduce a system of taxation for calculation of the SPT on a sliding scale instead of a fixed rate.

NGC acquires the assets of NEC

1993

The Petroleum Company of T&T (Petrotrin) is registered on January 21, with an authorised share capital of TT\$1.5 bn. Petrotrin is the single entity formed from the merger of the state-owned oil companies, Trintoc and Trintopec. British Gas signs a revised PSC with the GORTT EOG and British Gas/Texaco lease marine fields Keskidee and Dolphin respectively.

Start up of Caribbean Methanol Company (CMC)

1995

The Atlantic LNG Company (ALNG) comprising Amoco Trinidad (34%), British Gas (26%), Repsol International Finance (20%), Cabot Trinidad (10%) and NGC (10%) is formed for the production and exportation of liquefied natural gas (LNG).

Unleaded gasoline is introduced on the domestic petroleum product market.

Blocks off Trinidad's East Coast are awarded in Phase 1 of the Competitive Bid Round.

Agreement signed for the joint venture Farmland-Mississippi Chemicals ammonia plant. This will be the largest ammonia facility in the world

1980

1985

Amoco produces its 500 millionth barrel of crude oil, i.e. 22.6% of total crude production for the country at that date.
The majority of the assets of Textrin are acquired by GORTT and vested in Trintoc. GORTT acquires Tesoro Corporation's 49.9% equity in Trinidad-Tesoro Petroleum Company Ltd.

1983

Cassia Gasfield comes on stream in May. Urea plant at Point Lisas commissioned in December. SPT for land operations reduced from 35% to 15%

1981

Start up of PCS Nitrogen 1.
Petroleum Taxes Act of 1974
is amended to provide a more
equitable treatment of all petroleum
companies operating in T&T.
Oil price begins to decline for the
first time since the early 1970s

1989

Introduction of lease operatorship and farm-out programme.
Signing of joint venture agreement for the formation of Phoenix Park Gas Processors Ltd.
Caribbean Ispat commences operations in May.
The Southern Basin Consortium, comprising Exxon, Total, Chevron, Trintoc and Trintopec is formed to carry out exploration in the deeper geological horizons in the southern half of the island

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1988
Trintomar Ltd
incorporated to develop
and operate acreage held
by the SECC. Comprises
Trintoc 40%, Trintopec
40% and NGC 20%.
Start up of Tringen II.
GORTT revises SPT and
announces major tax
incentives for workovers
and marine heavy oil
production

1996

Start of construction of Atlantic LNG facility at Point Fortin. GORTT opens 3rd round of competitive bidding for 13 offshore leases for deep water PSCs between itself and international companies. Start up of TTMC II and PCS Nitrogen III

1998

Upgrade, a US\$355 mn project is completed and commissioned. **Exxon Mobil Exploration &** Production Trinidad Ltd signs a PSC in February. Trinidad Shell Exploration and Production BV signs a PSC in February. New Horizon commences operations in September. Start up of PCS Nitrogen IV and Methanol IV (MIV). Start up of Point Lisas Nitrogen Ltd. Amoco discovers oil at Immortelle Field estimated at between 40-70 mn barrels

Petrotrin's Pointe-a-Pierre Refinery

1997

Farmland MissChem Ltd commences operations in T&T.

Messer T&T Ltd enters into joint venture with Neal and Massy to operate three industrial gas plants in Point Lisas.

PCS Nitrogen Trinidad Ltd acquires Arcadian's operations.

Announcement of results of Deep Water Bid Round. The preferred bidders are: Shell/Agip; Exxon, Union Texas, Arco/Braspetro.

GORTT agrees to sell its 69% stake in TTMC to a consortium comprising CL Financial and German Companies Ferrostaal AG and Helm AG

2002

First commercial gas produced from BG T&T North Coast Marine acreage.

Start up of Caribbean Nitrogen Company Ltd and ALNG Train 2. Commencement of Ultradeep 2D survey.

BPTT begins installation of the world's second largest natural gas processing/production platform in Kapok Field.

Production of natural gas begins from Hibiscus field of Trinidad's North Coast.

BHPBilliton declares commerciality of the Greater Angoustra Structure, reserves estimated at 1 bn bbl of oil & 1 tcf of gas. Vantage petroleum announces the first onshore gas and condensate discovery since 1957 at Carapal Ridge 1.

BPTT becomes the first company to commit to maximum local content in its upstream operations.

BGT&T drills the deepest deviated wells in T&T to date (22,000 ft) at its Hibiscus field off Trinidad's North Coast.

BPTT installs the world's largest offshore gas processing unit,

Cassia B, with a capacity of 1.6 bcf/day

2000

Agreement reached for expansion of Atlantic LNG Trains 2 and 3.
Start up of Titan Methanol, the world's largest methanol plant. NGC's sales of natural gas exceed 1 bcf/day for the first time. Natural gas takes over from oil as the leading contributor to government revenue

2004

Start up of N2000 and International Steel Group (ISG). NEC assumes direct responsibility for the management of gas-based investment projects, industrial parks and harbours from NGC. Petrotrin granted an automatic stake in all exploration and production arrangements with foreign companies

2005

NGC invests in upstream gas development activity for the first time since Trintomar in 1988, taking 15% in Teak/Samaan/Poui (TSP) block purchased from bpTT by Repsol.

ALNG Train 4, the world's largest LNG train with a capacity of 800 mcf/day or 5.2 mn tonnes of LNG/yr, begins production at Point Fortin. Methanol 5000, the world's largest methanol plant with a capacity of 1.89 mn tonnes/yr, comes on stream.

GORTT increases royalty on gas exports by bpTT to 10%, payable in kind, to obtain a gas supply for industries it wishes to encourage, such as aluminium smelting.

Chevron/BG T&T's Manatee well in block 6d confirms existence of cross-border gas reserves with block 2 in Venezuela's Plataforma Deltana, also held by Chevron

2007

Eastern Caribbean gas pipeline given formal go-ahead by initial customer, Barbados, New gas discoveries in offshore blocks 5c (Southeast Coast) and 22 (north of Tobago). MEEI confirms that crossborder natural gas in blocks 6d (T&T) and block 2 (Venezuela) amounts to 10 tcf, 2.7 tcf of which is on the Trinidad side. Demonstration methanol-fired power plant established at Point Lisas with an installed capacity of 8.39 MW, opening the way for a new source of electricity for the Caribbean

2009

Petrotrin granted licence to pursue the development of tar sands, of which an estimated 300 million tonnes are believed to exist on land in south Trinidad. The 5th Summit of the Americas in Port of Spain agrees to promote "energy security" in the Western Hemisphere, through the adoption of renewable fuels and using fossil fuels more efficiently

2010

2010

Canada's Parex Resources makes first discovery of new oil on land for in Trinidad for decades, with the Snowcap well in its Cory Moruga block

2013

Local company Trinity Exploration and Production becomes the first TT company in 100 years to be listed on the London Stock Exchange (AIM)

2000

2001

Titan Methanol Company begins production.
Caribbean Nitrogen Company commences operations.
BHPBilliton announces that wells Canteen 1 and Kairi 1 encountered significant oil and gas columns in previously untested Oligocene sands – the first offshore oil discovery since Amoco in 1968

1999

Atlantic LNG Train 1 begins production. Start up of ISPAT (DRI) and Methanex. NGC constructs 36 foot pipeline from Beachfield to Point Lisas

2003

Start up of Atlantic LNG Train 3. Start up of Atlas Methanol. NGC's profit exceeds TT\$1 bn for the first time. BGT&T and partners begin production of natural gas offshore Trinidad's North Coast. Kairi 1 becomes the first offshore platform to be fabricated in T&T, by Damus in collaboration with Gulf Island Fabrication for BHPBilliton, Total and Talisman's block 2c

2006

Launch of Cannonball Platform: first of a kind that is 100% locally constructed.

BPTT drills Ibis Deep, the deepest well ever in T&T at 19,068 feet in SECC block but fails to find hydrocarbons. BHP Billiton makes the first oil discovery Kairi and Canteen in 2001 with the Kingbird and Ruby 1 wells in block 3a. NGC inaugurates the largest gas pipeline in the western hemisphere, the 56 in, 76.5 km Cross Island Pipeline (CIP) from Beachfield to Point Fortin, with a capacity of 2.4 bcf/day on free flow and 3.2 bcf/day with compression