



Government of the Republic of Trinidad and Tobago

Ministry of Energy and Energy Industries

Keynote Address

by

THE HONOURABLE STUART R. YOUNG, MP

Minister of Energy and Energy Industries

and

Minister in the Office of the Prime Minister

at the

Trinidad and Tobago Energy Conference 2022

Hyatt Regency

June 1st, 2022

Government's Vision for the Oil and Gas Industry in Trinidad and Tobago with the focus on the sustainability of the gas industry, including the future of petrochemicals and LNG.

Good Day

It is my pleasure to address this distinguished audience at this the 2022 Trinidad and Tobago Energy Conference of the Energy Chamber. This is one of the premier energy conferences within the Western Hemisphere, bringing together local and international companies to inform on domestic and international energy sector developments. On behalf of the Government of Trinidad and Tobago, I extend a warm welcome to all attendees of the Conference and trust that your participation is informative and rewarding.

In 2021 the Conference was held virtually due to the pandemic, fortunately the trajectory of the pandemic has been in the right direction allowing us to meet physically. The Conference continues to push boundaries by offering potential solutions to dynamic challenges facing the energy industry, updates to participants on key developments in the global energy industry, and networking opportunities. This year's theme "Leveraging the industry's strengths for the energy transition" is topical and relevant in light of decisions and challenges facing the global energy community. In my address, my focus will be on the sustainability of the domestic energy industry, with emphasis on the downstream.

The climate change imperatives have required that the oil and gas industry reorganize its affairs to lower its carbon footprint. We have become more conscious of the need to reduce harmful emissions. As a consequence, the global energy community is pursuing many decarbonization pathways and scenarios, driven by a combination of demand, policy, financial markets and social pressures. Technological development, falling prices of technologies and facilitative policies are helping to fuel the global momentum in the transition from fossil fuels to clean energy sources.

Let me start by saying very clearly that Trinidad and Tobago has to find the right balance. We will do our part towards reduction of carbon, methane and harmful emission reduction. But we will do so whilst ensuring the sustainability of our energy sector. I want to put on the record that being a hydrocarbon province should not be seen as a negative. We have been blessed with oil and gas resources and our challenge is how to ensure its sustainability whilst doing our part towards cleaner energy.

To meet climate change objectives, the share of renewable energy in total final energy consumption needs to increase substantially. The World Economic Forum has suggested that renewables need to increase from 14% of primary energy in 2018 to 75% of primary energy by 2050. However, according to the estimates by reputable energy publications, the share of renewables in the primary energy mix will at the most account for 27% of the global primary energy mix in 2050.

The movement to a low carbon economy, while beneficial, in the long term raises the spectre of an energy supply imbalance. The global economy is expected to double over the next quarter of a century and energy demand is forecasted by the US Energy Information Administration (EIA) to increase by almost 50 % over the same time. To meet this demand, the world will require increased oil and natural gas production, technological breakthroughs and significant policy changes. In this scenario, oil and gas will remain an essential part of the global energy mix to meet the global energy demand and to mitigate against any energy shortfall crisis.

The global economy is changing at alarming rates, we are constantly influenced by economic and geopolitical factors contributing to energy demand and pricing volatility. The International Energy Agency (IEA) estimates oil demand will start to decline in the 2030s for the first time , based on current policy settings. In this

scenario oil demand is projected to level off at 104 million barrels per day in the mid-2030s and then decline very slightly until 2050. As regards natural gas, the GECF estimates that the gas market share will increase from just over 23% in 2020 to 27% in 2050. It predicts that natural Gas, as the lowest GHG emitting fossil fuel, will experience this growth due to overwhelming environmental concerns and increasing global electricity demand associated with population growth and urbanization. In its estimation, production of natural gas will continue to grow driven by increased end-use consumption, upstream investment, the increase in the global trade of LNG and the back-up to renewable energy systems. Trinidad and Tobago will continue to advocate the many benefits of gas. It is the clearest hydrocarbon fossil fuel. Its derivatives are the cleaner energy sources i.e. LNG, Ammonia and Methanol to name a few. And we have all three right here in T&T.

More recently, due to geopolitics, natural gas utilization has been given an added impetus as several European countries have taken the decision to build regasification terminals or to acquire Floating Storage and Regasification Units. The geopolitics has also brought a shift in the LNG market dynamics with the LNG demand in Europe increasing at the expense of Asian market. As consequence , in 2022 the LNG prices reached record highs. In April 2022 , NBP, the British benchmark reached US\$40.76 per mmbtu. Record high European prices also pushed up Japan-Korea Marker (JKM) prices , which in April 2022 reached US\$37.44 per mmbtu. This has had a knock effect on Henry Hub, the US benchmark for the majority of Trinidad and Tobago LNG , which moved from US\$3.0 per mmbtu in May 2021 to US\$7.84 per mmbtu in May 2022. Within recent times we have even seen HH prices over US\$8.00 per mmbtu. The improved prices will result in increased netbacks to the upstream and increased revenue to Government from taxation.

The LNG business in Trinidad and Tobago is currently undergoing transformation. In January 2022, Government executed a Heads of Agreement with Atlantic LNG Shareholders for its restructuring with the objective of improving its efficiency, competitiveness and long-term viability. A Government Team is currently in negotiations with the Shareholders on definitive terms which include a new and extended term, third party access and pricing formulae that are market reflective. As the Minister involved I see my mandate to ensure the right balance of increased value for the citizens of T&T with ensuring the sustainability of T&T in LNG for as long as possible which means finding the right formulas with ALNG's shareholders.

A key imperative of Trinidad and Tobago's transition strategy is that our citizens continue to benefit from economic returns from our natural energy resources as we scale the incorporation of sustainable sources into our energy mix. In this regard, we will continue to engage all upstream stakeholders for the exploitation in the shortest time frame all sanctioned and unsanctioned projects and prospective resources in the country.

The importance of our oil and gas industry cannot be understated. The industry has been the main driver of the country's social and economic development, accounting for an estimated 32% of our GDP. The upstream sector is dominated by natural gas, with production averaging around 440,000 barrels of oil equivalent per day compared to approximately 60,000 barrels a day for crude oil. Our hydrocarbons have provided us with much developmentally in the past decades since our independence and we must not allow ourselves to ignore or forget this.

Natural Gas plays an essential role in our energy value chain. As a gas-dominated economy, we depend on the production of natural gas as feedstock for our

downstream industries, primarily petrochemicals, LNG and as fuel for power generation. Accordingly, the astute management and exploitation of our natural gas resources are important to sustenance of these industries. Natural gas is the primary fuel in electricity generation (99.9% of our electricity is generated from natural gas). Gas will remain the predominant source of electricity generation even as we include renewables in our energy mix. Renewables have a part to play but there are limitations such as the intermittency, spatial requirements and finance. Therefore, for the foreseeable future, natural gas will remain as the transition fuel as we rebalance our energy mix and diversify the economy. This does not mean that Trinidad and Tobago is not pursuing the use of renewables; we are doing so. I hope that we will be shortly be able to execute the commercial contracts for Project Lara, the 112.2 MW Lightsource BP solar project and I envisage that whilst it is being constructed, we will go out for another RFP for further solar projects. More solar allows us to do our part towards global GHG reduction and allows us to monetise our valuable natural gas resources.

We will also be exploring the viability of future power generation by combining waste to energy technology and renewables which would have many environmental benefits.

Trinidad and Tobago, like many other countries, has had key industries impacted by the covid pandemic. The domestic energy sector was affected in different ways. In the petrochemical sector a number of plants were taken offline due to low commodity prices, which for ammonia and methanol fell to below US\$200 per metric ton. The market has since rebounded with ammonia reaching a high of US\$1500 per ton FOB Point Lisas in April 2022 and US Gulf Coast FOB methanol price reaching US\$438.20 per metric ton in March 2022.

I ask the population to note the cycles of global petrochemical products. Two years ago, the conversation of the naysayers was ‘plants shutting down at Pt. Lisas’ because of gas prices. At the time we were actively negotiating gas prices and fighting for fair prices. However, within the recent times Ammonia and Methanol prices are high so you are not hearing complaints about gas prices but rather requests for more gas. If the government did not stand strong on principle and support NGC as it negotiated with downstream, where would we, the citizens, be today? We would not be getting the value we deserve for our gas. So take note, that we stood strong and negotiated hard for better value for the Citizens and thankfully we were strong in our convictions even as the loudmouths, some of who were being paid by those who stood to benefit from lower prices for our gas, were trying to mislead the population.

The upstream sector’s day to day operations were largely unaffected by COVID. However, there were delays in the bringing onstream new gas to replace declining fields. As a consequence there has been a reduction in gas production which prior to the pandemic was on the upswing. Notwithstanding the difficulties, NGC has executed Gas Sales Contracts (GSCs) with its major downstream customers and is currently in the process of executing GSCs with its light industry customers. NGC’s purpose is to derive value for our gas, derive value for us the citizens of Trinidad and Tobago and I make no apologies for that.

With the ease on the pandemic, upstream companies have reactivated their development programmes. Accordingly, in 2021 natural gas production from several new fields in the shallow marine area came onstream. BHP completed the drilling of six (6) development wells within Block 3(a) enabling crude oil and natural gas production from the Ruby and Delaware fields. Shell completed its Barracuda project which resulted in production from the Bounty and Endeavour

fields within the East Coast Marine Area. bpTT's Matapal project came in earlier than planned. These projects have been instrumental in reversing the trend of declining natural gas production.

The momentum continues in 2022, with the Ministry of Energy and Energy Industries approving the drilling of several development wells which target natural gas reservoirs. Thus far, in the marine area, we have realized first gas from Shell's Colibri project which encompasses the Cassra and Orchid fields. Projects scheduled to come on stream in the second half of 2022 are De Novo's Zandolie development, EOG's Osprey East Development and Osprey West Project and the bpTT Cassia Compression Project. On the onshore front, we have seen the recent successes by Touchstone within the Ortoire block through the discovery of the Coho and Cascadura fields, with first gas expected in the second half of 2022. On April 28, 2022 Touchstone reported the commercial potential of its Royston 1 in its Ortoire Block. This discovery further underscores the prospectivity of onshore Trinidad and Tobago as a proven hydrocarbon province.

Consequent on these developments, gas production is projected to increase from the current levels to 3.28 tcf by 2024. Beyond this period there is a suite of projects that are awaiting sanction and are critical to meeting the requirements for power generation, downstream and LNG. In the short term, these projects include bpTT's Ginger, Cypre, and Coconut fields and extended field developments in its Mango, Savonette and Juniper fields. Additionally, bpTT is involved in a joint-venture with EOG in the Mento in the Ska/Mento/Reggae (SMR) Block. EOG Resources also has seven (7) exploration Projects that are currently unsanctioned. Four of these projects are Joint Venture projects with bpTT in the East Manzanilla Zone and the SMR Block and the other three (3) projects are in the SECC block. We

encourage all upstream projects and have been actively working with all upstream entities to ensure continued gas production.

For the decade commencing 2027, there are two projects which will significantly impact natural gas production in Trinidad and Tobago. These are the Manatee Field Development by Shell and the Calypso Deepwater Project by BHP/Woodside/bpTT. In November 2021 Government and Shell agreed to the terms and conditions of a Production Sharing Contract (PSC) for the Manatee field, which was previously was unitized with the Venezuela Loran field. Current projections indicate that this project is expected to come online in 2027, with a gas production rate of 700 mmscf per day. The deep-water gas resources of BHP/Woodside's Calypso Project are currently being appraised and are estimated at approximately six (6.0) tcf with a potential gas production of 600 mmscf per day to 1 bcf per day.

These gas-based developments will sustain Trinidad and Tobago's gas industry in the medium term. However, if we are to sustain the industry for the long term, upstream exploration and development activity must be accelerated and expanded. It is imperative that we need to pursue, to provide certainty of supply for downstream industries, LNG and power generation.

While natural gas is the dominant hydrocarbon oil is no less important. The EIA has predicted that oil production driven by industrial demand will increase from 95 million barrels per day to 125 million per day by 2050. Domestic oil production is currently in the region of 60,000 barrels per day. The known potential for increased production lie in open blocks onshore and in acreage held by Heritage. Oil production received a fillip with discoveries onshore by Touchstone and the development by BHP of the Ruby Field in Block 3a. It is set to receive a further boost from a number of projects, which are currently being evaluated and which

have the potential to significantly improve oil production. These include new developments by Touchstone in its Ortoire Block, Heritage's South West Soldado, Jubilee, Main and East Cruze fields, EOG in its SECC Block, and in a JV with Heritage in its Southern TNA Block and projects proposed by Trinity and Perenco. Based on these new developments oil production is projected to increase to 85,00 barrels per day by 2024 and to 104,000 barrels a day by 2026. We intend to work with Heritage to identify more farm outs and work overs opportunities. It makes no sense for Heritage to sit on acreage when there are companies who are willing to spend money on exploration and production if block holders, including Heritage are not working acreage we will explore and pursue relinquishing the acreage so those who want to produce oil are allowed to do so.

Given the global transition to a low carbon economy it is important that we expedite the monetization of our hydrocarbon resources less we remain with stranded assets. The latest hydrocarbon reserve audits have established that Trinidad and Tobago has substantial untapped resources. The Oil Audit Report by Netherland, Sewell & Associates put the contingent resources at 68 million barrels, with the major contribution being the onshore operators and un-risked prospective resources of 3.2 billion barrels, of which 90% of were identified in deep-water. Ryder Scott has estimated the natural gas prospective resources at 55tcf, of which 64% are located in blocks held by upstream companies and 36% in open areas. The contract with Ryder Scott came to an end with the completion of the 2020 Natural Gas Reserve Audit. The Ministry of Energy and Energy Industries invited and received bids for a Gas Audit Consultancy for the period 2021 to 2025. These bids are being evaluated and an announcement on the selection of the Auditor will soon be disclosed.

Given the level of prospective resources located in licensed and contracted acreages, it is important that upstream operators commit to exploration and development of prospects within their acreage. In this regard, the Ministry will be working closely with operators to determine their work plans and in event there is no planned activity, relinquishment of acreage is an option we may wish to pursue.

As regards to open acreage, the Ministry has embarked on a series of bid-rounds which commenced with the deep-water bid-round in December of last year. The closing ceremony for this bid round will be held tomorrow afternoon, Thursday June 2nd, after the closing panel discussion for this conference. On offer is a large selection of deep water acreage comprising 17 blocks. Consequent on the comments by stakeholders in the shallow water bid round there have been changes to some of the terms and conditions of the Model Production Sharing Contract which will govern these blocks. We look forward to favourable response from our stakeholders.

The deep-water bid-round is being followed by the Onshore bid-round which we plan to launch within the next few weeks. We would have received a number of nominations during our Call for Nominations during the period September 27, 2021 to November 5, 2021. The blocks currently being proposed are Aripero, Buenos Ayres, Charuma, Ciperio, Cory D, Cory F, Guayaguayare, South West Peninsula Offshore, South West Peninsula Offshore, St. Mary's and Tulsa. We have executed a contract for The Virtual Data Room for this Onshore Bid Round, which is expected to go live soon, showcasing seismic and well data as well as reports for the blocks available for bid.

In accordance with our programme, the offshore shallow water bid round will be next. We are currently at the preliminary stage of the evaluation of the blocks. In

total, there are twenty-five open shallow water blocks for consideration. Thirteen of the blocks are in the Columbus Basin which has been the source of recent natural gas discoveries by BPTT. The other twelve blocks are located in the North Coast Marine Area, the South Coast Marine Area and the Gulf of Paria.

Government recognizes that to encourage further investment in the upstream that the fiscal regime needs to be updated. In the 2022 National Budget the Minister of Finance announced that the Ministry of Finance in consultation with the Ministry of Energy and Energy Industries would be undertaking a review of the fiscal regime for the upstream petroleum sector to ensure this country's competitiveness, with emphasis on three main petroleum taxes, namely Petroleum Profits Tax, Supplemental Petroleum Tax and Royalty, both onshore and offshore, in the deep water and shallow water, for large and small producers.

In keeping with that commitment the Ministry of Energy and Energy Industries commenced the process by inviting proposals from stakeholders in the energy sector. These proposals have been evaluated and an amended fiscal policy is being drafted for Cabinet's consideration. On completion of this process, it is intended to put in place a fiscal regime which maintains Trinidad and Tobago as a competitive and preferred location for upstream investment. We recognise the need to be a competitive province in a global energy environment where the fight for capital expenditure is becoming more difficult.

As we pursue the monetization of our oil and gas resources, we recognize that energy landscape is changing and with major implications for not only upstream activity but also downstream activity, such as in petrochemicals and LNG production. With the movement to a low carbon economy, pressure is mounting on the natural gas and LNG community to reduce greenhouse gas emissions. This is most pronounced in European Union (EU) countries following the adoption of

tough greenhouse gas reduction targets and also by some non-EU Governments and companies involved in global gas and LNG trade. Accordingly, for the sustainability of the petrochemical and LNG industries we cannot ignore the requirement for a reduction in greenhouse gas emissions.

However, there is no one pathway that meets this objective. Carbon capture, utilization and storage, new innovative technology, and energy efficiency initiatives are viable pathways to a lower carbon footprint. To this end Government established a Carbon Capture, Utilization and Storage Steering Committee to undertake the technical work required to reduce the country's carbon dioxide emissions. This activity is ongoing. We will also undertake visits to other provinces where this infrastructure and technology is operating so that we can develop our own infrastructure which will assist in Trinidad and Tobago staying competitive. In the 2022 National Budget, the Minister of Finance introduced an allowance in respect of the actual expenditure invested in Carbon Capture and Storage and Enhanced Oil Recovery, which took effect from January 1, 2022.

The gas industry is at cross-roads. How we navigate the road ahead will depend on how aligned we are in sustaining the domestic gas industry. While there is rising pressure to shift to a lower carbon energy system, there is a growing divergence between perceptions of gas as a 'bridge fuel' indispensable for energy transition on the one hand and gas as 'just another fossil fuel' on the other. The Government of Trinidad and Tobago is in the camp that views gas as a transition fuel as we move towards a lower carbon economy. Notwithstanding geopolitics, the current data suggests that new upstream investment will be required to meet the natural gas demand in 2050. The projects that move ahead will depend on resource availability, prospectivity, portfolio choices of upstream companies and the

investment climate. In this regard, we are taking steps to ensure that Trinidad and Tobago remains as preferred location for energy investments.

In closing, I wish to affirm that natural gas and oil will remain the core elements of the domestic energy mix for the foreseeable future. The sustainability of the domestic energy industry will be driven by not only upstream investments but the reduction of carbon dioxide and greenhouse gases. In the latest estimates in 2018, Energy and Industrial Processes and Practices accounted for 90 % of the country's total greenhouse gas emissions of 41.6 million tons per annum of carbon dioxide equivalent. Achievement of a meaningful reduction in the country's greenhouse gas emissions will require total commitment from stakeholders in the domestic energy sector. As a Government, we will continue to do our part and we urge stakeholders to adopt transparent sustainability strategies to support the industry while identifying and securing new domestic opportunities in the transition to a low carbon economy.

Finally, congratulations are in order for the Energy Chamber in staging another successful Conference. You continue to excel and have established the Conference as a must attend event on the energy calendar. It was a pleasure to address the Conference. To the participants, I wish you a rewarding experience and look forward to a renewal of the association in 2023.

I thank you.