



Government of the Republic of Trinidad and Tobago

Opening Address

**"Engineered Opportunities: Technologies Shaping the Energy
Landscape."**

by

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and

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at the

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It is my pleasure to deliver the opening address at this Conference of the Latin American and Caribbean Petroleum Engineers. The Society of Petroleum Engineers (SPE)has had a long and distinguished history in the oil and gas industry and through its technical expertise and innovation has contributed to development of the sector.

We , however, are in changing times .The oil and gas industry is at a cross-road. In the face of climate change alternative forms of energy in particular renewables are being seen as the answer to the development of clean and sustainable energy. It is this scenario that is facing the industry today. To its credit the oil and gas industry has been cleaning up its act. There has been a concerted effort by the industry to reduce greenhouse gas emissions, the flaring of gas and the elimination of methane leaks through the review of processes in oil and gas exploration and development.

However, the industry may have an ally in the form of carbon capture and sequestration that has the potential to contain or permanently store greenhouse gases. It is a policy that is taking root not only due to the potential to remove greenhouse gases but to the recognition that oil and gas are essential to the long-term energy requirement of a growing global population . According to the International Energy Agency (IEA) ,

it will likely be “impossible” to decarbonize without carbon capture and storage. The Intergovernmental Panel on Climate Change (IPCC) has highlighted similar conclusions.

The European Union (EU) Green Deal, Climate Law and proposals to increase energy and climate targets for 2030 have made carbon capture and storage technologies an important part of the EU decarbonization effort. Its carbon policies are being extended to imports of carbon intensive goods. It proposes to impose an emissions’ tariff on imports of carbon intensive goods entering the European Union commencing October 2023 with full implementation by 2026. The US which is a strong advocate of carbon capture as a key tool in its plans to address climate change has also expressed concerns about high emission emitters.

The Government has taken a proactive approach to carbon reduction with initiatives such as the recently approved Solar Utility Scale Project, the development of a carbon capture utilization and sequestration (CCUS) guidelines for the industry and the grant of fiscal incentives to encourage CCUS. However, CCUS has not taken off in the manner that was expected. On review it has been determined that the form and the size of the incentive may have been barriers to the undertaking of CO₂ projects in Trinidad and Tobago. The Ministry of Energy and Energy Industries is working closely with the Ministry of Finance to address this

issue. We recognize that in order to sustain the use of oil and gas to meet energy demands in a carbon-constrained world it will be necessary to implement CCS as a carbon reduction strategy.

The continuing competitive cost of hydrocarbons , the significant capital investment to produce them , the combination of fossil fuel use with CCS is a strong complement to strategies involving alternative, non-hydrocarbon sources of energy. Essentially all publications have agreed that oil and gas will be major energy sources for decades to come. Underinvestment in the industry is a critical concern and if not addressed sector could lead to long-term market volatility and hinder growth. The latest monthly report from the IEA suggests a potential shortage of 2 million bpd in crude oil supply in the second half of 2023.

We must therefore seize the opportunity to exploit the hydrocarbon resources that the country possesses. Oil and gas in the ground is akin to leaving money on the table. It is a situation that neither the industry or Government wants. We are encouraged by the recent development where our major upstream companies are now targeting small gas pools.

The gas and oil sectors are moving through a period of rapid and significant transformation. The rise of new technologies is helping to unlock new levels of safety, efficiency, and productivity. Adoption of the

right technology not only leads to cost savings and better outcomes but also drives innovation .

Technologies such as Big Data and Analytics, Industrial Internet of Things and Artificial Intelligence to name a few are enabling the industry to maintain operational integrity, optimize performance , manage HS&E and monitor the environment.

If oil and gas are to be part of a sustainable solution to global energy needs, the reduction of greenhouse gases must a collaboration between the regulators and industry. In this regard drilling and development programs must provide for the reduction of emissions, including flaring, a reduced surface footprint and optimal field development and management.

As a primarily mature hydrocarbon province Trinidad and Tobago has been experiencing a steady fall in production, which is a natural phenomenon, and which requires the requisite intervention to arrest the decline. The fact that we have been able to prolong the lives of mature fields can be attributed in part to the deep understanding of the subsurface processes and the synergy between the various disciplines engaged in maximizing production. The technical input of the SPE and other professional organization in sustaining the domestic oil and gas

sector cannot be understated and I take opportunity to acknowledge your invaluable contribution to the sector .

However, the key factor in sustaining production is continuous investment, a point which our natural gas auditors have consistently raised and which we have actioned. Over the last four years we held three bid-rounds culminating with the successful onshore bid-round which closed in January 2023. The bids have been evaluated and successful bidders will be informed during this week. We are optimistic that the onshore exploration emanating from the bid-round will revitalize current onshore activity . Heritage which has the majority of onshore acreage will be embarking on a 20 well drilling programme over the period 2023 to 2025 in its North West District , Barrackpore and St Mary's acreages. This is expected to increase Heritage's current onshore production. On shore oil production will receive a further boost as Touchstone ramps up production from its Ortoire Block. Consequent on the recent fiscal incentives the production of small onshore producers is also projected to be on the rise. By fiscal 2027 onshore production is projected to amount to 24,387 barrels a day compared to the current production of 19,773 barrels a day, an increase of 4,614 barrels per day.

Offshore oil production is projected to increase from the fiscal 2023 estimate of 39,984 barrels per day to 44,321 barrels per day by fiscal

2027. The increase in production is driven by Heritage which is embarking on a robust 17 well oil drilling programme and condensate production of new offshore gas fields which are projected to come onstream from 2025.

Overall crude oil and condensate production is projected to increase from the fiscal 2023 estimate of 59,757 barrels per day to 68,708 barrels per day by fiscal 2027. This is significant as the increase in oil production was achieved despite the cessation of production by a number of fields. With a new phase of onshore oil exploration on the horizon and an estimated high condensate to gas ratio of offshore gas prospects of upstream companies the outlook for oil production is positive.

The domestic energy industry is steadily returning to normalcy. Gas production is regaining momentum in the aftermath of the covid pandemic which led to the delay in the implementation of sanctioned projects and the deferral of unsanctioned projects. Since then the build-up of upstream activity has been significant with the number of exploration and development wells started in 2022 increasing by 100% over 2020 and 2021 respectively. This trend is expected to continue as upstream companies are projected to spend US\$4.1 billion over the next three years. In the interim, a number of projects such as bpTT's Matapal,

Cassia Development and infill programme, Shell's Colibri and Barracuda Projects, Woodside Ruby/Delaware, De Novo's Zandolie and Touchstone Coho field have come on stream.

Gas projects which have been sanctioned and which are being progressed comprise Touchstone Cascadura field, bpTT's Cypre field and its joint-venture with EOG on the Mento field and EOG's Osprey East field. First gas from Touchstone's Cascadura field and EOG Osprey East field will come on stream in 2023 and will add 290 mmscf per day to current gas production. Whereas first gas from the Mento field and Cypre fields are projected to come in stream in 2025 and will add 546 mmscf per day to existing gas production.

There are also a suite of shallow-water projects with proven gas reserves and contingent resources of 3.4 tcf which are being evaluated by bpTT, EOG and Shell. The Ministry is working assiduously with these companies to accelerating the sanctioning of these projects. In this regard significant progress has been made with Shell on the development of the Manatee field. This follows the signing of the 2019 Agreement between Government of Trinidad and Tobago and the Government of Venezuela that facilitated the stand-alone development of the Manatee field and the subsequent issue of the Block 6d (Manatee field) Production Sharing Contract in December 2021. The result of this work has yielded the

submission by Shell of the Field Development Plan of the Manatee which is currently under consideration by the Ministry. On approval, it is expected that Shell will move to take a Final Investment Decision (FID) on the Manatee project. The Manatee field has estimated recoverable gas reserves of 1.871 tcf. First gas is projected for 2028 at an initial production of 285 mmscf per day before ramping up to approximately 665 mmscf per day.

The Manatee project is one of the larger gas projects that will be undertaken in Trinidad and Tobago. However, that project will be eclipsed by the Woodside Calypso Project comprising deep-water blocks TTDA 14 and Block 23 (a) with reserves of 3.5 tcf. Both of these blocks are in the market development phase. The project is due to come onstream by 2030 with an initial production of 364 mmscf per day and reach a plateau of 728 mmscf per day.

Production from the Manatee area will supplement the gas supply to both the domestic market and the LNG industry. Until now all marketing of the share of the Minister of Energy and Energy Industries of natural gas in Production Sharing Contracts was undertaken by the operator on behalf of the Minister. In the Sub-Block 6D (Manatee Field) PSC with Shell, the State through the Minister will be taking a more active role in

the marketing of natural gas to be produced from that field. This shift in policy enables the State to play a more in-depth role in the commercial arrangements for the marketing of its natural gas resources. In particular Government will see an improved return from LNG sales based on new pricing formula being negotiated with Atlantic LNG Shareholders as part of the restructuring of Atlantic LNG. Pursuant to its mandate to effectively manage the country's hydrocarbon resources, Government is ensuring that the resource owner, the people of Trinidad and Tobago, receive optimum value from the monetization of these resources. In this regard we shall continue to offer for oil and gas exploration acreages on land, shallow-water and deep-water.

Accordingly, we will be launching a Shallow Water Bid Round in the 3rd Quarter 2023 in which thirteen blocks will be available for bidding. These blocks include Block 1(b), Block 2(ab), Block 2(d), Block 21, Block 22(a), Block 22(b), Block 4(c), Guayaguayare (Offshore) Block, Block Lower Reverse L, Block Modified U(c), Block NCMA 2, Block NCMA 3, Block NCMA 4(a).

Our learnings from the previous shallow-water bid-round have been incorporated in this bid-round. There is no State Carried Participation, royalty will be paid from Government's share of profit petroleum, and

cost recovery is 60%. Full details of these and other changes will be provided in the competitive bidding order and the 2023 Model PSC. Our review has been not been limited to the commercial aspects of the bid-round. The Ministry recently entered into several multi-client agreements to acquire and process two-dimensional (2D) and three-dimensional (3D) seismic data in various areas offshore Trinidad and Tobago. These multi-client agreements are aimed at enhancing the geological understanding and improving the geophysical datasets of the country's acreage.

It is intention to continue with another deep-water bid-round and expect that high grading of the seismic data sets will stimulate greater interest. At present we are in the final stages of negotiations of the 2021/2022 deep-water- bid round with the bidders on deep-water blocks 23(b) , 25 (a), 25 (b) and 27. The negotiations have been protracted as we strive to the bridge the gap on issues critical to both the Government and the bidders. We hope to complete the negotiations soon.

Oil and gas exploration and development in the domestic energy sector will continue as the mainstay of the country's energy requirements . However, we have an opportunity to augment our domestic gas supply through agreement with Government of Venezuela to develop the

Dragon gas field, and to bring the gas to Trinidad to one of our offshore facilities. This process was put on hold by US sanctions but recommenced following the grant of a waiver by OFAC on January 24 of this year. This particular project is caught in the world of geopolitics and requires skilful negotiations including, but not limited to, further and on-going negotiations with the United States and Venezuela.

Sanctioning and development of the Dragon field could lead to the development of the Venezuelan Loran gas field, which adjoins the Manatee field, and the supply of gas to Trinidad. The Loran field has gas reserves of 7.3 tcf and prior to the agreement to the independent development of the fields, had been the subject of a unitization development agreement, which was aborted due to US sanctions. Given the proximity of the Loran field to pipeline and processing infrastructure in Trinidad there is a strong case for the development of the field to monetize its gas in Trinidad. It is a matter which we intend to pursue.

The domestic energy sector is driven by oil and gas and will continue to play a major role in the economic and social development of Trinidad and Tobago. As such, the decisions on development of our energy sector will be important to not only their own development but also in determining future levels of energy consumption and patterns of trade.

However, we must be cognizant of the fact that the world is in the middle of a global energy crisis of unprecedented depth and complexity with major implications for markets, policies and economies worldwide. It is in this changing scenario energy security is of paramount importance. As a consequence, we have undertaken measures to build domestic capability, to pursue cross-border arrangements and to diversify our energy market by the infusion of renewables. It is an arduous task but we are up to the challenge as track record shows in navigating the industry through the downturn we met on taking office to a position where there is hope and a brighter future. Our journey to this point could not be achieved without support of organizations such as the SPE , Upstream Stakeholders and the outstanding performance of our State energy companies, Trinidad Petroleum Holdings and its subsidiaries and the National Gas Company and its subsidiaries. We look forward to your continued support.

In closing I wish the organizers of LACPEC a successful conference. It was a pleasure to deliver the opening address. To the participants, I wish you a rewarding experience and I thank you for your undivided attention.

Minister

