



**Government of the Republic of Trinidad and Tobago**

**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 Section of the Society of Petroleum Engineers (SPETT)**

**International Energy Resources Conference and Exhibition**

**June 28, 2021**

Good morning, it is my pleasure and privilege to address you this morning as we open the 2021 Energy Resources Conference and Exhibition of the Society of the Petroleum Engineers of Trinidad and Tobago (SPETT). This conference is one of the most important and eagerly anticipated professional technical forums in the domestic energy sector.

For some of you, I am a new comer to the Energy sector, but, as I am sure many of you are aware, for the past few years, operating as Minister in the Office of the Prime Minister, I have been actively involved in the energy sector at the Governmental level.

Arising from the Spotlight on Energy, in 2018, the an Empowered Team was appointed by the Cabinet to engage in negotiations with two of our major upstream multi-national companies, BPTT and Shell, aimed at improving the economic benefit to Trinidad and Tobago from the exploitation of the country's hydrocarbon resources. I was appointed to co-lead this empowered team along with my late friend and colleague, the Honorable Franklin Khan. Frankie was a true patriot and dedicated to the sector. I am pleased to say that, to date, these negotiations have achieved significant success. As a Government, we have been focused on the need for changes in the industry to rebalance returns for all stakeholders involved, including, the people of Trinidad and Tobago to whom these hydrocarbon resources belong.

Having said that, I am determined to ensure that Trinidad and Tobago stays as competitive as possible in this fast changing global sector. We still have much to offer as a province and at the Ministry of Energy and Energy Industries I intend to create and harness the required momentum carrying us into the future.

The energy sector of Trinidad and Tobago has long been the main driver of the country's socio-economic development. The factors responsible for its contribution include our substantial hydrocarbon resources and the unsung contributors, such as your own members, our petroleum engineers, who play a key role in the optimum extraction of oil and gas from hydrocarbon deposits.

It is therefore not surprising that there are parallels with the development of the petroleum engineering profession and the energy sector of Trinidad and Tobago. The journey of the SPE, like that of the Trinidad and Tobago oil and gas experience, has been one of exponential growth. The organization has grown from a membership of 12,500 professionals in 1957 to the world's largest organization of professionals with a membership of over 156,100 professionals from 154 countries and a student membership of more than 72,000 student members. This includes our own Society of Petroleum Engineers of Trinidad and Tobago, which is 47 years old this year and has a membership of 202 professional members and 93 student members.

The Society of Petroleum Engineers is well renowned for its role in the advancement of the processes and technology that facilitate and augment the development and exploitation of crude oil and natural gas fields. Through the advancement of new technology and processes, petroleum engineers have worked to develop sophisticated automation tools for drilling operations and oil and gas production that enhance the safety, sustainability, and efficiency of their extraction. The growth of the Trinidad and Tobago oil and gas industry, like the SPE, has been phenomenal. From the early 1900s, Trinidad and Tobago's hydrocarbon production has grown from approximately 2,800 barrels of oil equivalent per day to in excess of 550,000 barrels of oil equivalent per day. Technological advances in

drilling techniques and reservoir engineering pioneered by the petroleum engineering profession has played a major role in production of these resources and in enabling their production in a safe manner and at competitive cost.

This achievement was attained despite the technical challenges posed by the geology of Trinidad and Tobago, whose formations are exceedingly complex and which made oil and gas exploration risky. Technology played a major part in overcoming the technical challenges faced by the industry. Operators were quick to employ new and nascent technologies in their quest for oil. This integration of advances in well logging, drilling, computerization and seismology and other technologies in exploration and production has been responsible for the successes that has transformed a fledging oil industry to a globally recognized oil and gas industry, to the extent that major international oil and gas companies have set up operations in Trinidad and Tobago and we sit alongside major gas producing countries such as Qatar and Russia in the Gas Exporting Countries Forum.

Your members have played an important role in this transformation and growth and I am hoping that you will continue to work as patriotic Trinidadians to ensure the continuation of our sector in Trinidad and Tobago. As a mature province, we must be at the cutting edge, in all aspects, in locating the hydrocarbon resources and converting those resources to the global commodities that we produce in a greener, cleaner and more efficient manner.

Technology has also enabled energy sector professionals such as petroleum engineers and geoscientists to speak the same language or as we say “to sing from the same hymn book” in oil and gas exploration and development.

Throughout your history, the SPETT has been recognized for its excellent work and for the development of new generations of petroleum engineers. In 2020, the SPETT received an international SPE Award for Section Excellence, UWI Student Chapter the Presidential Award, and five members received SPE Regional Awards for technical excellence and public service. In 2021, seven SPETT members received regional awards, including two members of my staff, Mr. Marc Rudder, who received the Latin America and the Caribbean Regional Award for Health Safety and the Environment, and Ms. Ayasha Nickie, who received the Latin America and the Caribbean Regional Award-Regional Public Service Award. To the SPETT and the honoured recipients, in particular Marc and Ayasha please accept my congratulations for well-deserved awards. I can attest first hand to young Ayasha's commitment and potential having worked with her over the past year, even before being the substantive Minister of Energy and Energy Industries. I am proud when I see our young professionals excelling in the field. Well done Marc and Ayasha.

Your profession, and its membership, have been, and continue to be, a major contributor to the development and sustenance of the oil and gas industry. On behalf of the Government, and as Minister of Energy and Energy Industries, please accept my acknowledgement for your sterling contribution to the energy sector of Trinidad and Tobago.

However, the country and the industry need your expertise and experience now more than ever. New challenges such as the COVID-19 pandemic and climate change have raised questions on the sustainability of oil and gas production and development. As Minister of Energy and Energy Industries, I call upon the profession and its members in your various organizations to continue to leverage

your knowledge and expertise in the application of technology in the optimal development of the country's hydrocarbon resources.

Promoting sustainable development and combatting climate change have now become integral aspects of energy planning, analysis and policy making. Energy accounts for two-thirds of total greenhouse gases, so efforts to reduce emissions and mitigate climate change must include the energy sector. However, the energy sector is the main driver of socio-economic development in the country and there must be a balance between the strategies for mitigating the effects of climate change and the exploitation of our hydrocarbon resources.

As a Government we are committed to protecting the environment. Trinidad and Tobago is a signatory to the 2015 Paris Climate Change Agreement. In signing on to the Agreement we have committed to the implementation of our Nationally Determined Contribution as part of the global effort to reduce greenhouse gas emissions and to mitigate the impacts of climate change.

We have committed to the following:

1. An overall reduction in cumulative emissions from our three main emitting sectors, that is power generation, transport and industry, by 15% by 2030, this is the equivalent to 103 million tons of carbon dioxide, conditional on international financing.
2. An unconditional reduction in public transportation emissions by 30% or 1.7 million tons of carbon dioxide compared to 2013 levels by 2030.

Of the 103 million tons of carbon dioxide that I just mentioned, 2.6 million tons is in respect of transportation, 28.7 million tons from power generation and 72 million tons in relation to industry. The estimated cost of implementation of the

mitigation action is USD \$2 billion, with the major cost of US\$945 million in respect of power generation, a sum of US\$735 million for transportation and US\$320 million in respect of industry.

The financing of the US\$2 billion is to be met partly through domestic funding and international climate change financing, including through the Green Climate Fund. The financing of the climate change measures has to be managed as the Government has to ensure that transitioning to a low carbon economy is not at the expense of the country's socio-economic and developmental objectives.

Government expects industry to play its part, not only from the view of addressing climate change but in sustaining and growing its business. This will require adopting greenhouse abatement measures as well as investing in green technologies. There is an inexorable movement to a global green economy and if we fail to prepare we are preparing to fail. Decarbonization of existing energy systems is an intermediate step in the restructuring of the domestic energy sector. However, we cannot delay the transformation as widespread support from governments, companies, and broader society for a green recovery post COVID-19 has resulted in rapid momentum building for a green economy.

At the December 2020 Climate Ambition Summit, the European Commission revealed an ambitious target of 55% greenhouse gas reductions by 2030. The European Green Deal aims to make Europe fully carbon neutral by 2050, laying out rigorous policy initiatives for its promised investment of 100 billion Euros, market incentives and social protection to make this a reality.

The investment community is also playing a strong role in the post COVID-19 green recovery. Growing numbers of financial institutions are appraising investments based on their long term sustainability and there has been an upsurge

in financing for green projects. Green bonds which were originally launched by multilateral institutions such as the World Bank and the European Investment Bank have seen a substantial growth in issues and issuers. Bond issues which commenced with US\$807 million in 2007 grew to a record US\$270 billion in 2020.

The financing has provided the impetus for a green recovery which was temporarily halted by COVID-19 and has served to generate unprecedented momentum behind hydrogen technologies as a tool for global decarbonization. The advancement in the technology offers an opportunity for the development of a domestic hydrogen economy which could form the basis on which to restructure the domestic downstream industries. It is therefore important for Government to consider and clearly articulate its policy position with respect to this intended evolution of the hydrogen economy. To this end the Ministry of Energy and Energy Industries is working on a draft Hydrogen Economy Framework for Trinidad and Tobago.

Green initiatives such as the Solar Utility Project and the first world scale green hydrogen project recently announced by the Honourable Prime Minister at the this year's Energy Conference are in train and represent our initial introduction into a green economy. However, we need to accelerate the transition and the public-private partnership model which has been used as an instrument for facilitating growth in other sectors offers the best opportunity for advancing the green revolution. It is a conversation I intend to have with our current energy stakeholders, many of whom are already extending their portfolio to include green investments.



However, having said that, we must focus on, and prioritize, the monetization of our hydrocarbon resources. The turnaround in the global energy sector has provided a window of opportunity which we have to capitalize on. Given the potentially irreversible effect of climate-driven financing and policy regimes on fossil-fuel use, carbon taxes and fossil-fuel prices over time, the optimal fossil-fuel policy shift is the accelerated exploitation of these resources. The quantum of resources may be in line for an uplift as Trinidad and Tobago is at present awaiting an opportunity to defend our submission to the United Nations Commission on the Limits of the Continental Shelf. Our claim, if successful would extend our maritime jurisdiction seawards to the outer edge of our continental margin.

We are at a juncture where there is not a clear pathway to a low carbon economy. While several of the large emitters have committed to a timetable for a zero-carbon economy, several have not. Whatever the transition pathway, the oil and gas industry has an important role to play in the move to low carbon alternatives and, as in a recent international judicial decision, may be mandated to play a larger role than currently obtains. Notwithstanding, given the projected growth in primary energy demand by 50% by 2050, a managed transition will be critical to prevent serious supply disruptions and destabilizing price volatility along the way.

The International Energy Agency (IEA) in its March 2021 report has predicted that based on current policy setting, global oil demand is set to rise every year through 2026 unless a rising focus by Governments on clean energy turns into stronger policies, and behavioural changes induced by the pandemic become deeply rooted. It has predicted that following the recovery from the COVID-19 crisis, world oil demand will rise from 97.9 million barrels per day in 2019 to 104.1 million barrels per day in 2040.

The IEA, which views natural gas as a transition fuel, has predicted that it would fare better than other fossil fuels out to 2040. The IEA also has predicted that global gas demand will grow from 3.9 trillion cubic metres to 5.22 trillion cubic metres, an increase of 30%, by 2040. The increase in demand is being driven almost entirely by China, India, Southeast Asia and the Middle East.

The domestic oil and gas industry has historically played a transformative role and its contribution is required once more to assist in meeting climate change objectives and in rebuilding an economy that has been severely impaired by the COVID-19 pandemic.

As a predominantly oil and gas economy Trinidad and Tobago must and will accelerate the exploration and development of its hydrocarbon resources or we run the risk of the resources becoming stranded. To this end the Ministry will be offering a shallow water bid round, an onshore bid round and a deep water bid round over the next twelve months. The Deep Water Competitive Bid Round is scheduled to be launched in Q3 2021, where possibly as many as eleven (11) deep water blocks will be available for bidding.

During recent deep-water exploration, the largest 3D marine seismic survey in the western hemisphere was acquired. This dataset has been refined through several processing and reprocessing efforts and covers some of the blocks being proposed for the bid round. In addition to this dataset, we also have various multichannel 2D surveys available over our deep water acreage and extensive well data. The comprehensive seismic dataset and well data will allow for an in-depth evaluation of the potential of the proposed deep-water blocks. Recent deep-water exploration has been successful in identifying natural gas resources of approximately 6 trillion cubic feet. We expect that this bid round will continue in the same vein based on

estimated unrisks prospective gas resources of 6.6 trillion cubic feet in the open deep-water blocks.

An Onshore Competitive Bid Round will follow the Deep Water Competitive Bid round. The recent successes onshore by Touchstone and Challenger Energy Group have served to confirm that great potential still exists onshore. There has been significant interest in onshore acreage by both potential investors as well as current Operators. In July 2020, Heritage issued an EOI to global and local energy companies to express their interest in a joint venture to explore the deeper perspective of its North West District. Three IOCs were shortlisted and a preferred partner will be selected by the end of 2021. The Ministry intends to build on such interest and will be offering several blocks in the onshore bid-round. Extensive 2D and 3D datasets and well data are available to enable the evaluation of the blocks.

A Shallow Water Competitive Bid Round will follow the onshore competitive bid round and is targeted for 2022. Comprehensive technical details of the proposed deep-water and onshore bid rounds will be provided by the Ministry's Technical Team in a presentation to the Conference.

In accelerating the exploration of its hydrocarbon potential Trinidad and Tobago will be following in the footsteps of over twenty (20) countries that have been promoting new exploration and production through licensing rounds and concluding new upstream petroleum contracts during 2020 and 2021.

In parallel with the initiation of new exploration activity, we must also accelerate the development and production of identified 3P and contingent oil and gas resources. The latest audit of the crude oil reserves and resources undertaken by Netherland, Sewell & Associates, Incorporated and the natural gas reserves and

resources audit undertaken by Ryder Scott have established that Trinidad and Tobago possesses substantial oil and gas resources.

In its Audit Report Netherland, Sewell & Associates put the 3P crude oil reserves at 455.3 million barrels, contingent resources at 68 million barrels and un-risked prospective resources of 3.2 billion barrels. The notable findings from the audit were the major contribution of onshore operators to contingent resources, and that 90% of the un-risked prospective resources were identified in deep-water.

The audit also identified discoveries by BHP, Touchstone and Columbus Energy, now Challenger Energy, which would have a positive impact on oil reserves and production. Current estimates indicate that production from these discoveries could reach as high as 15,000 barrels per day in 2022. Outside of these known successes, the key to increased oil production lies with Heritage Petroleum, which possesses the majority of the country's oil resources, in onshore and offshore acreages comprising 155,000 hectares. The company has developed an action plan for increased oil production which I have sanctioned.

The plan will result in the increase of its oil production from 38,100 barrels per day in 2021 to 48,300 barrels per day by 2026, with the majority of the production coming from the increase in offshore production of approximately 9,300 barrels per day. Land production from Heritage, its Lease Operators, Farmouts and Enhanced Production Service Contracts (EPSCs) is projected to marginally increase by 900 barrels per day. This needs to improve and it is my intention to have Heritage accelerate and expand its lease operatorship, farmouts and EPSCs in order to maximize the quantum of onshore acreage under oil production. I intend to personally push and monitor this.

In January 2021, Heritage Petroleum Company Limited was granted a new Exploration & Production license in its offshore acreage by the Government. The new Exploration and Production License covers just about 97,000 hectares of offshore acreage on the west coast of Trinidad. The grant of the licence has allowed Heritage to pursue a more robust phase of its exploration and development programme which includes a farmout agreement with EOG for its Southern TNA Block for which the first exploration well will be spud by end of 2021. There is also the Jubilee Field development which targets the development of 30.4 million barrels of oil of 2C Contingent Resources and 24.5 million barrels of oil of Prospective Resources. This will be joint venture arrangement and following a Request for Proposals, a preferred JV partner is expected to be selected by fourth quarter 2021.

The impact of the current development activities onshore and in the marine area is the increase in current oil production of 58,000 barrels per day to in excess of 80,000 barrels per day from 2022 to 2025. Beyond 2025 new oil production will be driven by exploration activities being currently undertaken or proposed by Heritage and bid rounds which are scheduled to take place within the next twelve months.

The COVID-19 pandemic has had an impact on both oil and gas production. Whereas oil production has rebounded to the 2019 level, gas production is taking a little longer to regain the momentum that was dampened by plant turnarounds, reduced demand due to low petrochemical prices and operational issues including infrastructure work to bring on new production. The issues that impacted on gas production in 2020 and so far in 2021 have been largely addressed or mitigated. Ammonia and Methanol prices which hovered around the US\$200 per metric ton in 2020 have rebounded. As at May 2021 the US FOB price of methanol was

US\$375 per metric ton and the ammonia Caribbean FOB price was US\$508 per metric ton. BPTT's Cassia B Hub was shut down for just over two months in 2020 for brownfield modifications to facilitate the new Cassia C compression platform. The jacket has been completed and installed, the topsides and landing bridge are nearing completion in Mexico and should be on their way to Trinidad soon. Offshore hook up and commissioning is earmarked to start in the third quarter of 2021.

BPTT's Mahogany B platform was also shut down for 15 days to conduct necessary brownfield works on the Juniper platform for the tie-in of the upcoming Matapal Field development. First gas from the Matapal development is projected for the second quarter calendar 2022. There was also infrastructure work undertaken by BHP to bring onstream gas from its Ruby field which was recently commissioned, ahead of schedule, in May 2021.

Over the next 18 months, new gas production is projected to come onstream from all of the upstream operators. BHP's Ruby project is already on stream and Touchstone's Coho field is due to come onstream in the third quarter 2021. Touchstone's Cascadura and Chinook field are expected to come on line in the fourth quarter 2021. The Shell Block 5C project is due to come on stream in the third quarter calendar 2021 and its Colibri Project by second quarter 2022. BPTT's Cassia C Compression and Matapal projects and EOG's Osprey East are also due to come onstream before the end of 2022. These projects will generate in excess of one (1) bcf per day of natural gas production and will steadily restore gas production to the pre-covid pandemic level.

The scenarios that I have painted so far are a snapshot of where we are with renewables and how we envisage the future of the oil and gas industry. Our

movement to renewables is a work in progress, whereas the future of the domestic oil and gas industry is now. Therefore, we need to facilitate the maximum exploitation of our hydrocarbon resources. This can be achieved by a facilitative fiscal regime and application of technology. As Minister I have invited proposals from industry with respect to the fiscal regime that would provide a stimulus for increased oil and gas production. As a complement to this, it is incumbent on industry to employ the most advanced technologies in the exploration and development of oil and gas resources.

The oil and gas industry, historically, has been fueled by innovation, advances in technology will play a critical role in navigating the unique challenges, ranging from commodity price fluctuations, a potential supply crunch, geo-political events, and energy policies like those relating to the energy transition. The employment of technologies such as subsea processing, unmanned tiebacks, well drilling and completion can result in improved safety, greater efficiency, cost savings and most importantly a reduction in the carbon footprint. The industry needs to leverage these emerging technologies so that it remains relevant and competitive during this transition period.

The challenging COVID-impacted market environment and evolving energy sector has led to a redefining of the human resource in oil and gas. Technological advances such as artificial intelligence, automation and digitization, combined with advanced analytics is transforming the work environment. This added with the realization that the industry requires an interdisciplinary approach has raised the issue of the consolidation of the disciplines bringing together engineers, geoscientists and other industry professionals.

The SPETT, like the energy sector of Trinidad and Tobago, is at crossroads and how we navigate the transition period will determine how we fare in the new energy economy. Changing energy sources is not a new phenomenon. In our situation we moved from an oil based economy to a predominantly gas based economy. That transition was achieved through the invaluable contribution of energy professionals such as your petroleum engineers. Today we face a greater but not unsurmountable challenge. There is a saying that those who adapt to change survive and those who set the change lead. It is our intention to be at the forefront of change and to elicit the support of members of the SPE as we make that transition.

In closing, on behalf of the Government and the country as a whole, I thank you for the invaluable contribution you have made to energy sector of Trinidad and Tobago and look forward to your continued service and support in the new journey on which we are about to embark. Please accept my best wishes for a successful Conference.

I thank you

Minister