



Major shareholders sign agreement to restructure Atlantic LNG

bp, Shell and The National Gas Company of Trinidad and Tobago Limited (the Atlantic shareholders) have signed an agreement for the restructuring of the Atlantic LNG facility.



Dr the Hon. Keith Rowley and Hon. Stuart Young look on as Eugene Okpere, Senior Vice President of Shell, Mark Loquan, President of The National Gas Company of Trinidad and Tobago Limited and David Campbell, President, bp Trinidad and Tobago sign agreement to restructure Atlantic.

HDF Energy launches T&T subsidiary

SLB and Subsea Integration Alliance awarded contract for bp's Cypre project

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Major shareholders sign agreement to restructure Atlantic LNG (continued)

Staff Writer | Energy Chamber

This announcement that the parties have reached an agreement on the commercial terms of the restructuring is a very important milestone to secure the future of the gas industry and therefore the overall economy of Trinidad and Tobago.

The decision will also allow Atlantic to improve the efficiency of operations and make further investments to decrease the carbon intensity of their LNG.

The Atlantic LNG facility is made up of four trains with a combined production capacity of 14.8 metric tonnes per annum (MTPA). Previously, each train had a separate ownership structure. Under the new agreement, the facility will now operate as a single, unitised facility with one ownership structure.

Clarity on the ownership and commercial structure of Atlantic LNG and the pricing mechanisms for natural gas exported through the facility are vital for investor confidence. These agreements will assist companies in making investment decisions in new upstream exploration and development, which are also critical for the country's petrochemical sector. The announced system to allow third-party gas suppliers a route to access the facility will also help spur upstream investment beyond the Atlantic shareholders.

Securing future gas supply and a fair return for all stakeholders is not just important for the upstream, midstream and downstream companies and the Government, it is also important for all of the service companies and contractors who service the industry and all of their employees.

These negotiations have been long and extremely complicated. As the Prime Minister made clear, they are historic and there have been no other examples where this sort of restructuring has taken place. The successful conclusion of these negotiations is testimony to the hard work and commitment of many people in the companies and within the Ministry of Energy and Energy Industries. The success of Trinidad and Tobago in the global gas industry has been based upon finding alignment and win-win outcomes between the Government and energy companies.

In recent years the future of Atlantic LNG has been in question since the shuttering of Train 1. However, the unitisation agreement seeks to sure-up future opportunities for the company and the country by extension.

More value for T&T

Dr The Hon. Keith Rowley in his feature address indicated that, "One of the major issues that has been of concern to the Government is the value accruing to the State from the monetisation of our country's gas resources, in particular LNG."

He added, "In the Amended and Restated HOA the parties have agreed in principle to formulae which are market reflective and are patterned on the Train 1 FOB Pricing Formula. This is consistent with the objective in the Government Principles of the HOA that the people of Trinidad and Tobago receive a fair and equitable return for our resources and the shareholders earn commercially reasonable levels of profit commensurate with the degree of commercial risks assumed by such entities. The full impact of the benefit to the country, of the proposed pricing, will become apparent on the completion of the restructuring and the full commercialisation of the restructured entity. However, based on the current FOB Price, the revenue that would accrue to Government could amount to double that of the earlier arrangements."

Expanded role for The National Gas Company of Trinidad and Tobago Limited (NGC)

The Prime Minister also noted that the new Atlantic LNG structure will see a greater involvement by the State in the supply and marketing of LNG. Until now, all marketing of the Minister's share of natural gas in Production Sharing Contracts was undertaken by the operator, on behalf of the Minister (GOTT).

In the recently executed Manatee Field PSC with Shell, the Minister will be taking a more active role in the marketing of natural gas to be produced from that field. NGC, which will have a new and increased shareholding in the new Atlantic LNG structure, will benefit from this variation in the marketing of the Minister's share of production. This shift in policy enables the State to play a more in-depth role in the commercial arrangements for the marketing of LNG which will be consistent with the actions of most gas exporting countries.

Minister of Energy and Energy Industries, Hon. Stuart Young said that this was the first time anywhere in the world where the government has sat down and negotiated the future of LNG trains for the future with the shareholders. He added that this

agreement secures a place for T&T in the LNG market, and it secures continued upstream investment in T&T.

Optimism for the future

At the event were, the heads of the stakeholder companies, Eugene Okpere, Senior Vice President and Country Chair, Shell Trinidad and Tobago; David Campbell, President, bp Trinidad and Tobago; Mark Loquan, President, NGC.

Mark Loquan, President of NGC said, "Discussions around the ideal commercial and ownership structure for the Atlantic facility have been protracted, not just because of the complexity of existing arrangements, but because it was imperative that we get it right. We needed to land on an agreement that considered the interests of all stakeholders along the natural gas value chain and although the multi-party process was, at times, arduous, complex and time consuming, I am sure that all shareholders would agree that the eventual outcome augurs well for our shared vision for Atlantic to operate at a world class level."

Eugene Okpere, Senior Vice President and Country Chair, Shell Trinidad and Tobago said, "Atlantic LNG is a home-grown institution, one that every citizen of Trinidad and Tobago should be proud of. This institution has generated significant value for the country, which has been used to foster deep economic and social growth. It has created and nurtured world class energy sector employees and has played a pivotal role in community development, particularly in the community of Point Fortin. This agreement is essential in providing what Atlantic needs, to remain at the forefront of the global LNG market so it can continue to deliver material benefits for this country."

David Campbell, President, bp Trinidad and Tobago said, "The agreements we are signing are a crucial and enabling step to unlocking Trinidad and Tobago's energy future. This is no doubt a pivotal moment in the country's energy development, and it comes at a time when it has never been clearer that the world needs more energy AND it needs energy that is clean, affordable and secure. For these reasons, natural gas will continue to play a crucial role in the energy mix for decades to come. We are witnessing increasing demand for natural gas because of current global events but the outlook for gas remains positive over the long-term as well."

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Green light for largest solar project in Caribbean, to be built in T&T

Staff Writer | Energy Chamber

The Government of Trinidad and Tobago has officially given the green light to project partners—bp, Shell and Lightsource bp, to begin construction of the largest solar project in the Caribbean.

At an event held at the bp pavilion at the Queen's Park Oval, the heads of bp Trinidad and Tobago and Shell Trinidad and Tobago signed agreements which will lead to the construction of T&T's first grid-scale renewable energy project to begin in Q1 2023.

Three agreements were signed at the ceremony. The project partners signed an implementation agreement with the Government of Trinidad and Tobago, power purchase agreement with the state utility company T&TEC, and a final investment decision.

Francis Mann, Business Development Manager for UK and T&T, Lightsource bp, indicated today that the project will begin construction by March 2023. It is estimated that the construction will take ten months.

The project will be constructed at two sites, one in Brechin Castle,

near the Point Lisas industrial estate, and the other will be built in Orange Grove, near Trincity.

The two sites will have a combined capacity to generate a total of 112.2 MW of solar electricity, more than the total generating capacity of most islands in the Eastern Caribbean.

This will be the largest solar project in the Caribbean when complete.

Minister of Energy and Energy Industries, Stuart Young, commended all parties in getting these agreements signed. The Ministry started this process in 2017 with the release of the country's first RFP for renewable energy. Since the consortium was awarded preferred bidder status there have been several delays.

Minister Young indicated that many issues were overcome during this time as it was the first project of its kind in T&T. He expressed that now that these agreements have been signed, future projects will come onstream quicker. Minister Young made it clear that the long delays in getting the project to this



Project partners with the Government of Trinidad and Tobago representatives at the signing.

stage were frustrating for him and urged the public service to accelerate the pace of delivery.

He also shared his gratitude to the investment to be made by bp and Shell and shared that this project will unlock great potential for T&T to decarbonise and start generating green electrons which could link to the creation of green hydrogen and other green commodities like green ammonia and green methanol.

Also speaking at the event were David Campbell, President of

bp Trinidad and Tobago; Eugene Okpere, Senior Vice President and Country Chair of Shell Trinidad and Tobago; Minister of Public Utilities, Marvin Gonzales; and Chairman of T&TEC, Romney Thomas.

David Campbell said that he was eager to see shovels in the ground at the two sites; a sentiment which was echoed by Eugene Okpere.

Minister Marvin Gonzales and Romney Thomas indicated that the project would create substantial

reductions in natural gas usage for power in T&T.

The Energy Chamber of T&T welcomes the signing of these agreements, which we have been promoting for many years, and urges swift implementation and a rapid move to further expand renewable energy generation.

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Proman Stena Bulk's first methanol-fuelled vessel officially named in T&T *Stena Pro Patria*



Proman Stena Bulk Pro Patria docked in Port of Spain, Trinidad

Staff Writer | Energy Chamber

Proman Stena Bulk Ltd. formally named its first state-of-the-art, newbuild IMOII MeMAX methanol-fuelled 49,900 DWT vessel, *Stena Pro Patria*, in a ceremony hosted in Trinidad and Tobago in November 2022.

Stena Pro Patria is the first of three methanol-fuelled vessels delivered in 2022 to the joint venture between leading tanker company Stena Bulk and the leading methanol producer Proman, with a further three newbuilds due for delivery between now and 2024.

The naming ceremony was the first for a methanol-fuelled newbuild in Trinidad and Tobago, and was attended by Trinidad and Tobago's Prime Minister, Dr The Honourable Keith Rowley, as well as the Minister of Energy and Energy Industries, the Honourable Stuart Young.

During the visit, Stena's leadership, including William Olsson, Chairman of Stena Sessan AB and Board Member of Stena AB; Erik Hånell, President and CEO of Stena Bulk AB; and Markus Lindbom, CEO of Stena Rederi AB, had an opportunity to visit Proman's 14 petrochemical production facilities in the Point Lisas Industrial Estate, as part of a plant tour led by Proman's Chief Executive David Cassidy.

Proman is the largest investor and employer in the Point Lisas Industrial Estate, which is home to Trinidad and Tobago's downstream petrochemicals sector. Proman's facilities include the world-scale M5000 methanol plant, which produces industry-leading low-carbon methanol by recycling CO₂ produced from nearby ammonia plants. Since 2006, almost 24 million tonnes of CO₂ have been captured from both Proman's own and neighbouring ammonia plants and re-used.

Stena Pro Patria was delivered in June 2022 and has demonstrated an unprecedentedly low EEDI (Energy Efficiency Design Index) value while running on methanol. The IMOII MeMAX vessel series benefits from industry-leading design improvements and technologies to maximise energy efficiency, resulting in an EEDI 11% below the 2025 Phase 3 requirements—setting a new benchmark for two methanol-fuelled tankers and further proving the operational viability of methanol as a marine fuel.

Stena Pro Patria will use approximately 12,500 tonnes of methanol as fuel per year, which will significantly reduce the volume of greenhouse gas emissions resulting from the vessel's commercial operations compared to conventional marine fuels.

During his feature address, Dr The Honourable Keith Rowley, Prime Minister of Trinidad and Tobago, outlined the potential for bunkering in Trinidad and Tobago to be a significant part of the country's economic development, saying: "We are one of the largest producers and exporters of methanol in the world, and we happen geographically to be on a place at the tip of South America, East of the Panama Canal where all these vessels are being encouraged to change their fuel consumption from the dirty fuel to clean fuel—and that fuel is available in Trinidad and Tobago. What we are aiming to do is to make Trinidad and Tobago a major refuelling hub for oceangoing vessels that can be refuelled by clean fuel."

Erik Hånell, President and CEO of Stena Bulk, said, "This naming ceremony for *Stena Pro Patria* in Trinidad and Tobago is another important milestone for Proman Stena Bulk.

"Every step our joint venture takes proves the viability of methanol as a marine fuel and underlines that it is technically feasible, with the right knowledge and backing, to be used in-operation today. We are honoured to lead methanol's development and scaling within the industry and to be working closely with Proman on our shared vision for methanol.

"Finally, we must also recognise the role that Trinidad and Tobago has played in making this naming ceremony a reality. As an important methanol shipping hub, there was no better place to hold this important event for *Stena Pro Patria* and our joint venture."

David Cassidy, Chief Executive of Proman, added: "We were delighted to welcome our Stena partners to Trinidad and Tobago, which has huge potential as a future methanol bunkering hub. We share with Stena a commitment to accelerating the clean shipping transition, via our methanol-fuelled newbuilds and other initiatives, so it was particularly valuable to tour our methanol production facilities and reaffirm the low-carbon pathway for the maritime market.

"*Stena Pro Patria* is a very special vessel, as the first tanker in our joint venture with Stena Bulk and due to her deeper connection to the Proman family. It was a pleasure to bring everyone together, from Stena to our wider partners and employees here in Trinidad and Tobago, to give *Stena Pro Patria* the Naming Ceremony that she deserves."

The Naming Ceremony was held in Trinidad and Tobago to honour *Stena Pro Patria*'s connection to Dennis Patrick, the late Chief Executive of Proman's subsidiary Methanol Holdings (Trinidad) Limited (MHTL), for whom the vessel is named. Dennis was a deeply valued colleague and longstanding member of the Proman family. Mrs Cassandra Patrick is the Godmother of *Stena Pro Patria*.

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HDF Energy launches T&T subsidiary

Staff Writer | Energy Chamber

French clean-energy company focused on hydrogen development, HDF Energy, launched their T&T subsidiary, HDF Energy Trinidad, at Cara Suites Hotel and Conference Centre on November 3, 2022. HDF Energy has clean-energy investments around the world but recently has had several high-profile projects in the Caribbean, including French Guiana, Barbados and now T&T.

HDF Energy recently acquired 70% of the NewGen hydrogen project which was being developed by Kenesjay Green Limited (KGL). Speaking at the event, Thibault Ménage, Vice President for HDF Energy in the Caribbean, explained that the Energy Chamber of T&T played a key role in facilitating the connection between HDF and KGL. Thibault mentioned that HDF's first discussion around hydrogen in Trinidad started with a conversation with President and CEO Dr Thackway Driver, at a conference in Miami.

Dr Driver also spoke at the event and said that he told Ménage, "You really need to come to Trinidad," and "I've put them in touch with

Philip who was working on this NewGen project and things got going from there."

That was three years ago and Dr Driver noted that there were many positive changes since then.

The conversation around hydrogen in T&T really came about through work that the Energy Chamber was doing through its Energy Efficiency and Alternative Energy Committee and we began asking the questions, how can we be more efficient with electricity and how can we use waste heat from industry in the Pt Lisas Industrial Estate?

Early on, the Energy Chamber saw this as a good opportunity to decarbonise, then members like Kenesjay took up the mantle to explore the feasibility of developing a project.

Dr Driver also indicated that the development of a hydrogen industry also represents a step change for the petrochemical industry and an opportunity for the industry to reinvent itself as a low-carbon player in the global energy industry.

Thibault Ménage said that this project represents the opportunity to cross between renewable energy, oil and gas, and the petrochemical sector. He said that HDF brings expertise in hydrogen and renewables but Trinidad and Tobago brings expertise in ammonia, methanol and the possibility of building a hydrogen hub.

He reiterated that the NewGen project will be project one and there is scope for other projects in the future.

At this point in time, HDF estimates that the shortfall in hydrogen is approximately 400,000 tonnes. The project aims to supply hydrogen to the petrochemical sector without adding any CO₂ emissions. Ménage shared that the project will produce hydrogen through electrolysis and use electricity from a combination of waste heat (from existing power facilities) and renewable energy (which would be provided through the bp, Shell and Lightsources bp major solar project, when complete).

Director of the new HDF Energy subsidiary, Dr Dale Ramlakhan said that the project, due to its unique composition, would generate significant natural gas savings and CO₂ savings through sector coupling. At its core, the project encourages efficiency of both the electricity sector and the petrochemical sector.

At present, the project is going through the permitting phase and is currently seeking environmental approval from the Environmental Management Authority. It is estimated that the project will be operational by 2026–27.

The NewGen project is now the first project globally that has reached the stage of an Environmental and Social Impact Assessment (ESIA) for the scale of the project.

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National Energy launches green hydrogen report

Staff Writer | Energy Chamber

The Energy Chamber is encouraged by the results of the Hydrogen Economy Event on November 29, 2022. The call to urgent action from the Honourable Minister of Energy & Energy Industries is warmly welcomed.

The supportive words from the Ministry of Planning and Development, and the confident outlook as outlined by the IDB-funded KBR report, further reinforce the importance and buy-in of this new green hydrogen journey that we must undertake as a matter of urgency.

We are fortunate that here in T&T, as an energy society, we are not starting from the beginning of this journey, thanks to the bp/Shell/Lightsources bp Solar Project and the NewGen Hydrogen Project, which has been in development for the past two years.

When interviewed by *EnergyNow*, Dr Dale Ramlakhan, the NewGen Project Director, has exclusively informed us that, "Earlier this week, NewGen achieved another important project milestone, that of commencing the tender process for the Front End Engineering Design (FEED), and Engineering, Procurement and Construction (EPC) phase for the construction of the US\$200 million NewGen facility. This landmark achievement has already engaged the world's leading EPC contractors and Electrolyser Suppliers to participate in this important development phase. This project has reached the FEED/EPC phase and at this scale is only one of the very few to do so in the world at this time."

He added, "As a result of these developments, T&T has a ready-to-go project in the low carbon and green hydrogen arena, in the form of NewGen, that is scheduled to be operational in Q2 2026. This will allow T&T to remain ahead of the pack, by approximately four years, and this head start will advance the local development of hydrogen-related capabilities."

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NGC looks at opportunities for small-scale LNG to supply markets in Caribbean and South America

Staff Writer | Energy Chamber

In the last few months, the changes in geopolitics and other external factors have put a focus on supplying significant volumes of LNG to Europe. However, it's equally important to consider the opportunities to supply small volumes of LNG to the Caribbean and parts of central and south America.

Verlier Quan-Vie, Vice President Commercial at The National Gas Company of Trinidad and Tobago Limited (NGC), said that opportunities to supply small-scale LNG are tied to the company's green agenda since this provides an avenue to provide cleaner energy to the region.

At present, most of the Caribbean uses diesel and heavy fuel oils to produce electricity. Using LNG for power can greatly reduce the CO₂ footprint of the electricity sector since it is the cleanest of the fossil fuels.

To develop exporting capacity of small-scale LNG, a new facility must be constructed. While a final investment decision has not yet been taken, Quan-Vie said that NGC is in the concept select stage and the intent is to select the final concept and location by the end of Q4 2022.

Quan-Vie said that there were several sites being considered including locations in Pt. Fortin, La Brea and in Pt. Lisas. These sites would have to be able to accommodate the installation of a jetty where small LNG carrier vessels can be loaded. The facility is intended to accommodate vessels with capacities of between 5,000 m³ and 30,000 m³, she said.

It should be noted that despite T&T's current export capacity of LNG, the volumes exported are too large for

smaller markets especially for those in the Caribbean. The small-scale LNG project can therefore produce smaller volumes which can be exported to the markets within the Caribbean and parts of central and south America including Jamaica, Barbados, Colombia, Dominican Republic and Brazil.

The project, once sanctioned, intends to produce LNG for smaller carrier vessels and ISO containers for export. Quan-Vie indicated that this project would supplement what NGC currently supplies and will open up potential new markets in the Caribbean and Latin America.

Some Caribbean countries already have regassification facilities and receiving terminals for LNG and others have already signalled that they would be developing these types of facilities in the near to short term. In many cases, these types of regassification facilities are tied directly to the electricity power plants.

Quan-Vie said that analysis has shown that LNG, despite the current price increases, is still more competitive than using heavy fuel oil for power. In addition, this also provides significant opportunities to reduce CO₂ emissions in the power sector throughout the Caribbean.

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NGC signs energy efficiency MoU with TCL

Staff Writer | Energy Chamber

The National Gas Company of Trinidad and Tobago Limited (NGC) and CEMEX Trinidad Cement Limited (CEMEX TCL) have announced their intention to work collaboratively in support of climate action targets, by signing a Memorandum of Understanding (MOU) to cooperate on energy efficiency initiatives. The MOU follows a Gas Sales Contract (GSC) executed between NGC and TCL. TCL has been one of NGC's longest-standing customers for over 40 years. NGC's commitment to the local manufacturing sector bodes well for infrastructural development in Trinidad and Tobago and the region. This MOU signing with CEMEX TCL, reinforces NGC's commitment to support its stakeholders, particularly within the downstream and manufacturing sectors, as Trinidad and Tobago transitions into a sustainable energy future.

As part of the MOU, NGC and CEMEX TCL will explore the viability of opportunities for carbon capture and sequestration (CCS), while examining the impact of energy efficiency and CCS on the use of fossil fuels in downstream industries. The agreement will also explore the possibility of using waste oil and waste solid to be transformed into heat in clinker kilns used in TCL's operations instead of gas. Leveraging on CEMEX's global

expertise, this would provide a sustainable solution for the disposal of waste in Trinidad and Tobago, solving a longstanding environmental issue while bringing positive economic impacts.

Beyond a focus on energy efficiency, the MOU will seek to identify any opportunities for training and development, in keeping with the learning culture that has been cultivated by both companies. To further this learning and build institutional capacity, NGC and TCL have committed to exchange market knowledge, information, research, expertise, experiences, industry lessons learnt and other capabilities.

Country Manager for the CEMEX TCL group in Trinidad and Tobago Guillermo Rojo noted: "We feel confident that this MoU will bring CEMEX and NGC's complementary expertise and capacities together to provide innovative solutions that will have a sustainable large positive impact in TT's environment and economy. CEMEX TCL aims to become a long-term solution for the waste management in Trinidad and Tobago while creating wealth. We can do much more than constructions materials for this country and the wider Caribbean".

NGC President Mark Loquan remarked that the signing of the MOU is a demonstration of NGC's commitment to engage

stakeholders in advancing the Green Agenda. He noted that: "This collaboration strengthens our relationship with TCL, a critical pillar within the manufacturing sector. Leveraging synergies and capabilities between the two companies which serves to forge new paths for energy efficiency in the downstream, and ultimately bolster the sustainability of the energy sector and national economy."

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SLB and Subsea Integration Alliance awarded contract for bp's Cypre project

Staff Writer | Energy Chamber

SLB has announced an award to its OneSubsea business and Subsea Integration Alliance of a large contract by bp for its Cypre gas project offshore Trinidad and Tobago. The contract scope covers the engineering, procurement, construction and installation (EPCI) of the subsea production systems and subsea pipelines. The award represents Subsea Integration Alliance's first fully integrated EPCI single contract with bp and the Alliance's first development in the Caribbean nation.

The Subsea Integration Alliance team delivered the initial front-end engineering and design phase for the project and will now transition into the full EPCI phase. Offshore installation is scheduled to commence in 2024.

OneSubsea, the subsea technologies, production and processing systems business of SLB, will deliver the subsea production systems, which will include seven horizontal subsea tree systems, subsea controls and connection systems, distribution and control systems and

aftermarket services. Subsea 7, also part of Subsea Integration Alliance, will deliver the subsea pipelines for the project.

"By leveraging early engagement, digital solutions and field-proven, standard equipment, we were able to quickly define the development concept for bp's Cypre project and place early orders for key components, de-risking the project timeline," said Don Sweet, director of SLB's Subsea Production Systems business.

"bp's Cypre project is a prime example of our ability to harness the key strengths of Subsea Integration Alliance: Subsea 7 with its expertise in executing complex EPCI projects and OneSubsea's fast-track delivery of subsea production systems," said Subsea Integration Alliance Chief Executive Officer, Olivier Blaringham. "Combined, we are delivering a refined solution that enables early first gas."

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Woodside Calypso project

Staff Writer | Energy Chamber

Calypso is a deepwater gas discovery in Trinidad and Tobago. The Calypso opportunity is located 217 km off the coast of Trinidad and Tobago, close to existing LNG infrastructure and downstream petrochemical facilities.

The Calypso appraisal drilling programme (consisting of the Bongos-3, Bongos-3X and Bongos-4 wells) concluded on December 20, 2021. All wells encountered hydrocarbons.

Calypso sits within the Deepwater Blocks 23(a) and TTDA 14 lease blocks.

In a recent investment day briefing, Andy Drummond, Executive Vice President for Exploration and Development, said that the company discovered over 3.2 Tcf of gross 2C contingent resource at Calypso in a country with a great market outlook.

T&T offers a quick path to market and monetise resources found.

"First, there are LNG trains with ullage," Drummond said.

He added, "There is a petrochemicals industry that relies on gas as a feedstock and third, there is a domestic gas market." Additionally, as Shiva McMahon, Executive Vice President, International Operations mentioned, "we've a long history in country and a great relationship with the government who are keen to support this development."

Drummond also said that Woodside's focus at present is selecting the development concept and identifying the best commercial and marketing solutions.

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Phoenix Park acquires Minnesota terminal

Staff Writer | Energy Chamber

Phoenix Park Gas Processors Limited (PPGPL) through its wholly owned subsidiary Phoenix Park Energy Marketing LLC (PPEM), completed the acquisition of a propane terminal located in Rush City Minnesota.

The terminal was purchased from Interstate Fuel & Energy, LLC. (Interstate), a subsidiary of Interstate LLC. With this transaction, the company has recorded its third acquisition in the US in the last two years, as it pursues its vision, "to be a recognised global leader in the

development of energy related businesses." PPGPL is notably the first state company to acquire assets in North America and is well poised to grow further.

Operating under the Phoenix Park brand, PPEM is engaged in the business of marketing, trading, and transportation of natural gas liquids in Canada, USA and Mexico. With this latest acquisition, PPEM intends to increase its utilisation of the terminal and continue to grow its markets in the north-western US.

PPGPL's first acquisition was in 2020, when it purchased the NGL marketing assets of Twin Eagle Liquids Marketing LLC based in Houston, Texas. Its second acquisition was in February 2022 when it acquired the Hull NGLs terminal in Texas from Keyera Inc. With the completion of this third acquisition, the employees of PPGPL and PPEM will have further opportunities to apply their respective talents in the US midstream sector thereby leveraging core skills and competencies

particularly in the areas of process safety, financial governance and NGL marketing for which PPGPL is recognised locally, regionally and internationally.

PPGPL is a state-controlled company and a member of the NGC Group of Companies.

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bp starts production from Trinidad and Tobago's Cassia C facility

Staff Writer | Energy Chamber

bp Trinidad and Tobago LLC (bpTT) has confirmed that its Cassia C development has safely delivered first gas.

Cassia C is bpTT's first offshore compression platform and its biggest offshore facility. It will enable bpTT to access and produce low pressure gas resources from the Greater Cassia Area. The platform, bpTT's 16th offshore facility, is connected to the existing Cassia hub which lies approximately 35mi off Trinidad's southeast coast.

Cassia C is expected to produce, at peak, about 200-300 MMSCFD of gas. Production will go towards meeting bpTT's gas supply commitments and will be important to sustaining Trinidad and Tobago's LNG and petrochemical industries.

David Campbell, bpTT President said: "First gas from Cassia C is an important milestone for bp in Trinidad and Tobago. This first offshore compression facility will allow us to unlock new resources and bring much-needed gas to market. I am immensely proud of the teams which have been working hard to bring this facility online."

Ewan Drummond, bp Senior Vice President, Projects, Production and Operations said: "I am proud of our achievement to deliver this project while keeping our people safe throughout a global pandemic. Cassia C is a great example of bp's resilient hydrocarbons strategy in action—providing the energy the world needs now and helping us invest in the energy transition. I would like to thank

our team for their commitment in the safe execution of this project"

The Cassia C platform's jacket—its legs and supporting frame—was built at TOFCO (Trinidad Offshore Fabricators Unlimited) and installed in 2020. Its topside structure was built in the McDermott fabrication yard, Altamira, Mexico and was installed in 2021.

The Cassia C project is an important step in bpTT's Area Development Plan, which outlines the direction and pace of the company's activities to develop hydrocarbon resources in its licensed marine acreage in Trinidad and Tobago. The plan includes a combination of exploration, development projects and activities focused on maximising production from bpTT's acreage.

First gas from Cassia C follows the recent sanction of the Cypre development and the execution of the gas supply agreement with the National Gas Company of Trinidad and Tobago Limited.

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We are proud to be helping the Caribbean transition to a more sustainable future for us all.

Let's talk today!

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news

Joint Chambers disbursed TTD\$250,000 in flood relief aid

Staff Writer | Energy Chamber

The Joint Chambers have disbursed TTD\$250,000 to Sewa TT to support their flood relief efforts. These funds will be utilised by Sewa TT to provide immediate relief to the many families impacted by the recent floods across Trinidad. Sewa TT, with coordination by the ODPM, has been provided meals, water and other relief items to impacted households. However, it is clear that additional support will be required.

The funds were donated to the Joint Chambers over time by members to assist with relief efforts related to natural disasters. This is another tangible example of the support that the private sector provides on issues of national concern.

Revan Teelucksingh, President of Sewa TT said: "Sewa TT is happy to receive this support from the Joint Chambers. This will provide the stability we needed to continue doing the work

necessary to assist people. Like our selfless volunteers, the Joint Chambers have chosen to give their time, effort and other resources to supporting the nation in crisis. Together we are always able to serve better."

The Joint Chambers comprise the four major business associations in Trinidad & Tobago:

- The American Chamber of Commerce of Trinidad and Tobago (AMCHAM T&T)
- The Energy Chamber of Trinidad & Tobago
- Trinidad & Tobago Chamber of Industry & Commerce
- Trinidad and Tobago Manufacturers' Association (TTMA)

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Courtesy SEWA TT Facebook site

ChampionX opens new chemicals lab facility in Trinidad and Tobago

Staff Writer | Energy Chamber

ChampionX has expanded its presence in the Caribbean through its Trinidad branch with the opening of a new oilfield services chemicals lab and distribution facility in Chaguaramas, Trinidad. The local operation will test, store and distribute chemical solutions used in oil and gas production in the region.

The 2,500 ft² facility includes a 400 ft² laboratory that enables ChampionX to perform on-site testing that includes corrosion coupon analysis, chemical compatibility testing and bacteria level determination in produced water, among many other analyses.

"Our new operation in Trinidad expands our ability to serve the region's oil and gas industry," said Ross O'Dell, president of Oilfield and Specialty Performance at ChampionX. "We are proud to have been a part of the local economy since 2014, and we appreciate the trust our customers place in our products and services. This investment demonstrates our commitment to meeting our customers' evolving needs and we are excited for the opportunities that lie ahead for us in the region."

"ChampionX is undeniably a global leader in high-tech engineering and chemicals manufacturing, and I am delighted to know you have chosen to establish a base here," Senator



ChampionX Ribbon cutting with Minister Gopee-Scoon

the Honourable Paula Gopee-Scoon, Trinidad's Minister of Trade and Industry, said in prepared remarks. "The establishment of this compound

marks a further deepening of our business ties and represents your long-term commitment to servicing our oil and gas industry", she added.

ChampionX has delivered a number of chemical solutions to customers in Trinidad that have generated documented cost improvements, production optimisation, and contributed to customers' sustainability goals.

A ChampionX corrosion inhibitor product was successfully deployed with a major gas producer in Trinidad, saving 46% in corrosion inhibitor costs and achieving \$200,000 annual savings. ChampionX also delivered a biocide product that was more effective at lower concentrations than incumbent products, leading to more than \$340,000 in annual cost savings across five production sites for one customer.

Rishi Mahadeo, who leads ChampionX's operations in Trinidad, said the company was committed to continuous improvement and added, "We not only strive to meet and surpass our customers' expectations, but we use ChampionX's new technologies and innovations to maintain our standard of service to our customers."

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Guyana to move on gas to power

Staff Writer | Energy Chamber

The Government of Guyana has paved the way for the Gas to Shore project to come to life by 2024. The Cabinet today issued a “no objection” to the construction of the first-of-its-kind facility in Guyana. The project includes the construction of a 300MW combined cycle power plant and natural gas liquids facility.

This breakthrough decision will now permit negotiations to begin in earnest between the government and the winning bidders CH4/Lindsayca, with a goal to have the terms of the agreement finalised by the end of this month.

This is a significant breakthrough for the project. Earlier this year at the inaugural International Energy Conference & Expo Guyana, focus was placed on Charting a Sustainable Energy Future. The Gas to Shore initiative will be a critical component to getting there.

H.E. President Dr Ali made it clear at the event that the offshore gas drilling taking place at breakneck pace must benefit the Guyanese people as a whole and not just those connected to the business. This project will lead to lower energy costs significantly while maximising the use of by-products from drilling.

H.E. President Dr Ali made it clear at the event that the offshore gas drilling taking place at breakneck pace must benefit the Guyanese people as a whole and not just those connected to the business.

In his announcement today Dr Ali said, “A family at the end of this project that now pays \$20,000 per month in light bill or electricity costs will see that cost coming down to \$10,000.”

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Guyana opens offshore bid round

Staff Writer | Energy Chamber

President Mohamed Irfaan Ali has launched Guyana’s competitive bid round for 14 offshore oil blocks, comprised of 11 shallow-water blocks and three ultra-deepwater blocks.

President Ali opened the bid round today, December 9, 2022. The bid round is expected to be open for four months and will close on April 14, 2023.

It is anticipated that after the bid round closes, evaluations of the proposals will take place and after negotiations, awards of blocks are expected in Q2 2023.

Minister of Natural Resources, Vickram Bharrat, is expected to publish a notice in the Official Gazette in keeping with the Petroleum (Exploration and Production) Act.


Guyana has seen extraordinary success with offshore discoveries in the last five years. The country continues to grow and expand its opportunities to increase production and the inflow of investment into the energy industry and other sectors. The largest upstream

player is ExxonMobil, who produces more than 340,000 barrels of oil per day from two FPSOs. This production is expected to ramp up as more developments come onstream. The company has had significant success to date in Guyana and indicates that additional FPSOs are already in development for future projects.

At the launch of the bid round, President Ali said, “We are hoping that there will be maximum participation and that Guyana would be part of a partnership that creates greater benefit and greater wins for our country and our people.”

In addition, he said that the improved fiscal terms provide greater balance of the share of revenue between the government and contractor, while maintaining Guyana’s competitive edge in the region.

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regional

Jamaica to add 10 EV charging stations



Staff Writer | Energy Chamber

The electric vehicle (EV) sector will receive a boost next year, as energy company Jamaica Public Service Co. (JPS) prepares to roll out an additional ten new charging stations for EVs island-wide, over the course of 2023. This initiative will help Jamaica to keep pace with global trends in EV adoption. The announcement of the new charging stations was made by Business Development Director at JPS, Dionne Nugent, while speaking at the Ministry of Science, Energy and Technology's webinar on EVs entitled "Framework for Electric Mobility and Plans for the Charging Networks".

She stated that: "The whole idea is to have a readily available network of chargers that will be able to ensure that wherever you are in Jamaica, from Morant Point to Negril Point, anywhere along those major corridors you will be able to charge."

Currently, there are ten cashless, convenient, and easy-to-use "Charge and Go" stations in the country using European standards, being rapid and fast. JPS was the first to install such ports on the island for electric-powered vehicles, which are cheaper to fuel. The ports are located in several towns across the country: Boot Service Station in Drax Hall, St Ann; TotalEnergies in Ironshore, St James, as well as Manor Park and Harbour View in St Andrew; and Port Antonio in Portland, to name a few. Since then, private entities such as resorts and homeowners have installed electric charging ports on their properties.

Additionally, as the country commemorated Energy Week, JPS partnered in the hosting of an Electric Vehicle Expo hosted by the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE), dubbed "Regional EV-lution III Electric Vehicle Expo". The Expo was held under the theme "Our Transportation Future is Electric" and was staged at the University of the West Indies' Mona Campus's Assembly Hall on Friday, November 25.

During that Expo's opening ceremony, Ms Nugent also underscored to the students and energy sector leaders in attendance, JPS' commitment to building a sustainable, electric mobility ecosystem which includes implementing the elements required to ensure the growth and expansion of this emerging industry.

"We also know that our EVs will need to be charged at home, so now we are also working on the standardisation protocols to create safe home-charging ports," informed Nugent.

Minister of Transport and Mining, Audley Shaw, shared that the government remains dedicated to the goal of transitioning 35 percent of the electricity sector to renewable energy generation by 2030 and reducing greenhouse gas emissions by 10 percent by 2030. EVs will assist in achieving these targets.

"The government continues to explore avenues to improve the movement of goods and people in the most efficient and cost-effective ways. We must effect innovative solutions to bring energy consumption to an affordable level for every citizen," Minister Shaw told the Expo.

The government has also reduced the importation duties on EVs from 30 to 10 percent and waived registration fees on vehicles that are three years old or less for the next five years. The electrification of the Jamaican transportation sector could potentially save up to US\$284 million of Jamaica's GDP.

By 2030, Jamaica will have an estimated 73,000 public and private vehicles using electricity as fuel. According to Roberto Aiello, Principal Regional Energy Specialist at the Inter-American Development Bank (IDB), "There is a very big traction in the world to move towards electric vehicles. In fact, many main manufacturers are already pledging to ban the manufacturing of internal combustion engines, the earliest one being 2030."

From the onset, JPS has played an integral role in building the ecosystem for EV mobility by seeking to contribute to the national dialogue with the EV Council and the Office of Utilities Regulation to ready the electrification of transportation.

Ms Nugent, the Business Development Director for JPS says, "We know the electric mobility future is here, it's been here for a while, and we are ready to go in this space."

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BP International selected to market Guyana's share of crude

The Guyana Government has indicated that it will continue to employ transparent and international best practices in the management of the nation's petroleum resources so as to attain maximum returns and advance the livelihoods of all citizens.

Staff Writer | Energy Chamber

The Government of Guyana through the Ministry of Natural Resources has announced that BP International Limited has been selected to market Guyana's share of petroleum from the Liza Destiny and Liza Unity floating production storage and offloading (FPSO) vessels.

The award for the contract comes after the completion of a competitive procurement process launched by the Ministry of Natural Resources. The Ministry opened a Request for Bids from September 16, 2022 to October 11, 2022 after the previous marketing contract with Aramco Trading Limited ended.

According to DPI, 14 bids were received by the National Procurement and Tender Administration Board (NPTAB).

The procurement board appointed an Evaluation Committee to review the bids. After the evaluation, BP International was recommended by the committee. The recommendation was cleared by NPTAB and received Cabinet's "no objection".

The duration of this contract will be for 12 months.

The marketer will provide the following services:

- Provide support and guidance to the Government of Guyana in all operating and back-office responsibilities of managing the crude sales and each individual lift whilst facilitating timely and cost-effective crude operations.
- Support the government in the continued introduction of the grade to multiply geographies and refinery systems, and provide benchmark and performance comparisons of prices paid for Guyana's crude.
- Work closely with the government to understand the behaviour and yields of the Liza blend and how these can affect pricing differentials.

The Guyana Government has indicated that it will continue to employ transparent and international best practices in the management of the nation's petroleum resources so as to attain maximum returns and advance the livelihoods of all citizens.

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Enlightened self-interest: Trinidad & Tobago, Venezuela and global gas markets

editorial

THE RECENT NEWS of a renewed dialogue between government and opposition in Venezuela and the changing diplomatic stance of the United States towards sanctions opens up a renewed possibility for Trinidad & Tobago to import natural gas via pipeline from Venezuela. With a significant potential to process natural gas exported by pipeline into either LNG or petrochemicals for international markets, Trinidad & Tobago represents the best opportunity for Venezuela to monetise its massive offshore gas reserves and stop harmful and wasteful flaring of associated gas in its oilfields. This will ensure that Venezuela can both generate the income needed to overcome the country's continuing humanitarian crisis as well as provide the world with additional LNG, fertilisers and lower carbon fuels.

To date, most of the international media attention has been focused on the role of Venezuela as a major oil producer. But the country is also a major potential producer of natural gas, with many untapped multi-trillion cubic feet gas fields off its north and eastern coasts. In part due to underinvestment and lack of access to technology and equipment, the country is also a major contributor to the problem of flaring natural gas, which produces huge volumes of greenhouse gases without any benefit of producing usable energy.

The Government of Trinidad & Tobago has been working the diplomatic channels hard over recent months and years to encourage a rethink of U.S. sanctions on Venezuelan gas exports. According to media reports, the T&T government recently formally applied for a waiver in the sanctions regime. The Energy Chamber of Trinidad & Tobago has fully supported this approach by the Trinidad & Tobago government, and we have often had dialogue on this issue with U.S. diplomats as well as other diplomatic missions and stakeholders. We have also maintained a dialogue with private sector stakeholders in Venezuela on this issue.

Exporting gas from Venezuela to Trinidad & Tobago could be beneficial to many different players and different countries. As with the proposed oil export licenses, it could help secure much needed revenue for humanitarian purposes in Venezuela and will provide natural gas for the downstream petrochemical and LNG sectors in Trinidad, helping secure jobs, foreign exchange and continued business opportunities.

Venezuelan gas processed in Trinidad will then be available to international markets looking for products, especially from a reliable and secure country like Trinidad. From a climate change point of view, the ability to process gas that is currently being flared and bring it into productive use will be a huge win, especially if it then displaces coal-fired electricity.

Given the proximity of many of the fields to Trinidad and the country's expertise in offshore gas developments, these projects could also provide an opportunity for the Trinidad services industry. In the past, many Trinidadian private sector companies worked in the Venezuela oil sector and, just like many of their American counterparts, also have long outstanding debts that have not been settled. This is an issue that should not be forgotten in the overall discussion.

The Energy Chamber believes that the opportunities presented by the chance to export pipeline gas from Venezuela to Trinidad are too important to be kept on the backburner. We therefore strongly encourage all stakeholders to work assiduously on turning this opportunity, which has been discussed for decades, into a reality. We stand ready to play whatever role necessary to make this happen.

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Local content in an era of borderless hiring

THE GLOBAL PANDEMIC had a profound impact on expectations about where people work. With lockdowns, companies were forced overnight to implement the remote work practices that had often been discussed in the past but rarely executed. For many employees this was a positive experience and lots of people have been keen to maintain remote working practices even as the pandemic has retreated.

Employers have had a mixed response to this development. Some employers have welcomed the change and have permanently implemented remote working practices, and some have even gotten rid of all physical offices. Other employers have demanded that all employees get back to the office, with Elon Musk at Twitter making international news with his demands that people physically work from the office (and accept long working hours). Most employers have taken more of a middle pathway, with policies in place that allow workers some days at home and some in the office and more flexibility with working hours than pre-pandemic. In the Energy Chamber, we have implemented a hybrid approach, with employees and their supervisors being able to make up their minds about where they can be most productive.

With remote working policies here to stay, more and more companies are also willing to allow workers to base themselves in other countries either permanently or for short periods of time. The Energy Chamber policy states that employees could be based outside Trinidad for reasonable time periods, once they are available during normal Trinidad office hours and once their supervisor approves.

So-called digital nomads received a lot of attention during the pandemic and some Caribbean countries, including Barbados and Dominica, made a pitch to attract these individuals as temporary residents.

With increased experience and confidence in the ability to manage remote employees and with an intense fight for talent in many major markets, some companies have adopted borderless hiring policies. This means that they will extend their talent search to the whole world and hire the best fit for a role, wherever they happen to be physically located.

This trend of remote working poses interesting questions for local content policies and rules about the nationality of the work force. If a job can be executed from anywhere in the world, does it make sense to insist that an in-country job can only be filled by a national? Or is there a danger that the company will simply say, "Well, we don't actually physically need to bring that person to the country of operations as they can just discharge the role from Houston, Mumbai or wherever they are currently located."

There are undoubtedly potential managerial, employee relations, accounting and taxation challenges for this sort of approach, but given shortages in talent it



might be an attractive option for international companies. For host countries, this development could mitigate against the value-added objective of local content policies, as that particular employee's spend and income tax will not circulate in the local economy.

Obviously, this could not apply to roles where employees need to physically carry out tasks. But even here, developments with digitisation and some of the innovations developed during the pandemic mean that in some cases specialised skills can be delivered remotely, for example, a certified technician supervising a less-skilled worker via a video conference link to complete a specific task.

To an extent, this new remote working practice has simply accelerated trends in place over the past few decades, with many back-office functions already having been delivered remotely prior to the pandemic. Local service companies have often found themselves submitting paperwork to service centres in other countries.

While this trend might seem like a threat, it also presents an opportunity for Trinidad and Tobago. A few years ago, one major multinational operator created a service centre in Trinidad for accounting functions for their U.S. onshore operations; unfortunately, a change in company strategy meant that the U.S. assets were sold and as part of that divestment the Trinidad service centre ceased operations. There are also other examples of Trinidad-based companies relocating functions out of higher-cost locations in the U.S. back to Trinidad, where it is often possible to hire skilled and certified professionals at competitive salaries.

Local content policies are going to need to consider this remote working trend. It highlights the need for a nuanced policy that focuses on the overall value retained in country from the spend of operators, rather than narrow considerations on nationality of employees. Creating an overall business and social environment that means talent is attracted to the country and wants to remain in places like Trinidad and Tobago might be more important than meeting regulatory targets.

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CGX and Frontera set to spud Wei-1 and construction begins at deepwater port in Berbice

Staff Writer | Energy Chamber

Canadian-based CGX Energy Inc. along with Frontera Energy have indicated their readiness to spud the Wei-1 well in the Corentyne block, offshore Guyana.

The partners have issued a press release stating their commitment to drill the Wei-1 well and that final preparations are complete in advance of spudding the Wei-1 well.

The well will be spudded no later than January 31, 2023, utilising the Noble Corp. Discoverer semi-submersible mobile drilling unit.

The Wei-1 well will be located approximately 14 km northwest of the Kawa-1 exploration well



Courtesy cgxenergy.com

in the Corentyne block, approximately 200 km offshore from Georgetown, Guyana.

Alongside this activity, CGX intends to support the Government's effort to accommodate increased vessel activity in Guyana. According to a statement from the partners, in-river construction activity has begun for a deepwater port at Berbice.

Work has already begun at the Berbice Deepwater Port (BDWP) on a 50 x 12 m access

trestle from the quayside yard westward into the Berbice river, together with the necessary dredging of the river.

Construction of the wharf, perpendicular to the trestle, will follow.

The cargo terminal aspects of the BDWP are targeted to commence in mid-2023 and operation of oil and gas support base in late-2023, subject to construction schedules and supply chains.

In collaboration with the Government of Guyana, CGX has shifted the immediate focus of the Port to service expected demand for aggregates and building materials to support the Government's infrastructure development in Berbice which must be imported into the region from elsewhere in the country and offshore.

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opinion

ESG reporting frameworks and what they mean for business

Lisa Burkett | Contributor

Environmental, Social and Governance (commonly referred to as “ESG”) reporting and frameworks are steadily gaining prominence among investors, businesses and stakeholders. In addition to financial reporting, ESG reporting is now the preferred approach to evaluating and communicating the material impacts of a business on people and the environment. ESG frameworks provide a powerful mechanism for companies to be transparent about risks and opportunities, while articulating the steps being taken by the business to navigate in an increasingly complex and uncertain global environment.

For businesses new to the ESG space, it may be a daunting task to figure out where to begin with ESG reporting. The Global Reporting Initiative (GRI) was first introduced in the late 1990s, followed by issuance of its guidelines on the disclosure of ESG metrics in 2000. Today, several ESG reporting frameworks exist. Each framework differs from the other depending on the industry, company type and geographic location.

It is important to position ESG against the following questions and how they relate to business:

Why is ESG reporting important to business?

1) Staying ahead of regulations

With greater consensus in the scientific community around the need to limit global temperature increase to 1.5° Celsius by the end of the century to avert a climate disaster, governments and regulators across the world are rapidly moving towards mandatory reporting on carbon emissions. Companies that establish an early and regular cadence of ESG reporting on impacts such as carbon emissions, will be better positioned to adapt to new mandatory ESG reporting requirements.

2) Improved ability to attract investors

According to Bloomberg, “ESG is upending the worlds of finance and investing as it moves from the periphery to the mainstream” with assets on ESG investment poised to reach \$41 trillion by the end of 2021. Companies with robust ESG reporting systems are deemed safer long-term investments, as they are less likely to be fined by regulators or have systemic governance or supply-chain risks. Investors are routinely using ESG data to screen companies, with some funds completely dismissing entities that lack credible ESG performance data. Therefore, robust ESG reporting will help businesses attract investment, raise debt financing, and lower the cost of acquiring capital. (Bloomberg 2022)

3) Enhanced brand and reputation

A recent survey conducted by Weber Shandwick found that global executives assign 63% of their company’s market value to their overall reputation. Companies that fail to address their top ESG concerns run the risk of reputational damage which could erode company value. We now live in an era when reputations matter and ESG has become an increasingly important factor driving brand perceptions. (Forbes 2022)

4) Attracting and retaining talent

According to research by LinkedIn, 71% of professionals said they would consider taking a pay cut to work at a company that aligns more with their values. Issues such as climate change, environmental stewardship, diversity and inclusion, and social justice and equity, are examples of ESG issues that “Millennials” and “Gen Zs” value more above traditional motivators such as career mobility and remuneration. A strong alignment with ESG can help companies attract and retain highly motivated and purpose-driven talent. (Bloomberg 2022)



ESG reporting is rapidly gaining momentum as one of the preferred mechanisms for businesses to report on non-financial aspects of business operations which could either erode or enhance the value of a company.



Getting started with ESG reporting

What are the ESG frameworks available to businesses?

The following six ESG frameworks are among the most widely used by a broad cross-section of stakeholders in the ESG reporting landscape (detailed in Figure 1).

1) Global Reporting Initiative

GRI is an independent, international organisation that helps businesses and other organisations take responsibility for their impacts, by providing them with the global common language to communicate those impacts. GRI provides the world’s most widely used standards for sustainability reporting—the GRI Standards.

2) The Sustainability Accounting Standards Board

SASB Standards identify the sustainability information that is financially material, which is to say, material to understanding how an organisation creates enterprise value. This is designed for users whose primary objective is to improve economic decisions.

3) CDP

CDP is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. Each year, CDP supports thousands of companies, cities, states and regions to measure and manage their risks and opportunities on climate

change, water security and deforestation. CDP often does this at the request of their investors, purchasers and city stakeholders.

4) Task Force on Climate-related Financial Disclosures (TCFD)

The Financial Stability Board (FSB) created the TCFD to develop recommendations on the types of information that companies should disclose to support investors, lenders and insurance underwriters in appropriately assessing and pricing a specific set of risks—risks related to climate change. In 2017, TCFD released climate-related financial disclosure recommendations designed to help companies provide better information to support informed capital allocation.

5) UN Sustainable Development Goals (SDG)

The UN SDGs are a collection of 17 interlinked global goals designed to be a “shared blueprint for peace and prosperity for people and the planet, now and into the future”.

6) UN Global Compact

The UN Global Compact is a call to companies to align their strategies and operations with ten universal principles related to human rights, labour, environment and anti-corruption, and take actions that advance societal goals and the implementation of the SDGs.

How to begin reporting on ESG performance?

The following are some key considerations in starting an ESG reporting process:

1) Establish commitment at the top—Leaders should endorse this process and commit to ensuring that any disclosure process can withstand public scrutiny.

2) Understand and align key material impacts—Business leaders should be clear on the top material impacts of the business to people and society.

3) Develop a strategy and plan for embedding ESG reporting—Businesses should spend time properly thinking through how they plan to embed ESG within the organisation. This includes identifying which aspects of the business will be measured and reported on, who will be responsible for ESG tracking, and how the organisation intends to address any gaps in its ESG performance.

4) Assign resources, incentives and responsibilities—With an ESG roadmap developed, the appropriate resources, responsibilities and incentives need to be earmarked. Leaders should consider integrating individual performance incentives for meeting ESG targets.

5) Select an appropriate ESG framework—After reviewing the various frameworks, businesses should select one that best suits the organisation. The key is aligning with a framework that allows the company to report on its impacts or material topics.

Conclusion

ESG reporting is rapidly gaining momentum as one of the preferred mechanisms for businesses to report on non-financial aspects of business operations which could either erode or enhance the value of a company.

However, before aligning to any of these frameworks, there should be a strong commitment from the top to accurately disclose material impacts, as well as a plan for improvement. Clear assignment of responsibility, resources and incentives will ensure that ESG plans get implemented.

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Catalyst for going green - the environment and the bottom line

Amanda C. Ramdass and Dr. Sephra N. Rampersad

| Contributors

The old adage “necessity is the mother of invention”, has found a home in Trinidad and Tobago. In a continuously evolving regulatory environment, the oil and gas industry is “going green” with a flurry of innovations. Diversified portfolios that have a proper understanding and implementation strategies of these innovations, will benefit both the environment and the bottom line.

While efficiency is essential, innovative thinking must include sustainable technologies and foster partnerships. Trends show a rise in environmental research and sustainability by oil and gas companies to drive innovation using cross-domain knowledge. According to a recent International Energy Agency (IEA) investment report, clean energy investment is finally gaining momentum and is expected to exceed US\$1.4 trillion in 2022.

Keeping in sync with this global trend, the Energy Chamber of Trinidad and Tobago held its annual Energy Conference on May 31–June 2, 2022, and launched an Innovation and Technology Challenge. It is from this challenge, our project Harnessing Ecosystem Partnerships for a New Energy Future was birthed and presented as one of the shortlisted top-five projects at the Hyatt Regency on June 1, 2022. The project stood out as we presented a science-based proposal focused on biosurfactants and biocatalysts, which have become an indispensable component in almost every energy sector.

Considering the enormous versatility of these biomolecules, we presented the potential usage of novel biosurfactants and biocatalysts in the oil and gas industry for enhancing oil recovery, cleaning of oil tanks/pipelines/vessels, bioremediation, and dispersants for combatting oil spills. We also highlighted a potential for commercialisation of novel biomolecules.

What makes a microbe a novel source of biomolecules? The direct impact of extreme environments such as chronically polluted soils in south Trinidad and how a microbe develops specialised mechanisms to not only survive but thrive, provides this source. At the University of the West Indies in St. Augustine, we have isolated and researched putative “green” biosurfactants and biocatalysts such as lipases, that can outperform their chemical counterparts. Substituting chemical surfactants for biological surfactants provides advantages including eco-friendliness, biodegradability, low toxicity, and stability over a wide variability of environmental factors.

In the enhancement of oil recovery, the injection of indigenous microbes is the preferred choice since they produce biosurfactants in situ thus significantly reducing operational cost. Cleaning oil sludge with microbes can reduce the time taken, human effort, and therefore significantly reduce cost of clean-up. With the basic cleaning costs running into the hundreds of USD per m², we have demonstrated that naturally occurring, specific bacteria-yeast partnerships with combined secreted biosurfactant and lipase activity, can degrade 2% crude oil at a conservative estimated rate of 1 m² in 3.1 days at a cost of less than US\$5.00.

Hydrocarbon contamination is a widespread problem in Trinidad with long-lasting environmental impacts. As oil companies undergo eco-transformations, they must take responsibility for unintended consequences of abandoned wells and seeps. Typically, chemical and physical methods are used to clean up spills, however, such techniques are damaging to autochthonous biodiversity and can be cost-prohibitive.

Higher rates of crude oil degradation can be achieved when sites are treated with specialised microbial consortium. Biological-dispersing products (i.e., biosurfactants) gained traction since the Deepwater Horizon disaster. There has since been development of a new generation of biosurfactants that are equally or more effective than commercial chemical dispersants and are cost effective with minimal negative environmental and human impacts.

Using biocatalysts like biosurfactants and lipases would save the leather industry 700,000 tonnes of CO₂ per year, equivalent to the annual load from 75,000 average world citizens or 170,000 cars.

Texas A&M University at Galveston scientists, as part of the Aggregation and Degradation of Dispersants and Oil by Microbial Exopolymers group, have proven that surfactant-based dispersants are more efficient than the synthetic chemical dispersant Corexit, the “gold” reference standard. It is predicted that our indigenous microbes are a source of superior biosurfactants. With the rise in demand for natural ingredients and companies in search for sustainable resources, it would be wise to assume that this is a promising avenue for the oil and gas industry to invest in.

Commercialisation of biosurfactants and lipases produced by indigenous microbes in Trinidad has a clear potential market for scaled-up extraction, purification and production. The global biosurfactant market size was US\$3.66 billion in 2020 and is projected to increase to US\$5.71 billion in 2028, growing at a CAGR of 5.4% during the 2021–2028 period. The global lipase market (animal and microbial) was valued at US\$464.2 million in 2016 and is projected to reach US\$797.7 million by 2025, growing at a CAGR of 6.2% from 2017 to 2025. Biosurfactants and lipases are two of the highest growing markets because of its use in numerous industrial applications. Europe is the largest market while Asia and Pacific are the fastest growing.

Aside from the commercial benefits, most importantly, clean energy and technologies reduce carbon emissions.

Lipase and biocatalyst enzymes in various industrial applications have a proven reduction in carbon emissions. For instance, by using biocatalysts like biosurfactants and lipases, “A Catalyst for Change—Innovations in Chemical and Waste” 2015 study assessed global savings in the leather industry of 8,000,000 gigajoules of energy and 700,000 tonnes of CO₂ per year, equivalent to the annual load from 75,000 average world citizens or 170,000 cars.

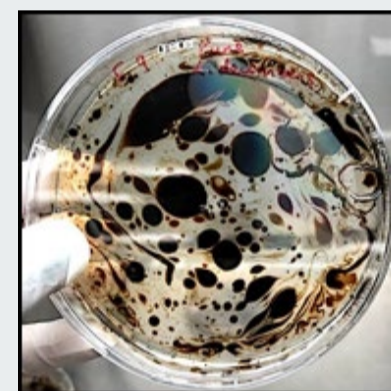
By moving towards the cutting edge of research and technology, companies will be better positioned to thrive in this global market of increasingly stringent regulations, competition and constraints. The oil and gas industry is tasked with considering new and creative avenues that offer both financial and environmental benefits.

Our technology has been published in numerous internally peer-reviewed scientific journals such as Scientific Reports. The perceived lack of interest and knowledge for biomolecule technologies in Trinidad has pushed us to submit to the Innovation and Technology Challenge in a bid to raise awareness with all major players in the industry.

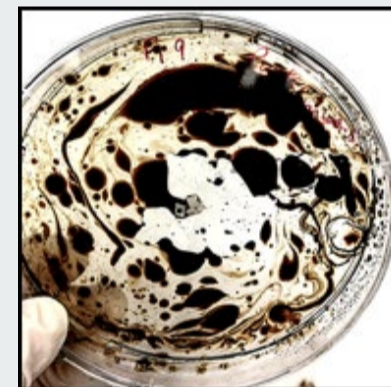
Trinidad has an untapped potential as a source of microbial products. Investing in this technology can mean long-term cost savings, environmentally safe practices, and positioning Trinidad in a US billion-dollar market. Our science and your partnership can be at the forefront of a greener yet affluent oil industry in Trinidad.

Learn more and have your say online:
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A visual display of the oil-degrading potential of a microbe isolated from crude oil-contaminated soil in south Trinidad. These microbes produce biomolecules that aid in increasing the efficiency of degradation.



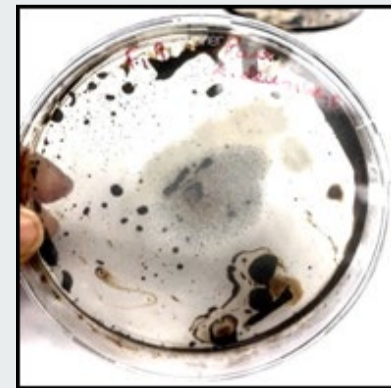
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24 hrs



72 hrs



120 hrs

opinion

IRENA members address the geopolitical challenges of energy transformation

Staff Writer | Energy Chamber

"It is abundantly clear we need to understand the geopolitical implications of the energy transition, so that we can proactively shape its outcomes," remarked IRENA Director-General Francesco La Camera at the opening of the sixth meeting of the Collaborative Framework on the Geopolitics of Energy Transformation.

The virtual meeting was attended by nearly 40 participants from Members and States in Accession to discuss the intersection of geopolitics and energy transformation set against a backdrop of the global energy crisis.

For the past two years, Germany and the U.A.E. co-led the work of the Collaborative Framework, advancing important initiatives including a deep dive on the geopolitics of hydrogen. In their remarks, the outgoing Co-facilitators noted the importance of greater understanding of geopolitics and stressed that IRENA, with its global membership, is well-positioned to shed light on shifting trends.

Incoming Co-facilitators, Namibia (represented by James Mnyupe, Presidential Economic Advisor for the Republic of Namibia) and Norway (represented by Hans Olav Ibrekk, Special Envoy for Climate and Security for the Norwegian Ministry of Foreign Affairs), are taking over at a critical moment characterised by heightened geopolitical uncertainties and new opportunities to accelerate energy transition.

Participants at the meeting emphasised the need for policymakers to have insights into geopolitical trends and developments, as set out in the 2019 Global Commission report, "A New World: The Geopolitics of the Energy Transformation". Members exchanged views on additional nuances that have since emerged and asked the Secretariat to consider them in analytical work under development. "We see the emergence and amplification of new and long-standing geopolitical challenges around

fossil fuel price volatility and energy security," Mr Ibrekk remarked.

Another set of challenges among policymakers concern the rapidly growing demand for critical materials for the energy transition, as well as the ways this trend is already shaping the geopolitical landscape. In response to growing interest from Members in how to meet these challenges, the Secretariat shared plans for a deeper analysis of related geopolitical implications. This work leverages activities of the Collaborative Framework on Critical Materials for the Energy Transformation which, in a short time, Mr Mnyupe remarked, had "provided a wealth of essential insights about the challenges and opportunities associated with scaling up critical materials to meet the growing demands of an accelerating energy transition."

"Inherent in the nature of global supply chains are questions around geopolitical

cooperation and competition," Mr La Camera said. "The role that critical materials play in the energy transition will also present an opportunity to avoid mistakes of the past in extractive industries."

Closing the meeting, and reflecting on the complex challenges discussed, Mr Ibrekk stressed that a fact-based debate was now more important than ever, and IRENA's function as a knowledge hub would ensure its membership and other stakeholders are well prepared for the uncertainties of geopolitics and the energy transformation.

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Rystad: the beginning of the end for gas-fired power in Europe?

Rystad | Contributor

Gas-fired power generation, which is currently part of Europe's electricity backbone, is being threatened by high prices, market challenges and the declining cost of renewable energy. Rystad Energy research shows that with recent gas prices, it would be ten times more expensive to operate gas-fired power plants in the long-term than to build new solar PV capacity in Europe. While gas prices are not expected to remain at such high levels in the medium- to long-term, when and if they fall, gas will struggle to remain competitive in Europe's power mix. This research uses the levelised cost of energy (LCOE) for gas and coal-fired power generation at different price levels and compares it to the LCOE of solar PV and wind.

European gas prices have hit exceptional highs this year as a drop in Russian gas exports has lifted the cost of power generation. Spot prices on the Netherlands-based Title Transfer Facility (TTF) gas hub, the main reference for Western Europe, have risen from an average of €46 per megawatt-hour (MWh) in 2021 to €134 per MWh so far this year—an increase of 187%. The price reached a historical peak of €330 per MWh in August, pushing the cost of generating electricity from gas close to €700 per MWh. Despite the increase in price, gas-fired generation output increased 4% during the first seven months of 2022, mainly due to a 100-terawatt-hour (TWh) drop in output from hydroelectric and nuclear generation.

The situation is unlikely to improve over Europe's upcoming winter. As a result, Rystad Energy expects gas-fired generation will be needed to keep the lights on, despite the high cost of gas. For 2023, the return of nuclear generation plants and more renewable energy capacity should gradually reduce the need for gas-fired power. More than 50 gigawatts (GW) of new solar and wind capacity are planned to be commissioned next year, with French generator EDF hoping to bring back online up to 30 GW of nuclear capacity that is currently undergoing maintenance.

Rystad Energy forecasts that TTF prices will stabilise at around €31 per MWh by 2030, which puts the LCOE of existing plants closer to €150 per MWh. This is still three times more than the LCOE of new solar PV facilities. For gas-fired plants to continue being competitive, gas prices would need to fall closer to €17 per MWh and carbon prices would need to fall to €10 per tonne, which is currently unthinkable.

Gas versus alternatives: scenarios to 2025 and 2028

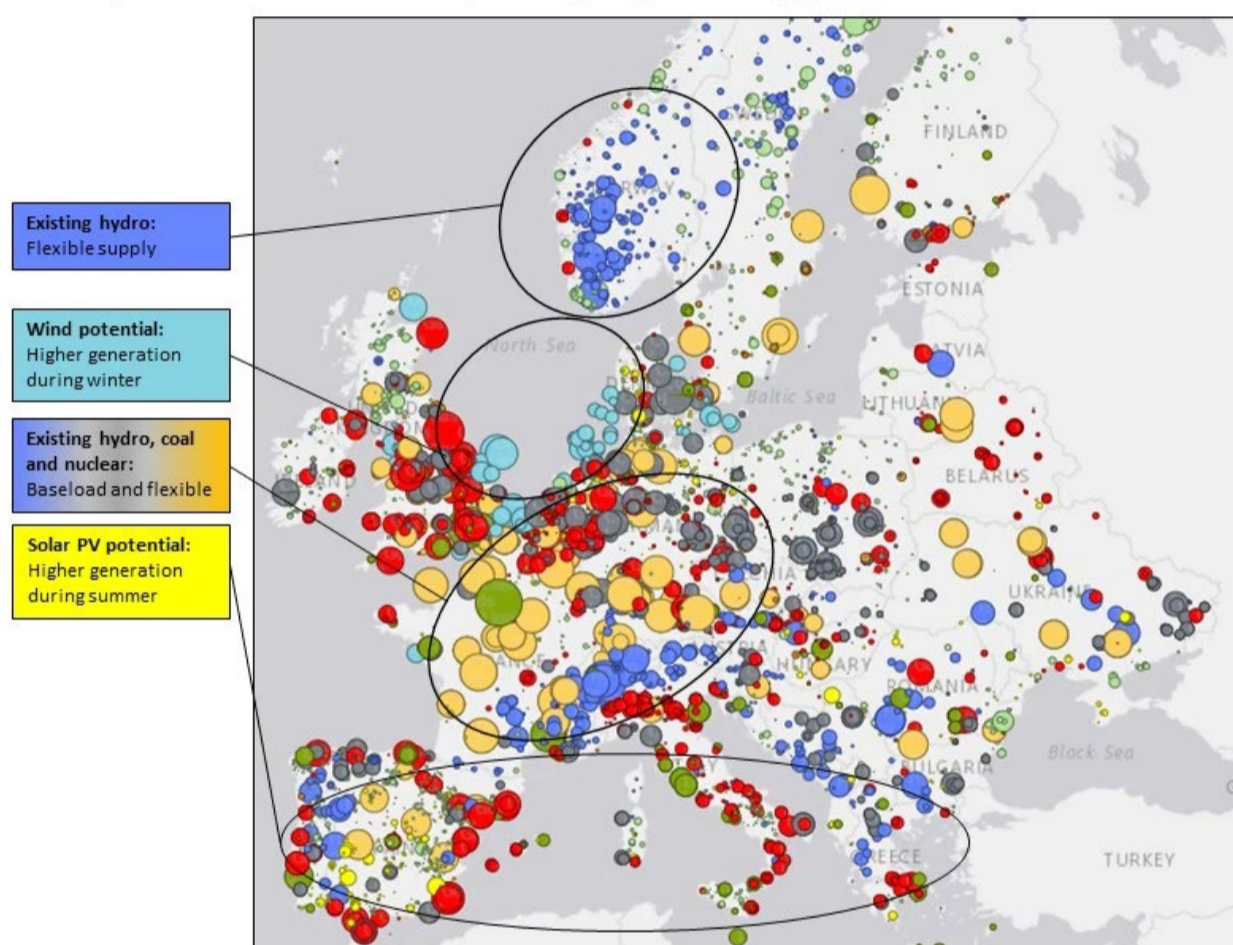
More than 100 GW of new renewable energy capacity could be developed in 2025 if funds needed for gas-fired power generation were instead used for this purpose. This estimate assumes a weighted average capital cost of solar PV and onshore wind technologies of €1.3 per Watt and that a couple of years would be needed to kick off the development.

By 2028, new renewable generation capacity installed using money that would otherwise have been spent on gas generation would reach 333 GW, which would be enough to generate 663 TWh of electricity. Renewable power generation would be enough to replace forecast gas-fired generation by this year. By 2050, new renewable energy capacity would be generating more than 2,000 TWh. This growth in generation only considers output from new capacity developed using "funds from gas" and is on top of Rystad Energy's base case forecast, which anticipates that 2,385 GW of solar PV and wind capacity, and 520 GW of utility scale batteries are installed by 2050.

High prices to hit long-term outlook for gas power

Shifting away from gas-fired power generation has proven to be more difficult than expected, but the high costs incurred in the recent period have led European countries to accelerate the

European installed capacity by energy source and location



Source: Rystad Energy PowerCube

Energy source category

- Nuclear
- Coal
- Natural gas
- Onshore wind
- Offshore wind
- Solar PV

development of renewable generation capacity. The short-term outlook for European gas prices is not optimistic as it will take some time for the market to adjust to a new reality without Russian gas. For Europe's utilities and member states, at prices over €100 per MWh it is unsustainable to continue generating electricity using gas, especially when solar PV and onshore wind offer far cheaper alternatives.

In Rystad Energy's base case scenario, gas-fired generation is expected to continue playing an important role in the European power mix. In the short-term, this source of electricity is vital to help meet demand. In the long-term, gas-fired generation capacity will continue to be needed to back up the intermittency of renewables, especially during winter when utility scale battery storage capacity cannot serve this purpose. The lower utilisation of gas plants means that utilities will need to receive capacity payments to incentivise companies to keep their plants operational. However, given the large cost that gas represents and the very uncertain future over supplies, it makes sense for power companies to rethink their strategies and fast-track the development of renewable energy and storage capacity. While the European Commission is paving the way to achieve this with new energy security policies, the economic aspect could help speed things up. When it comes to renewables, the time is right to explore ways of avoiding supply-chain bottlenecks and securing support from financial institutions.

TTF Spot prices reached a historical peak of €330 per MWh in August, pushing the cost of generating electricity from gas close to €700 per MWh. Despite the increase in price, gas-fired generation output increased 4% during the first seven months of 2022, mainly due to a 100-terawatt-hour (TWh) drop in output from hydroelectric and nuclear generation.

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opinion

IEA: Global government spending on clean energy transitions rises to US\$1.2 trillion since the start of the pandemic, spurred by energy security concerns

IEA | Contributor

The IEA's Government Energy Spending Tracker shows increased funding for clean energy in response to the global energy crisis alongside efforts to keep energy bills affordable.

Global government spending to support clean energy has increased by over US\$500 billion since March as the global energy crisis spurs new policies aimed at cutting reliance on fossil fuels, the IEA's tracking of measures around the world shows.

This increase brings total amount of investment support that governments have allocated to clean energy since the start of the COVID-19 pandemic to US\$1,215 billion, according to the latest update of the IEA's Government Energy Spending Tracker, which encompasses 1,600 government financial measures from 67 countries passed since March 2020.

This government spending is set to mobilise substantial flows of private investment, which based on today's policy settings would raise global clean energy investment by another 50% to over US\$2 trillion annually in 2030.

"The responses from governments to the crisis are going in the right direction," said IEA Executive Director, Fatih Birol. "The unprecedented financial support we are seeing for clean energy transitions is improving energy security and dampening the impact of high fuel prices on customers. But there are worrying geographical imbalances, with many emerging and developing economies at risk of being left behind if the international community does not step in to help them mobilise much more clean energy investment."

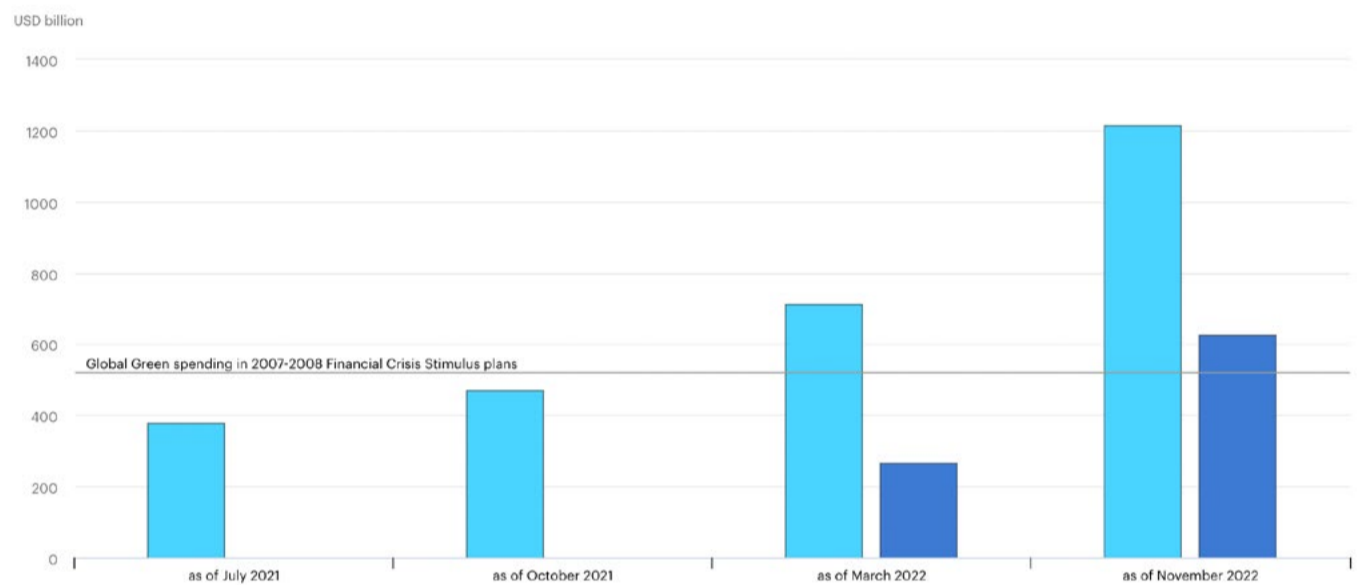
Advanced economies account for nearly 95% of the clean energy investment support that has been allocated worldwide since the start of the pandemic. Emerging and developing economies have directed their more limited resources to short-term measures to keep transport, electricity and cooking fuels affordable.

The largest increases in clean energy investments in the past year result from the Inflation Reduction Act in the United States and by measures enacted by several European countries. The majority of these funds are earmarked for low-carbon electricity and incentives for energy efficiency improvements in buildings and industry. Low-carbon transport infrastructure follows closely behind, particularly high-speed rail.

In addition, governments around the world have spent a further US\$630 billion in efforts to protect households and businesses from rising energy bills since autumn 2021. Only about 35% of the short-term affordability measures the IEA has tracked were targeted toward households most in need of support or businesses most exposed to the effects of high energy prices. Without better targeting, new affordability measures will further contribute to rising levels of government debt.

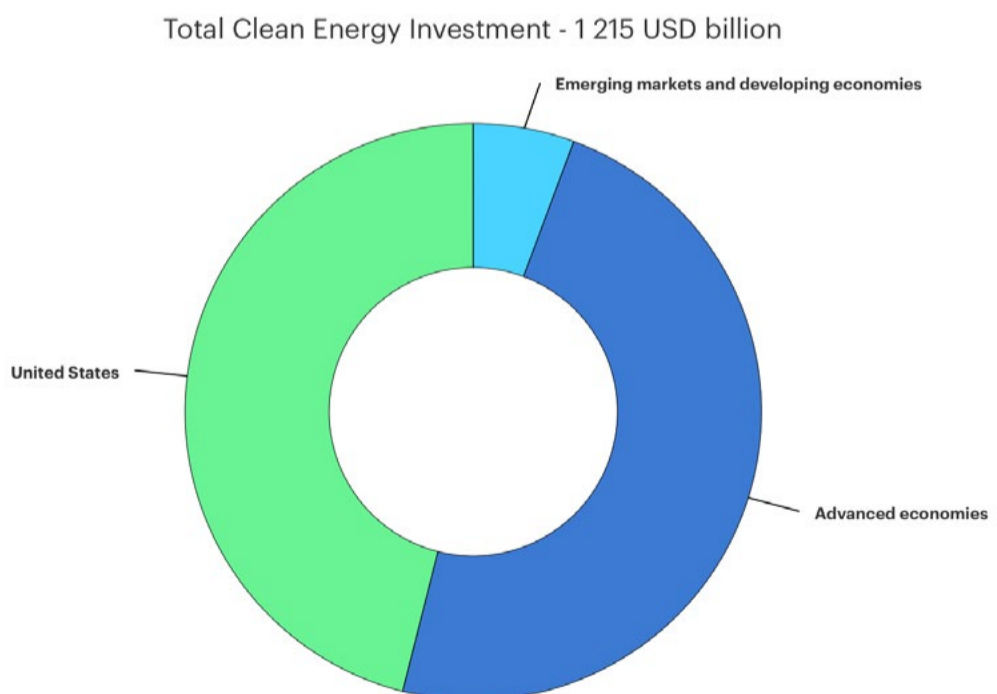
Even with these government support measures, access to affordable energy in the developing world is shrinking as a result of the crisis. The IEA estimates that 75 million people who recently gained access to basic energy services can no longer afford them. And for the first time since the IEA started tracking it, the total number of people worldwide without electricity access has started to rise.

Government spending for clean energy investment support and short-term consumer energy affordability measures



Source: iea.org

Total government clean energy investment support enacted since the start of the COVID-19 crisis, by region



Source: iea.org

The water vs. climate change paradox



Jihoon Lee and Raul Muñoz, IDB | Contributors

Most of the effects of climate change are felt through water. Disruptive and unpredictable weather patterns cause more droughts and floods, rising sea levels, and environmental contamination. As a result, farmers' abilities to save their crops, access to clean drinking water, and community protection from extreme weather events are all under stress. We cannot address climate change without considering its effects on water.

To ensure that communities are resilient to water scarcity, managers at all levels—from the city to the transboundary river basin—must develop integrated water and climate policies, while leveraging data and informed decision-making. Yet, many stakeholders cannot provide effective and sustainable solutions due to a lack of data on current and future resource availability, drinking water supply, and food and energy demand. According to the World Meteorological Organisation (WMO), 60% of all countries report declining hydrological monitoring capabilities, and more than half do not have quality water data management systems. A widening information gap makes it more difficult to maximise the use and reuse of water resources.

The Inter-American Development Bank (IDB) supports countries in Latin America and the Caribbean to combat this trend. In Chile, the IDB promotes scientific research and participatory bottom-up pilots to determine the robustness of potential adaptation paths under different climate,

environmental, and societal uncertainties. These initiatives define and prioritise robust local Action Strategies (AS) against high uncertainty scenarios.

The Robust Decision Making (RDM) methodology was applied in two basins in central Chile that have different hydrological conditions and demographics. Instead of focusing solely on improving predictability, the RDM promotes the methodical creation and selection of short-term activities that are compatible with long-term goals. A problem tree for each basin and corresponding AS for use optimisation, demand reduction, and wastewater treatment and reuse were established based on the RDM.

A Water Security Index (WSI) was defined as a performance measure and an intervention plan cost-benefit analysis was developed as well. The AS considered strategies associated with efficiency and targeted use of water resources. WaterALOC—a GIS-based platform that combines the Hydro-BID hydrologic modelling system with the MODSIM network model used to simulate withdrawals, reservoirs, and other human effects on the watershed—was used to simulate various scenarios and the impact of the AS on water availability.

The IDB is strengthening modelling tools by adding functions such as drought indices, so decision-makers and water managers can more effectively manage their resources

based on comprehensive and predictable scenarios with more reliable hydrometeorological data. Although drought indices are conceptually straightforward to generate, it can be difficult for decision-makers to handle massive volumes of data and automate visualisation over vast areas.

The IDB partnered with the Research Triangle Institute (RTI) to create the GIS-based WaterALOC planning platform, which includes the Drought Management Tool (DMT). In the Maipo river basin, a semi-arid basin in central Chile, the DMT was incorporated to WaterALOC to calculate a Standardised Precipitation Index (SPI) and assess drought in all catchments.

Climate change challenges us to re-imagine our entire water approach and pivot away from traditional management methods. Resilient water resource management requires integrated, robust, and forward-thinking policies, based on more reliable hydrometeorological data. Yet, implementing a sustainable strategy in a single city, nation, or transboundary organisation will not be sufficient to shift the current paradigm. The IDB continuously seeks opportunities to spread and scale the RDM methodology used in Chile to other basins in the region.

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SIX-POINT PLAN TO SECURE NEW NATURAL GAS SUPPLIES AND MAXIMISE EXPORTS FROM TRINIDAD & TOBAGO: 2022 – 2030

FAST-TRACK bid rounds & the approval processes



1

Acreage needs to be awarded to competent operator companies for new exploration to take place. Improving regulatory approval processes will reduce the time between the award of new acreage and first gas production. This will significantly improve project economics and make new gas available faster. A one-year reduction in the time taken to first gas has been calculated to create US\$ 120 million in additional net present value for a typical Trinidad & Tobago medium-sized offshore gas field.¹

The current structure of upstream royalties and taxation does not encourage companies to reinvestment in exploration or the development of new fields. The fiscal regime, inclusive of the VAT system, needs to be reformed to unlock new investment.²

2



REFORM upstream tax system to incentivise investment

INVEST in reducing the carbon intensity of operations and products



3

Cross border adjustment mechanisms (CBAM) for carbon taxes pose a threat to exports of LNG, petrochemicals and iron and steel from Trinidad & Tobago, especially to the European Union. If Trinidad & Tobago commodity exports are to be able to sell to higher price premium markets the carbon intensity of production must be able to compete with other jurisdictions. This will require the reduction of CO₂ emissions from operations, reducing methane emissions and flaring, accessing offsets, and the introduction of low carbon molecules into the product mix (including green³ and blue⁴ hydrogen).

Gas for electricity generation is sold at prices far below the market rates for petrochemicals or export markets through LNG, which acts as a disincentive for upstream companies to invest in gas production. Reducing gas going to electricity, though both increased renewable generation and improved energy efficiency (including upgrades towards high efficiency electricity generation and higher reliability in IPP and distribution sectors) will make more gas available for these foreign exchange earning sectors and will improve the profitability of upstream gas developments.⁵ Green hydrogen can also supplement natural gas as a feedstock.

4



DIVERT GAS from domestic electricity generation through energy efficiency and renewables

Encourage innovative approaches to SMALL FIELD DEVELOPMENT



5

As Trinidad & Tobago has matured as a gas province, new fields are often smaller and more difficult to develop. Working with the Ministry of Energy, operator companies need to find new ways of bringing this gas to market making the best use of existing infrastructure.

There are significant gas resources in neighbouring territories, especially Venezuela but also potentially in Barbados and Grenada (in the longer-term). In addition to significant untapped offshore gas fields, more natural gas is flared on the North Monagas oilfields in eastern Venezuela alone than the current shortfall in Trinidad production. Securing these resources for export to Trinidad is politically challenging but has huge potential economic benefits and, in the case of the flared gas in particular, significant climate change benefits as well.

6



Secure CROSS BORDER SUPPLIES

1. Kenesjay Systems Ltd "Project Fast-track" submission to T&T Energy Chamber, November 2019. A reduction in the time taken from bid round to first gas from the current average 5 years to 4 years would represent an increase in the NPV (8%) of a typical gas field in T&T from US\$ 815 million to US\$ 934 million.

2. Energy Chamber's Fiscal Reform Task Force "Final Report" delivered to Government of Trinidad & Tobago, August 2021.

3. Green hydrogen produced from the electrolysis of water or plasmification of waste.

4. Blue hydrogen produced from natural gas with CO₂ captured and sequestered (carbon capture and sequestration).

5. "Draft Energy Conservation and Energy Efficiency Policy Action Plan 2020 to 2024", submitted to Minister of Public Utilities, September 2019.

Global stories

USA:

ExxonMobil doubles polypropylene production at Baton Rouge

ExxonMobil has announced the successful start-up of its new polypropylene production unit at the Polyolefins Plant in Baton Rouge, Louisiana.

The unit increases polypropylene production capacity along the Gulf Coast by 450,000 metric tonnes per year, meeting growing demand for high-performance, lightweight and durable plastics, particularly for automotive parts that can improve fuel efficiency and reduce vehicle emissions. Polypropylene, a polymer with several applications, is also used to improve the safety and efficiency of everyday products like medical masks and food packaging.

“With the start-up of this new production unit, we are well-positioned to responsibly meet the growing global demand for these high-performance polymers,” said Karen McKee, President of ExxonMobil Product Solutions. “The ingenuity of our people and our investments in technology enable us to produce high quality products that are essential to daily life.”

North Sea:

Aker BP going ahead with US\$20 billion worth of developments

Aker BP and its partners are submitting a total of ten Plans for Development and Operation (PDOs) and one Plan for Installation and Operation (PIO) to the Ministry of Petroleum and Energy (MPE). With total investments of more than US\$20 billion (200bn NOK), these Aker BP-operated oil and gas projects represent one of the largest private industrial developments in Europe.

“The scope of the development plans we are submitting to the Minister of Petroleum and Energy is a manifestation of our ambition to create the oil and gas company of the future—with low costs, low emissions, profitable growth and attractive returns,” says Aker BP CEO Karl Johnny Hersvik.

Europe:

Shell to acquire renewable natural gas producer Nature Energy

Shell Petroleum NV., a wholly owned subsidiary of Shell plc (Shell), has reached an agreement with Davidson Kempner Capital Management LP, Pioneer Point Partners LLP and Sampension to acquire 100% shareholding of Nature Energy Biogas A/S (Nature Energy) for nearly US\$2 billion (€1.9 billion). The acquisition will be absorbed within Shell's current capital range, which remains unchanged.

Based in Denmark, Nature Energy is a producer of Renewable Natural Gas (RNG) from agricultural, industrial, and household wastes.

By purchasing the shares in Nature Energy, Shell will acquire the largest RNG producer in Europe, its portfolio of cash-generative operating plants, associated feedstock supply and infrastructure, its pipeline of growth projects and its in-house expertise in the design, construction, and operation of innovative and differentiated RNG plant technology.

This acquisition will further increase Shell's ability to work with its established customer base across multiple sectors to accelerate its transition to net-zero emissions. It will also support Shell's ambition to profitably grow its low carbon fuels production and customer offering in our world-leading customer-facing marketing business.

South America:

Petrobras appoints new CEO Caio Mário Paes de Andrade

Petrobras informs that CEO Caio Mário Paes de Andrade has accepted the invitation from future Governor Tarcísio de Freitas to be a member of the next São Paulo state government staff. In the coming weeks, CEO Caio will continue in his current role and will not participate in the transition in São Paulo. As CEO of Petrobras, he will continue to give exclusive attention to the change of command that will take place in the Company, collaborating with the other Executive Officers for a professional, transparent and adherent transition to the good governance rules.

APA Corporation provides update on Block 58—Awari non-commercial

APA Corporation provided an update on exploration activities in Block 58 offshore Suriname. APA holds 50% working interest, while TotalEnergies is the operator on the block with a 50% working interest.

Drilling operations have concluded at the Awari exploration prospect in the previously untested northwest portion of Block 58. The well was deemed non-commercial.

At the Sapakara South-2 (SPS-2) appraisal well, the joint venture will commence flow-test operations following drilling to the targeted Campanian-Maastrichtian formation. Results are expected to be available next month. SPS-2 is located approximately 4.6km south of Sapakara South-1.

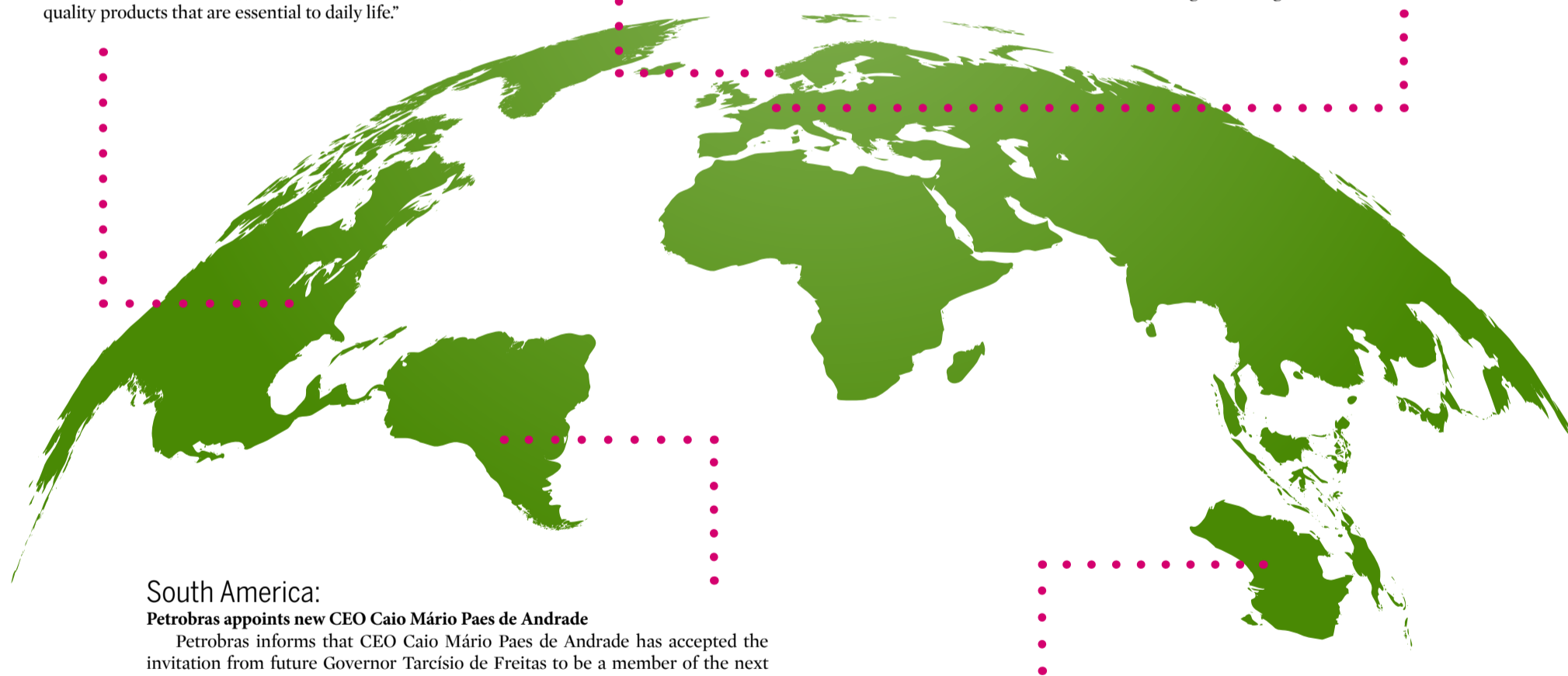
Australia:

Woodside signs agreement for domestic gas supply to Qenos

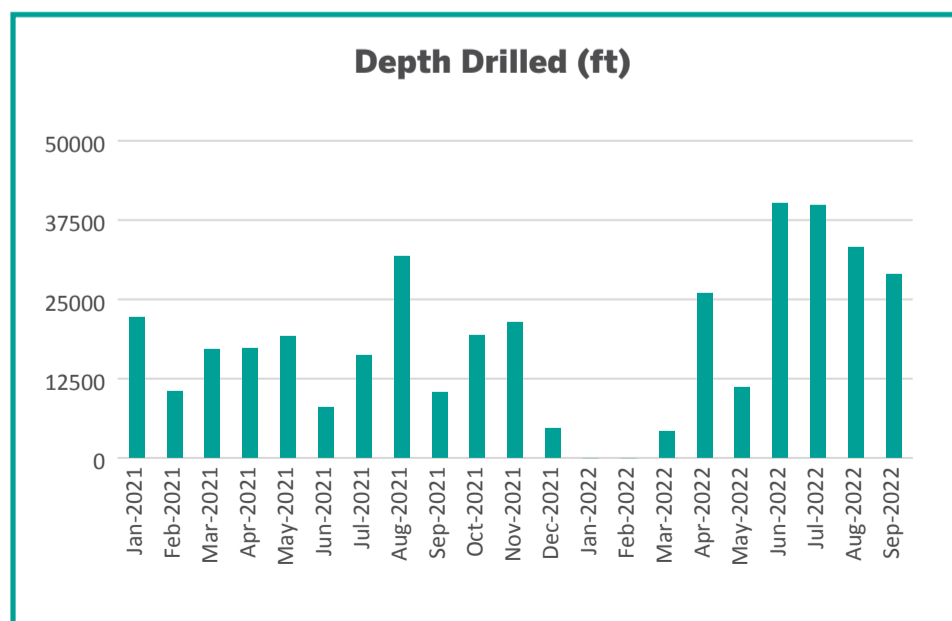
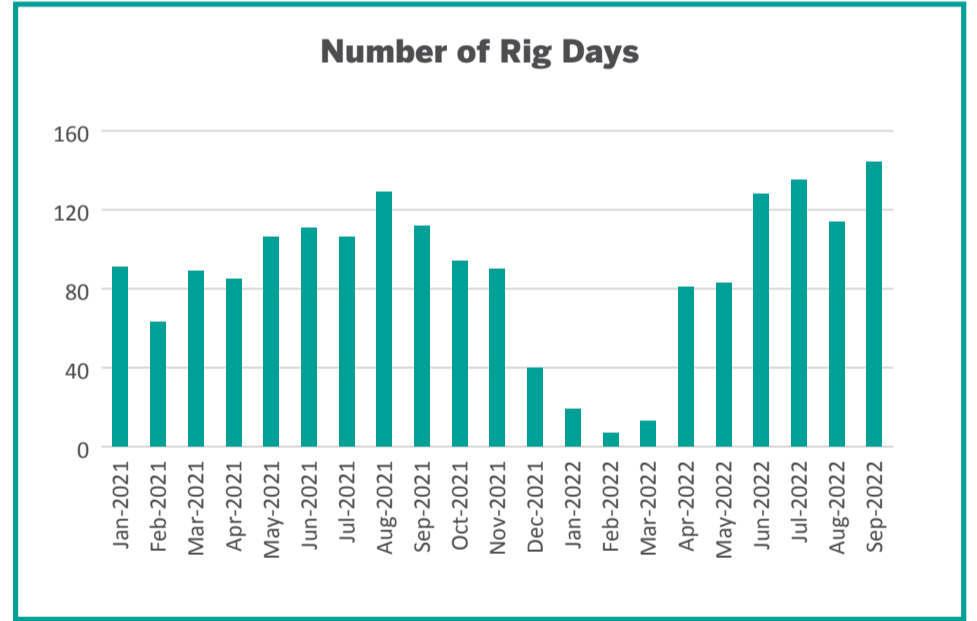
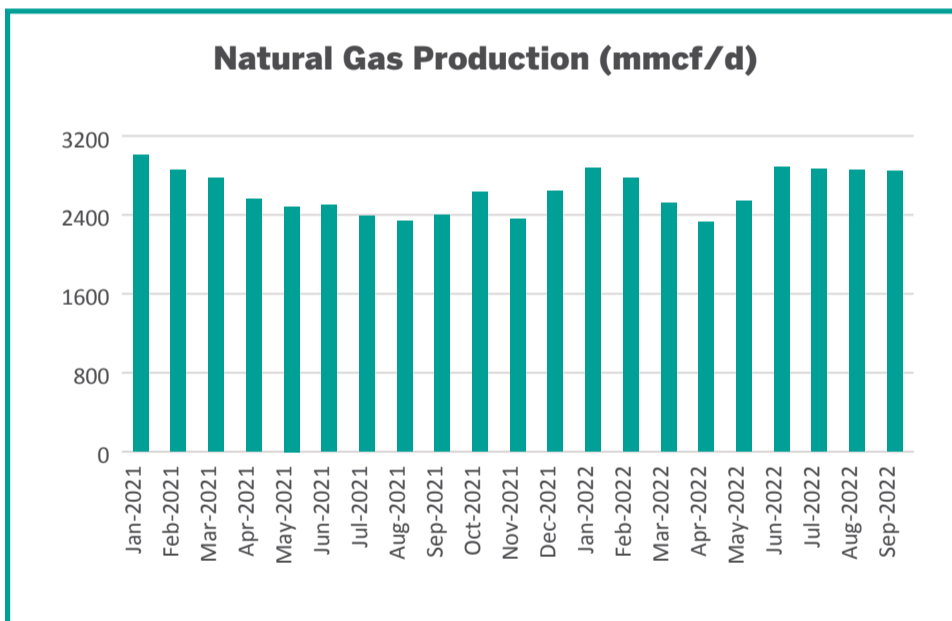
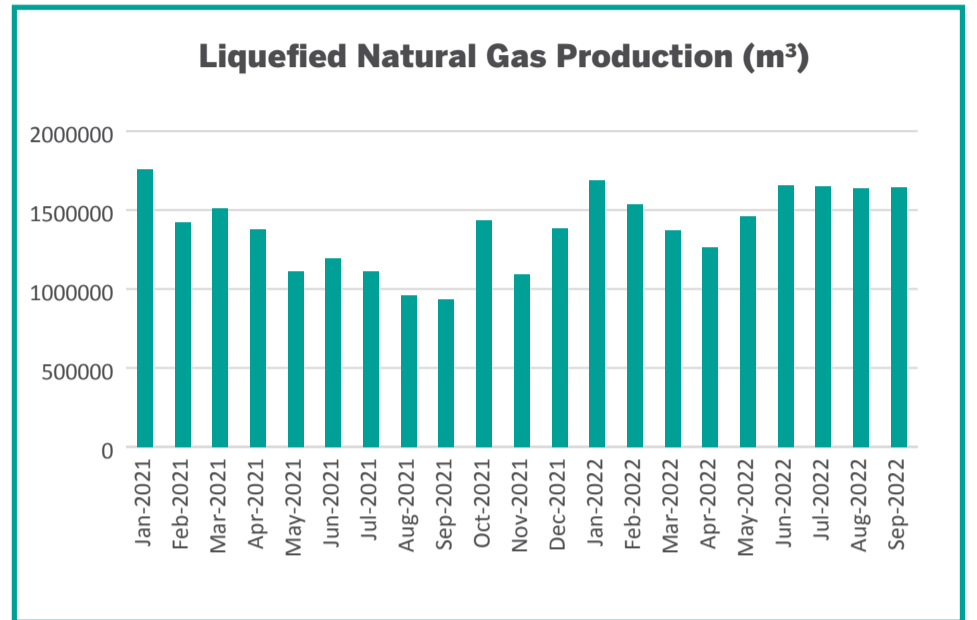
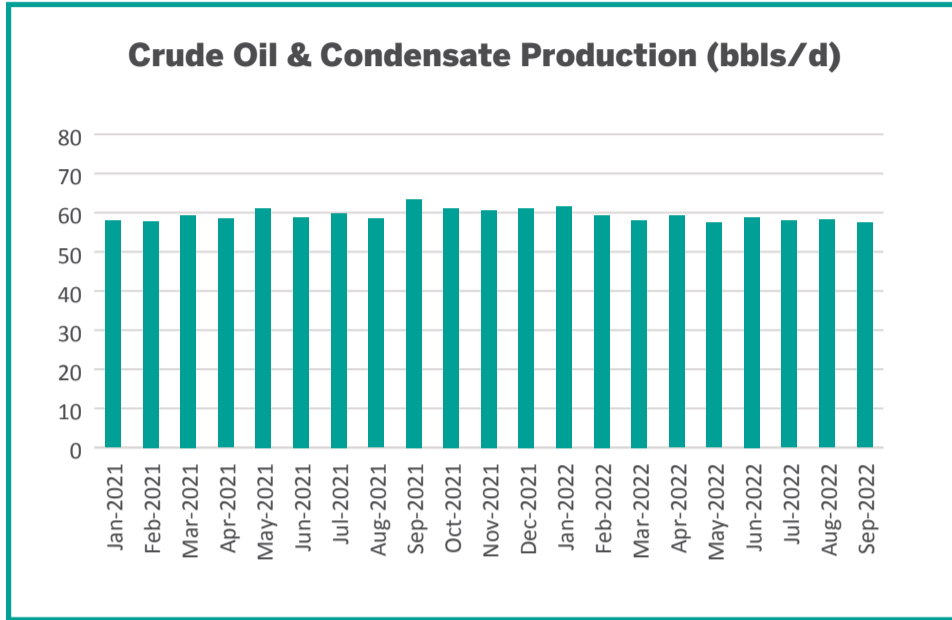
Woodside Energy (Bass Strait) Pty Ltd (Woodside) has entered into a Gas Sales Agreement (GSA) with Qenos Pty Ltd (Qenos) for the supply of natural gas from Woodside's equity position in Bass Strait in the south-eastern Australian state of Victoria.

The GSA covers the supply of 4.5 petajoules (PJ) of gas in 2023 for use at Qenos's polyethylene manufacturing facilities at Altona in Victoria and Botany Bay in New South Wales.

Woodside Executive Vice President of Marketing and Trading, Mark Abbottsford, said, “This agreement ensures affordable gas supply to an important large-scale industrial consumer at a time of increased volatility and uncertainty in East Coast energy markets.”



Monthly Review



Monthly Review

Production of Ammonia (000's Tonnes)



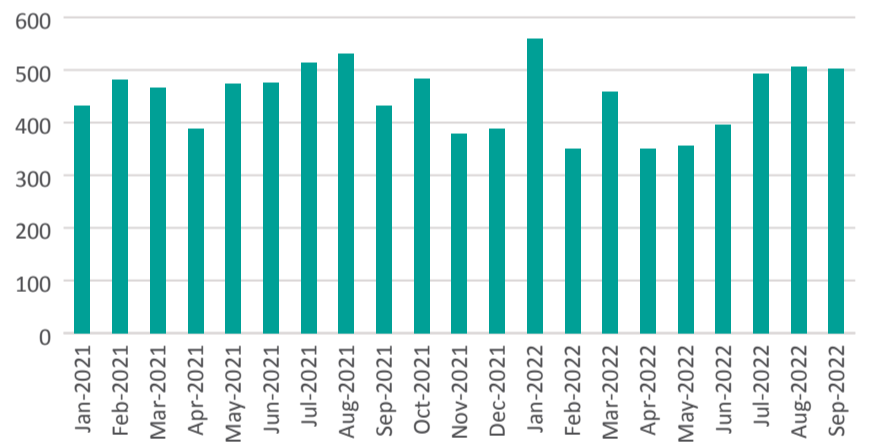
Production of Methanol (000's Tonnes)



Exports of Ammonia (000's Tonnes)



Exports of Methanol (000's Tonnes)



efficiency

IETA publishes high-level criteria for crediting carbon geostorage activities

Staff Writer | Energy Chamber

The International Emissions Trading Association (IETA) has announced the release of its High-Level Criteria for Carbon Geostorage Activities, a set of principles to govern the development of tradable reductions and removals using technology-based carbon sink enhancements that can assume a major role in achieving the net zero goal of the Paris Agreement.

IETA has carried out a year-long consultation with business stakeholders, and a series of expert workshops, to develop a set of principles that will guide developers, investors and host countries in ensuring that carbon geostorage projects deliver real, permanent and verifiable reductions and removals. This in turn would smooth the path for wide-scale investment in this suite of vital technologies to deliver significant climate mitigation.

The high-level criteria are built upon existing methodologies for geostorage projects that have been or are being drawn up by the United Nations' Clean Development Mechanism, the Global Carbon Council and the American Carbon Registry, as well as the carbon storage protocols developed by ISO TC265. The criteria also align with the rules and methods that countries will follow in tracking their actions in pursuit of NDCs.

The criteria provide recommendations for both methodological design and the regulatory safeguards that can underpin safe, secure and permanent deployment of the technology. Key checkpoints and other examples of supporting information are provided throughout.

The High-Level Criteria cover six methodological components and 13 key safeguards as follows:

Methodological design

1. Applicability conditions
2. Project boundary & leakage
3. Baseline
4. Additionality
5. Non-permanence & liability
6. Monitoring

Regulatory safeguards

1. Political acceptability
2. Significant and cost-effective national climate mitigation
3. Alignment with national development priorities and policy aims
4. Public acceptance
5. Legal and regulatory framework for safe storage
6. Legal basis for injection and storage
7. Effective site selection and development
8. Robust oversight of site operation and closure
9. Liability for carbon reversal
10. Environmental and social safeguards
11. Risk and safety assessment
12. Environmental and social impacts
13. Sustainability

The world's most credible deep decarbonisation studies point to CCUS and technological carbon removals offering a critical role in smoothing and achieving net zero outcomes.

IETA's own pathways to net zero indicate that up to 16 Gt of CO₂ of geological storage may be needed in 2050 to achieve net zero, with trading playing an increasingly important role in supporting deployment of the technology.

The International Energy Agency (IEA) estimates that in 2050, 7.2 gigatonnes (Gt) of CO₂ need to be captured and geologically stored to achieve global net zero emissions.

IETA's own pathways to net zero indicate that up to 16 Gt of CO₂ of geological storage may be needed in 2050 to achieve net zero, with trading playing an increasingly important role in supporting deployment of the technology.

Furthermore, the Intergovernmental Panel on Climate Change also recently affirmed the critical importance of carbon removal solutions such as bioenergy with CCS (BECCS) and direct air capture with geological storage (DACCS) in meeting the Paris Agreement's temperature goals.

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Hess Corporation and the Government of Guyana announce REDD+ carbon credits purchase agreement

Staff Writer | Energy Chamber

Hess Corporation and the Government of Guyana announced an agreement for Hess to purchase high-quality carbon credits for a minimum of \$750 million between 2022 and 2032 directly from the Government of Guyana.

Carbon credits are mechanisms used to reduce CO₂ emissions and are generated by the avoidance of said emissions. Guyana's extensive natural rainforests provide an avenue to remove substantial quantities of CO₂ from the atmosphere.

This agreement will serve to support Guyana's efforts to protect the country's vast forests and provide capital to improve the lives of Guyana's citizens through investments made by the Government as part of Guyana's Low Carbon Development Strategy (LCDS) 2030.

Guyana's President, Dr Irfaan Ali, was joined by Vice President, Dr Bharrat Jagdeo and John Hess, CEO of Hess Corporation for a signing ceremony to commemorate this historic agreement.

The multi-year agreement is for 37.5 million REDD+ jurisdictional carbon credits (current and future issuances). These credits will be on the ART (Architecture for REDD+ Transactions) registry and will be independently verified to represent permanent and additional emissions reductions under

ART's REDD+ Environmental Excellence Standard 2.0 (TREES).

Avoiding global deforestation is foundational to the Paris Agreement's aim of limiting the global average temperature rise to well below 2°C and was one of the major commitments made at the COP26 climate summit, where more than 130 countries, including Guyana, pledged to end deforestation by 2030. Guyana's more than 18 million hectares of forests are estimated to store approximately 20 billion tonnes of CO₂ equivalent. Through Guyana's LCDS 2030, the country has a roadmap for preserving its forests, while growing its economy and creating a development pathway that is diverse and includes opportunities for all Guyanese citizens.

The purchase of these carbon credits is an important part of Hess' commitment to support global efforts to address climate change and for the company to achieve net zero greenhouse gas emissions by 2050. The agreement adds to the company's ongoing and successful emissions reduction efforts, which are described in Hess' annual Sustainability Reports.

His Excellency President Irfaan Ali said: "In 2009, Guyana produced the first low carbon development strategy from a developing

country. As one of only nine national jurisdictions in the Amazon Basin, we said long ago that national or jurisdiction-scale action on forests, coupled with access to global private finance, could create solutions that benefit the peoples of forest-rich countries while also achieving global climate goals. We have stayed the course, and today's signing represents a massive step forward in showing the world that developing countries can lead the way to global solutions. I thank the tens of thousands of people across Guyana who participated in the seven-month national consultation that culminated in our latest LCDS policy, LCDS 2030. And of course, I thank John Hess and the Hess Corporation for their continued partnership with and commitment to Guyana. This deal goes a far way in proving that they are a global leader in accelerating ambition to reverse deforestation, and they set an example that I hope will be welcomed by forest countries everywhere as well as all those who care about the world's forests and nature."

"This agreement further strengthens our strategic partnership with Guyana and demonstrates our long-term commitment to the country," CEO John Hess said. "Development of Guyana's oil and gas resources is important to meet the world's growing demand for

affordable and secure energy, which is essential to ensure a just and orderly energy transition. Today's landmark agreement is the result of President Ali's and Vice President Jagdeo's leadership and long-term vision for sustainable development. We admire the efforts that Guyana has undertaken for years to protect the country's forests and the Government's constant emphasis on practical solutions to climate change and strong focus on providing a global model for stopping deforestation and preserving forests. We are pleased to support the country's efforts to advance sustainable development and enhance the quality of life for the people of Guyana."

If you would like to learn more about Guyana's Low Carbon Development Strategy, go to: <https://lcds.gov.gy/>

If you would like to learn more about Hess' sustainability reports, go to: <https://www.hess.com/sustainability/sustainability-reports>

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Equinor wins commercial-scale lease in California, deepens leading floating offshore wind position

Staff Writer | Energy Chamber

Five leases were offered by the Bureau of Ocean Energy Management (BOEM) in the first-ever offshore wind lease sale on the U.S. West Coast and the first-ever U.S. sale to support commercial-scale floating offshore wind energy development opportunities. With a bid of US\$130 million for 80,062 acres in the Morro Bay area that has the potential to generate enough energy to power 750,000 U.S. homes.

About two-thirds of America's offshore wind energy potential is in deep waters. The narrow outer continental shelf running along the Pacific seaboard, drops down swiftly to 1,000 m (3,280 ft) or more, opening up for new power opportunities for the West Coast—floating offshore wind. As the world's leading floating offshore wind operator and developer, Equinor looks forward to applying its experience to create a sustainable offshore wind industry in California.

Following regulatory approvals, the new lease will be added to Equinor's existing U.S. portfolio—which includes the Empire Wind and Beacon Wind projects on the U.S. Northeast Coast—and has the potential to generate a total capacity of at least 2 GW of renewable power for the West Coast.

"We are delighted to get the opportunity to explore the potential for producing even more renewable energy for the U.S., this time in the Pacific Ocean. The U.S. West Coast is one of the most attractive growth regions for floating offshore wind in the world due to its favourable wind conditions and proximity to markets that need reliable, clean energy. Offshore wind on the West Coast could help achieve the state's clean energy goals, bolster renewable energy sources, and create new jobs and investments in California. The U.S. is a key market for Equinor's offshore wind activities and one where we aspire to be a leader in growing this new energy industry," says Molly Morris, President of Equinor Wind U.S.

"Today's announcement confirms Equinor's floating leadership and strong commitment to deliver renewable energy to



Hywind Scotland, the world's first floating offshore wind farm (Photo: Signal2Noise / Equinor.com)

the U.S. It adds at least another potential 2 GW to our existing 3.3 GW U.S. offshore wind portfolio. We were among the first movers into U.S. offshore wind and are now one of the first movers into California, a market we believe will become a strategic floating market globally. We now have the scale needed to optimise value across our U.S. and Asia-Pacific portfolio," says Pål Eitrheim, Executive Vice President of Renewables in Equinor.

The Biden administration has set an offshore wind target of 30 GW by 2030 and 15 GW by 2035 in floating offshore wind capacity, that is well above 100 times more than what's currently

installed in floating around the world. The administration's offshore wind target is complemented by state offshore wind policies and actions throughout the North Pacific. California has set an offshore wind target of up to 5 GW by 2030 and 25 GW floating offshore wind by 2045.

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Uruguay to accelerate transition to low-carbon energy

Staff Writer | Energy Chamber

The Inter-American Development Bank (IDB) has approved a \$150 million conditional credit line to help Uruguay meet the targets of its nationally determined contribution under the Paris Agreement.

The credit line kicks off with an initial \$40 million operation to strengthen the country's inclusive and low-carbon energy transition by making its energy sector more economically, socially, and institutionally sustainable. It will also promote investments in sustainable energy services such as electric transportation and energy efficiency, and it will position renewable energy as a strategy for reducing gaps in access to electricity.

By boosting efficient energy use in different sectors, the environmentally oriented credit line seeks to lower greenhouse gas emissions and help e-mobility gain momentum in the race to replace the fossil fuels the transportation sector relies on so heavily.

Digital transformation is another focus of the operation, in step with the future of the energy sector and the move towards smart grids. By enabling the installation of smart meters, the operation will put consumers in control of their electricity use and help energy suppliers better manage commercial aspects of the service.

The credit line will also finance an effort to bridge gaps in universal access to electricity and address disparities in service quality by installing autonomous renewable energy systems and batteries in power distribution networks. While Uruguay has one of the highest levels of access to electricity in Latin America and the Caribbean, approximately 2,500 households are not connected to the electrical grid. Most of these people belong to vulnerable populations and many use inefficient, polluting fuels like kerosene and wood.

The operation will enable Uruguay's energy sector to tackle challenges in a

number of dimensions in order to sustainably meet demand. It will also promote greater diversity and the inclusion of people with disabilities and women in senior positions. Through the performance-based credit line, the country will be poised to become the first in the region to provide electricity to every single one of its households.

The credit line's first individual operation will have a disbursement period of four years, with a 25-year repayment term, a 5.5-year grace period, and a SOFR-based interest rate.

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