Industry talks up free trade for gas

CHIEF executives of supermajors spoke out strongly at the World Gas Conference in support of free trade in the global gas business as US industries grapple with Trump administration tariffs imposed on steel and aluminum.

Pages 4&5

Woodside gas vision
Chief executive Peter Coleman gives his view on main issues.

Page 8

Big Oil wins verdict
US court dismisses case against fossil fuel industry over global warming claim.

Page 17

Asian driving force
Opportunities aplenty as gas demand on continent growing fast.

Page 18

Perry pitches
US Energy Secretary says collaboration with other nations is the way forward, led by LNG.

Page 24

Baker Hughes sale
GE looks to sell stake in services giant.

Page 19

Israel plans supply
Country sees potential markets in Europe.

Page 22

Gas benefits in view from cutting oil price links

Page 3

Europe sees a future role for gas in energy mix

Page 6

EXCELLENCE THROUGH INNOVATION

Woodside is enhancing its competitiveness through innovation and applying technology that enables resource development, reduces unit costs and increases production.
Chevron is a host partner at the 2018 World Gas Conference. Visit booth 2180 to learn how we help fuel the world’s growth.
Gas benefits in view from decoupling from oil price

Industry leaders keen to see LNG markets cut index link to crude... the sooner the better

EOIN O'CINNEIDE
Washington, DC

GAS markets will benefit from a separation of pricing from oil markets and a low or "middle-of-the-road" crude price, according to senior industry figures.

Currently more than 70% of global liquefied natural gas supply is indexed to oil, although both pricing and supply flexibility has increased, with an increased shift away from long-term contracts of 20 years or so.


"I think eventually we will see that in the LNG market but I don’t see it happening any time soon," Fusco said.

His predecessor at Cheniere and current chairman of emerging US LNG player Tellurian, Charif Souki added: "I don't understand the correlation anymore — it makes no sense.

"I really don’t think that the indexation to oil is going to last as long as it's a predictable basis", pointing out that spot prices this year have been "very high".

"I don’t understand the correlation anymore — it makes no sense.

"I really don’t think that the indexation to oil is going to last much longer," he said, pointing to increased flexibility of supply as a driving force for change.

"The time has come — or it is coming very fast — where you are not going to be able to link the two (oil and gas prices) together... my view is, the sooner they delink, the better.

"LNG should be able to stand on its own as its own commodity and trade in the marketplace and be competing on its own."

Peter Coleman, chief executive of Australian independent Woodside Petroleum, said he can "sell LNG on any basis you want, as long as it’s a predictable basis", pointing out that spot prices this summer in Asia have disconnected from oil even as recently as last year.

"The time has come — or it is coming very fast — where you are not going to be able to link the two (oil and gas prices) together... my view is, the sooner they delink, the better.

"LNG should be able to stand on its own as its own commodity and trade in the marketplace and be competing on its own."

Coleman also said a high oil price is a "red flag" for the gas sector.

"I don't like high oil prices today — I think people get too comfortable too quickly with them... we need to start to match the investments we make to the actual commodity itself."

He added: "I would be pretty careful — I think it could be a false dawn for us if the oil price creeps up too much."

"LNG should be able to stand on its own as its own commodity and trade in the marketplace and be competing on its own."

Fusco agreed, saying of high oil prices: "That's what keeps me up at night."

The Cheniere boss added: "High oil prices lead to high commodity prices, lead to more competition and next we know it's renewables, it's solar, it's wind, it's coal back again. "So, I think having a middle of the road (crude price) price that we have now is best for everybody."

Dudley sees gas potential

BP CHIEF executive Bob Dudley sees natural gas not only as a bridge to a lower carbon future, but also as a key source in itself that can also be an enabler for lowering carbon emissions and integrating technologies like wind and solar.

"Gas is going to be more and more important than ever as part of the energy mix going forward... we know that because gas is very abundant and it's affordable."

"I think eventually we will see that in the LNG market but I don’t see it happening any time soon," Fusco said.

His predecessor at Cheniere and current chairman of emerging US LNG player Tellurian, Charif Souki added: "I don't understand the correlation anymore — it makes no sense.

"I really don’t think that the indexation to oil is going to last as long as it's a predictable basis", pointing out that spot prices this year have been "very high".

"I don’t understand the correlation anymore — it makes no sense.

"I really don’t think that the indexation to oil is going to last much longer," he said, pointing to increased flexibility of supply as a driving force for change.

"The time has come — or it is coming very fast — where you are not going to be able to link the two (oil and gas prices) together... my view is, the sooner they delink, the better.

"LNG should be able to stand on its own as its own commodity and trade in the marketplace and be competing on its own."

Peter Coleman, chief executive of Australian independent Woodside Petroleum, said he can "sell LNG on any basis you want, as long as it’s a predictable basis", pointing out that spot prices this summer in Asia have disconnected from oil even as recently as last year.

"The time has come — or it is coming very fast — where you are not going to be able to link the two (oil and gas prices) together... my view is, the sooner they delink, the better.

"LNG should be able to stand on its own as its own commodity and trade in the marketplace and be competing on its own."

Coleman also said a high oil price is a "red flag" for the gas sector.

"I don't like high oil prices today — I think people get too comfortable too quickly with them... we need to start to match the investments we make to the actual commodity itself."

He added: "I would be pretty careful — I think it could be a false dawn for us if the oil price creeps up too much."

Fusco agreed, saying of high oil prices: "That's what keeps me up at night."

The Cheniere boss added: "High oil prices lead to high commodity prices, lead to more competition and next we know it's renewables, it's solar, it's wind, it's coal back again. "So, I think having a middle of the road (crude price) price that we have now is best for everybody."

Dudley sees gas potential

BP CHIEF executive Bob Dudley sees natural gas not only as a bridge to a lower carbon future, but also as a key source in itself that can also be an enabler for lowering carbon emissions and integrating technologies like wind and solar.

"Gas is going to be more and more important than ever as part of the energy mix going forward... we know that because gas is very abundant and it's affordable."

"I think eventually we will see that in the LNG market but I don’t see it happening any time soon," Fusco said.

His predecessor at Cheniere and current chairman of emerging US LNG player Tellurian, Charif Souki added: "I don't understand the correlation anymore — it makes no sense.

"I really don’t think that the indexation to oil is going to last as long as it's a predictable basis", pointing out that spot prices this year have been "very high".

"I don’t understand the correlation anymore — it makes no sense.

"I really don’t think that the indexation to oil is going to last much longer," he said, pointing to increased flexibility of supply as a driving force for change.

"The time has come — or it is coming very fast — where you are not going to be able to link the two (oil and gas prices) together... my view is, the sooner they delink, the better.

"LNG should be able to stand on its own as its own commodity and trade in the marketplace and be competing on its own."

Peter Coleman, chief executive of Australian independent Woodside Petroleum, said he can "sell LNG on any basis you want, as long as it’s a predictable basis", pointing out that spot prices this summer in Asia have disconnected from oil even as recently as last year.

"The time has come — or it is coming very fast — where you are not going to be able to link the two (oil and gas prices) together... my view is, the sooner they delink, the better.

"LNG should be able to stand on its own as its own commodity and trade in the marketplace and be competing on its own."

Coleman also said a high oil price is a "red flag" for the gas sector.

"I don't like high oil prices today — I think people get too comfortable too quickly with them... we need to start to match the investments we make to the actual commodity itself."

He added: "I would be pretty careful — I think it could be a false dawn for us if the oil price creeps up too much."

Fusco agreed, saying of high oil prices: "That's what keeps me up at night."

The Cheniere boss added: "High oil prices lead to high commodity prices, lead to more competition and next we know it's renewables, it's solar, it's wind, it's coal back again. "So, I think having a middle of the road (crude price) price that we have now is best for everybody."

Dudley sees gas potential

BP CHIEF executive Bob Dudley sees natural gas not only as a bridge to a lower carbon future, but also as a key source in itself that can also be an enabler for lowering carbon emissions and integrating technologies like wind and solar.

"Gas is going to be more and more important than ever as part of the energy mix going forward... we know that because gas is very abundant and it's affordable."

"I think eventually we will see that in the LNG market but I don’t see it happening any time soon," Fusco said.

His predecessor at Cheniere and current chairman of emerging US LNG player Tellurian, Charif Souki added: "I don't understand the correlation anymore — it makes no sense.

"I really don’t think that the indexation to oil is going to last as long as it's a predictable basis", pointing out that spot prices this year have been "very high".

"I don’t understand the correlation anymore — it makes no sense.

"I really don’t think that the indexation to oil is going to last much longer," he said, pointing to increased flexibility of supply as a driving force for change.

"The time has come — or it is coming very fast — where you are not going to be able to link the two (oil and gas prices) together... my view is, the sooner they delink, the better.

"LNG should be able to stand on its own as its own commodity and trade in the marketplace and be competing on its own."

Peter Coleman, chief executive of Australian independent Woodside Petroleum, said he can "sell LNG on any basis you want, as long as it’s a predictable basis", pointing out that spot prices this summer in Asia have disconnected from oil even as recently as last year.

"The time has come — or it is coming very fast — where you are not going to be able to link the two (oil and gas prices) together... my view is, the sooner they delink, the better.

"LNG should be able to stand on its own as its own commodity and trade in the marketplace and be competing on its own."

Coleman also said a high oil price is a "red flag" for the gas sector.

"I don't like high oil prices today — I think people get too comfortable too quickly with them... we need to start to match the investments we make to the actual commodity itself."

He added: "I would be pretty careful — I think it could be a false dawn for us if the oil price creeps up too much."

Fusco agreed, saying of high oil prices: "That's what keeps me up at night."

The Cheniere boss added: "High oil prices lead to high commodity prices, lead to more competition and next we know it's renewables, it's solar, it's wind, it's coal back again. "So, I think having a middle of the road (crude price) price that we have now is best for everybody."
Chief executives of global supermajors spoke out strongly at the World Gas Conference in support of free trade in the global gas business as US industries grapple with Trump administration tariffs imposed on steel and aluminium.

The discussion did not mention the US president by name, but moderator Daniel Yergin rather referred to world trade “turbulence” as companies aim to undertake various “steel-intensive” projects in the US ranging from infrastructure in the Permian basin to liquefied natural gas export terminals.

Chevron chief executive Michael Wirth emphasised free trade as a key principle as the global gas industry moves forward. “The risk of trade skirmishes or trade wars starts to weigh on people’s perceptions of economic growth in the future. From a demand standpoint, I think that’s a risk,” Wirth told the opening plenary session of World Gas Conference 2018. The Trump administration has expressed a desire, he said, to help both the domestic steel industry and help drive job creation in the energy sector. “I think those things need to be balanced out. These things run the risk of becoming a bit of a drag on growth. So certainly that is a concern. We try to buy steel in the US for US projects to the extent we can. But not everything we need here is made here.”

In particular, he said, certain alloys and certain pipe sizes are not presently made by US steel manufacturers and accordingly are procured elsewhere. “That’s the reality of a steel-intensive industry, with the temperatures and pressures and weights and things that we deal with.”

Trump earlier this year decided to impose a 25% tariff on imported steel and 10% on aluminium, a measure designed to fulfil a campaign promise to help reboot the US domestic steel industry, which has struggled with stiff international competition in recent years. While no doubt benefitting domestic steelmakers, energy players are among the scores of companies that use imported steel as a raw material, and also use types of alloys not necessarily manufactured in the US. However, companies can apply for exemptions to the tariffs, and it remains to be seen what specific elements might be carved out, including dozens of requests from energy companies across sectors from the US onshore shale patch to the deep-water Gulf of Mexico.

The Trump administration has rolled out a range of measures against China including transactions in crude oil, and while liquefied natural gas has thus far been exempt, the uncertainty of the situation and trade moves that upend decades of global precedent have set some on edge. ExxonMobil chief executive Darren Woods suggested that the supermajor is waiting to see how the panorama on trade ultimately plays out. “We’re trying to keep a level-headed voice in the conversation,” he said, in terms of not just the company’s gas business but also oil and chemicals. “They’re global businesses. We compete globally. Free trade underpins the strength of those
GAS industry players need not be too concerned about where the next development sanction is made as the “apparent mismatch” between abundant supply and weak demand has narrowed, Chevron chief executive Mike Wirth said, writes Eoin O’Cinneide.

Asked by IHS Markit vice chairman Daniel Yergin at the opening keynote address at the World Gas Conference 2018 in Washington if the gas industry needs to get going on fresh final investment decisions, the US supermajor’s boss said operators should trust market forces, which have proven effective in balancing supply and demand.

“I’m not sure I would say there should be concern,” Wirth, flanked by ExxonMobil counterpart Darren Woods, told a packed audience at the opening of the triennial event.

“I talked about markets, and markets work if we let them work. Price signals, supply and demand signals are things that market participants all look at.

“There is a lot of gas in the world that can be developed in many different regions. There are a lot of people in this room that would like to see their projects move forward.”

Wirth acknowledged there had been a slowdown in project sanctions during the oil industry slump, which started in 2014. This virtually brought to a halt an era of large and costly liquefied natural gas projects — such as Chevron’s own Gorgon LNG in Australia — as market players became concerned about a wave of supply from such schemes outstripping global gas demand.

“I think where we see it today is that most people would say that concern about the apparent mismatch has shrunk — partly because supply has been a little delayed and partly because demand has grown faster than expected, particularly in China,” Wirth added.

“I think there is a lot of interest in the next final investment decision, but I’m not sure I would say people should be overly concerned (about supply). There is plenty of competition and I think the projects that offer the best combination of security of supply and cost and reliability will be advantaged.”

Woods added that any level of concern about the timing of gas project sanctions depends on what time horizons players and the industry focus on.

“It is a capital-intensive business and a commodity supply-and-demand business — and it is difficult to predict demand. These projects are large in size and take time to come on,” Woods said.

“Like any large capital-intensive industry, you are going to see supply-demand balances move over time. I suspect there are going to be periods when that supply-demand balance is very tight and prices will rise, and times when it is slack and prices will be lower.”

Market will balance out for supply and demand

businesses and our competitiveness as a US company.”

Earlier Trump administration initiatives, such as a package to cut corporate taxes and deregulation measures, have been a help, Woods said. “When tariffs come on, and the threats of a trade war, you run the risk of making those projects less competitive, less attractive,” he said.

Patrick Pouyanne, chief executive of French major Total, had similar sentiments during a press briefing on Monday before the opening of the conference.

He cited no evidence yet of such trade concerns affecting LNG deals. “I think it would be detrimental to US LNG if suddenly we are in a trade war on LNG in some countries like China,” he said. “It would be very bad news.”

Further, he said, it was his understanding that energy deals including LNG were seen as a way to actually rebalance and narrow the export deficit between the US and China.

He also suggested measures such as steel tariffs might “minimise the advantage” of US gas projects.

“All these tariffs are not good... for the world economy. It’s not a good idea at all. At the end, who will pay? Consumers will pay,” he said. “Because all that is just putting the price of gas higher, the cost for the plant.”

The transition to low carbon is underway and we’re hitting the gas.

To meet the dual challenge of more energy and fewer emissions, we need to make every type of energy cleaner and better.

Natural gas is not just a cleaner alternative to coal in power generation, it’s the ideal complement to renewables as a solution to intermittency. And with our commitment to taking a leading role in addressing the methane challenge, we’re producing more natural gas as we transition to a low carbon future.

See how we’re advancing the energy transition at bp.com/energytransition
Long term is key for LNG plans

LIQUEFIED natural gas projects lacking solid, long-term contracts will find it tough to get past the final investment decision stage, Qatar Petroleum (QP) chief executive Saad Al-Kaabi cautioned at the World Gas Conference yesterday.

During a keynote session at WGC 2018, Al-Kaabi reiterated that QP expects to next year sanction the expansion of its giant North Field.

However, he said it would be hard for LNG projects to proceed to a final investment decision “just based on spot market prices”.

“This is a heavily capital-intensive business that needs support and financing, and a big commitment over a period of five to seven years for each project, as well as multi-billion dollars in investments around the world,” he said of the LNG sector.

European signals are green for natural gas

EUROPEAN authorities are increasingly realising that natural gas will be an important part of the long-term energy mix, as renewable energy sources will not be sufficient to replace fossil fuels anytime soon.

Signals from the European Union (EU) are more positive to natural gas than what they were only a year or two ago, Tor Martin Anfinnsen, executive vice president for marketing, midstream and processing at Norway’s Equinor told Upstream on the sidelines of the World Gas Conference in Washington.

Whereas the EU previously spoke of gas primarily as a bridging fuel on the path to a future fuelled entirely by renewable energy, the union is now more positive to the -term use of gas, Anfinnsen said.

Norway exported a record 117.4 billion cubic metres of gas to the EU last year through its pipeline network to the UK, France, Belgium and Germany. With gas making up an increasing part of Norway’s petroleum production, lobbying in Brussels to promote gas as a key to reducing CO2 emissions has been high on the agenda for Equinor and Norwegian officials in recent years.

Equinor is confident gas can play a part in the European energy mix even as the EU aims to cut its greenhouse gas emissions by 95% to reach its Paris Agreement targets. “We do believe it is possible for gas to play a role even in a no-emission or low-emission future,” Anfinnsen said in a panel debate at WGC.

One future use of natural gas could be to produce hydrogen from natural gas and use it to run power plants, while capturing and storing the resulting produced CO2, Anfinnsen said.

Equinor and partners Vattenfall and Gasunie are currently conducting a study to convert a unit at a gas-fired power plant in the Netherlands to run on hydrogen combined with carbon capture and storage (CCS).

The state-controlled company is also involved in a government-funded project where captured CO2 from a cement factory would be shipped to a gas terminal and sent via pipeline offshore to a permanent storage reservoir near the North Sea Troll field.

SUPPORT SECURITY

Alaska LNG provides access to the largest concentration of proven, conventional, stranded gas in North America.

Alaska LNG
A subsidiary of the Alaska Gasline Development Corporation | AGDC.us

European signals are green for natural gas

Authorities see future role for sector as a key part of the energy mix

BEATE SCHJOLBERG
Washington, DC

Alaska LNG
A subsidiary of the Alaska Gasline Development Corporation | AGDC.us

Prudhoe Bay Complex, Alaska
DELIVERING LOW CARBON ENERGY FOR OVER 35 YEARS.

Our deep understanding of the end-to-end value chain helps us deliver innovative LNG energy solutions to you.

Visit us at Booth 2903 to find out more
Woodside looks to gas for cleaner future

On the eve of WGC 2018, Upstream surveyed a number of leading figures in the international gas industry on topical issues shaping the sector. Woodside chief executive Peter Coleman responds

Upstream: How do you see the prospects for the gas sector over the coming decade and beyond?
Peter Coleman: Gas must play a growing role as the world strives to reduce emissions while connecting more communities to power.

Liquefied natural gas enables this bigger role for gas by offering an increasingly accessible option for buyers to secure reliable supply.

That’s why demand for LNG in the past decade has grown at more than twice the rate of pipeline gas and is on the cusp of a further growth surge. Such is Woodside’s confidence in the future of LNG that we have recently outlined growth plans which include the creation of a regional production centre in the Burrup Hub in northern Western Australia.

We intend to give the Woodside-operated Pluto and North West Shelf LNG facilities a new lease on life by upgrading both and expanding Pluto to develop gas from the Scarborough and Browse fields.

We are seeing strong growth in demand for LNG in Asia and are well-placed to supply the region.

Upstream: If you are a producer what percentage of your output is gas today?
Upstream: How has that changed in the past decade and how do you expect it to develop in the years ahead?
Peter Coleman: LNG dominates Woodside’s production profile, accounting for more than 70% of our output.

We operate around 7% of global LNG supply and will continue to be a leading global supplier as we progress our proposed Burrup Hub development.

Upstream: What are the main challenges that the gas sector faces?
Peter Coleman: Cost and fiscal certainty are two of the principal challenges facing the gas sector. LNG is capital-intensive and companies with cost effective brownfields development options like Woodside are in the best position to meet growing demand. LNG is a long-term investment and governments need to ensure competitive and stable fiscal terms are offered to underpin new large-scale LNG investments.

Upstream: How can governments help to further encourage the exploitation of gas?
Peter Coleman: Governments are increasingly showing they understand the value in switching from legacy fuels to gas as they strive to reduce emissions.

It’s about combating climate change — but it’s also about delivering cleaner air and reliable energy for communities today.

There is international competition to supply gas and governments that have jurisdiction over gas resources should consider if they have the appropriate fiscal terms and approve processes in place to encourage responsible operators to develop those resources with local and global benefits.

Upstream: Can the industry persuade public opinion that gas is part of the solution for the energy transition rather than part of the ‘fossil fuel’ problem? If so, what more should be done by the industry to try and win that argument?
Peter Coleman: It is clear that the resource we produce is not merely a bridge to a cleaner future. It’s an essential part of that cleaner future, both as a power source in its own right and in partnership with renewables.

We should not be threatened by renewable energy but should consider in our own operations if we can demonstrate that gas is the ideal partner for renewables, providing a bulwark of reliability and security in energy markets.

We can also show we are part of the solution by supporting emissions reduction policies that are based on science, designed to meet objectives at lowest cost, avoid trade distortions and provide long-term certainty that supports investment and energy security.

Upstream: What is your company doing to control emissions and what more do you plan to do?
Peter Coleman: We are committed to improving our energy efficiency by 5% by 2020. We are also looking at integrating renewables at our facilities. We have signed up to the World Bank Zero Routine Flaring Initiative and the Guiding Principles to reduce methane emissions.

We are pioneering the use of a lithium-ion battery for spinning reserve on an offshore production platform, improving reliability and reducing emissions.

By encouraging the development and supply of LNG as a shipping fuel, we can contribute to a reduction in maritime emissions of nitrogen oxides, sulphur oxides and particulates that will result in improved air quality.
WGC 2018 scores with opening ceremony
The gas industry’s future looks bright

Over the next five years, three major forces will transform natural gas markets — China is set to become the world’s largest gas importer within a short number of years, industry will replace power generation as the leading growth sector, and the US will lead the global gas supply growth.

These structural shifts are among the core findings from our latest five-year gas market analysis released at the World Gas Conference yesterday.

They will each reshape global markets at a time when the role of gas in the energy system grows given its importance in improving air quality and creating a more globalized and flexible market for liquified natural gas.

They are also important for the International Energy Agency (IEA), whose mission is to support the global energy dialogue and bring the world on a secure and sustainable energy development path.

The IEA has been expanding, with the addition of Mexico, which joined as a member country in February 2018. We also now count seven IEA Association countries, including last year’s addition of Brazil and India, which joined China, Indonesia, Morocco, Thailand and Singapore.

As a result, our expanded “IEA Family” will account for almost two-thirds of natural gas consumption growth in the next five years.

The importance of emerging countries in the future of gas is especially true for China, which will be a major driver for gas markets, accounting for 37% of the growth in global demand in the next five years and becoming the world’s largest natural gas importer by 2019.

This is underpinned by its “blue skies” policies aimed at reducing local air pollution by switching from coal to gas.

We also see strong growth in gas use in other parts of Asia, including in South and Southeast Asia, driven by strong economic growth and efforts to improve air quality.

For end-use sectors, industry will become the largest contributor to the increase in global gas demand to 2023, taking the lead from power generation. The change is especially marked in Asia and other emerging markets thanks to higher gas use in industrial processes and as feedstocks for chemicals and fertilizers.

Overall, industry accounts for over 40% of growth in global gas demand to 2023, according to the IEA, followed by 26% for power generation.

Major changes are also evident on the supply side, with the US leading gas production growth worldwide to 2023, driven by ample supply from shale gas, both dry and associated with light tight oil.

Most new US supplies will be geared to export markets as liquified natural gas, or through pipelines.

The development of destination-free and gas-indexed US LNG exports will provide additional flexibility to the expanding global water-borne traded market.

The current wave of LNG export projects will increase liquefaction capacity by 30% by 2023.

Half of that expansion will come from the US, followed by Australia and Russia.

However, a lack of new LNG projects after 2020 could lead to a tightening of LNG markets. Given the long-lead time of such projects, investment decisions will need to be taken in the next few years to ensure adequate LNG supply beyond 2023. While gas faces a bright future, it still faces many challenges.

Price competitiveness is crucial in price-sensitive markets, requiring sufficient and flexible supply from trade, but also action from governments to create the conditions for competition and fair access to markets.

New investment in infrastructure will be needed to prevent a return to tight markets, with repercussions on prices and security of supply.

Finally, efforts must continue to minimize the environmental footprint of natural gas use, including further progress to reduce methane emissions along the supply chain and to speed up the deployment of Carbon Capture, Utilization and Storage (CCUS).

Dr Fatih Birol
Executive Director
IEA

The IEA has been expanding, with the addition of Mexico, which joined as a member country in February 2018... As a result, our expanded “IEA Family” will account for almost two-thirds of natural gas consumption growth in the next five years.

WGC Show Daily: One of your goals as the head of the International Energy Association (IEA) is to broaden your focus on energy security, including a greater focus on natural gas. Can you give us a status report on that?

Dr Fatih Birol: As you know, as part of the modernisation of the IEA, we have opened our doors to the key emerging economies of the world.

We now have seven Association countries: China, India, Brazil, Indonesia, Thailand, Morocco and Singapore.

These are the countries that are going to be driving the growth and evolution of the global energy system for the coming decades, and so it is essential that they are involved in our efforts to strengthen energy security.

A key example of this is our emergency response exercises, where we simulate disruptions to global energy supply.

In February of this year we held our largest ever emergency response exercise with representatives from 44 countries participating, including not only all 30 IEA member countries but also IEA Association countries like China and India.

While these exercises for now focus on oil, this breadth of cooperation lays the foundation for further cooperation on energy security, including natural gas.

This is key — as for many of these countries, and indeed around the world, natural gas has a growing role in the world’s energy mix.

It is an important fuel for maintaining electricity security and flexibility as well as for improving air quality.

At the same time, the rise of liquified natural gas is globalising natural gas markets.

The IEA seeks to contribute to enhancing global gas security by improving transparency, encouraging more flexibility, and supporting greater resilience in the global gas and LNG markets.

WGC Show Daily: You have repeatedly said that the environmental impacts of natural gas exploration should be tackled through regulation. We’ve all heard reports of seismic activity, water contamination and methane releases due to hydraulic fracturing — but can you highlight any best practices?

Dr Fatih Birol: We have said for years that natural gas will only flourish in the global energy mix if it can be developed profitably and if social and environmental concerns regarding its extraction are addressed, but we believe that the technologies and know-how exist to meet these challenges.

The concerns that you mention are typically attached to unconventional gas, and already in 2012 we presented a set of “Golden Rules” to provide guidance to policy-makers, regulators and industry in developing balanced, effective regulatory regimes in this area.

Transparency, measuring and monitoring of environmental impacts and engagement with local communities are critical to addressing public
Global Gas Report sees strong future for sector

SNAM, the International Gas Union (IGU) and Boston Consulting Group (BCG) today launched the 2018 edition of the Global Gas Report at the World Gas Conference in Washington, DC. The report assesses the unique role natural gas plays in the global energy mix, both now and in the future.

It also calls for collaboration and conversation across the entire gas value chain, policymakers, and other key stakeholders, to properly recognize and address the opportunities and challenges facing the industry.

The paper is to be maintained.

The world is in the midst of a series of rapidly evolving energy transitions. As these transitions play out across different geographies, economies and energy sources, the 2018 Global Gas Report focuses on the one consistent theme — the growth of natural gas.

Preliminary data suggest that in 2017, global gas consumption experienced its strongest growth in over a decade at 3.7% year-over-year — double the average growth rate of 1.5% of the previous five years.

This 2017 growth can primarily be attributed to a significant increase in Chinese consumption, driven by strong policy support for coal-to-gas switching to improve air quality, as well as increased consumption across Europe, sustained by power consumption and industrial recovery.

This consumption, of course, has to be matched by supply, with substantial growth in production in Russia and the US, as well as the sustained growth of Australian production.

Gas is widely is projected to grow in consumption in the long-run under virtually all major scenarios, including the most aggressive low-carbon transition scenarios.

Prominent forecasts also project gas to overtake coal as the second leading source of global energy consumption by 2035, behind oil.

The majority of forecasters expect gas to grow from the current 22% to over 24% of the global energy mix by 2035.

The report suggests that in order to continue the robust growth the gas industry has experienced, policymakers, as well as the industry itself, must focus on three core levers:

- COST Competitiveness — Improving the relative cost of gas to other energy sources through a combination of liquefied natural gas cost efficiencies, pricing environmental externalities, and promotion of local gas production in markets around the world.
- SECURITY of Supply — Enabling gas supply security through the development of enhanced networks and infrastructure, a flexible commercial models, and new modular access-enabling technologies.
- SUSTAINABILITY — Promoting the environmental sustainability of gas through measures to reduce urban air pollution, develop low carbon technologies for gas, integrate renewable gas sources into existing infrastructure, and limit methane emissions.

SNAM Chief Executive Marco Alvera said: “Robust demand, increasing production, and improving liquidity of LNG trade have all contributed significantly to growth within the natural gas sector.

But challenges and barriers still remain — as our new report points out, it is crucial that governments, policymakers and stakeholders from across the value chain have frank and honest conversations with regards to how we move forward, and that an environment is created that allows gas to flourish as a core part of the future sustainable energy mix.”

IGU President David Carroll said: “This report showcases the excellent prospects for natural gas over the next few decades, particularly within urban environments.

“Natural gas combines high heating intensity and efficiency with low emissions and virtually no pollution, all while delivering energy for almost any use.

“These qualities make it unique as an abundant, flexible and cost-effective fuel, which can also address the environmental challenges in urban environments.

“Combined with growing urbanisation trends, this presents a significant opportunity for continued gas demand growth.”

Ivan Marten, Vice Chairman of BCG’s Energy Practice, added: “The 2018 Global Gas Report showcases the essential, and highly valuable, role of natural gas as an energy source in the global energy mix and in ensuring energy security around the world.

“The report also points out the need for concerted actions from a variety of stakeholders.

“These include the development of new business models and technologies from gas industry participants, effective policies from governments, and sustained capital commitments from financial institutions.”

IEA Executive Director Dr Fatih Birol
Photo: ADRIAN NIELSEN/DN

Concerns. Careful choice of drilling sites can reduce the above-ground impacts and most effectively target the productive areas, while minimising any risk of earthquakes or of fluids passing between geological strata.

Leaks from wells into aquifers can be prevented by high standards of well design, construction and integrity testing. Rigorous assessment and monitoring of water requirements (for shale and tight gas), of the quality of produced water (for coalbed methane) and of waste water for all types of unconventional gas can ensure informed and stringent decisions about water handling and disposal.

Production-related emissions of local pollutants and greenhouse-gas emissions can be reduced by investments to eliminate venting and flaring during the well-completion phase.

Application of these principles can ensure a level of environmental performance that earns a “social licence to operate” for industry, paving the way for development of unconventional gas, but a continuous drive from governments and industry to improve performance is essential if this license is to be maintained.

The alternative is to run the risk of a social and political backlash.

WGC Show Daily: There has been a lot of criticism of plastics for the toll they take on the environment. As you know the plastic boom coincides with the natural gas boom — and the cheap feedstocks and energy sources created by hydraulic fracturing. Do you see natural gas production getting more blame for this issue? Why or why not?

Dr Fatih Birol: The plastics and petrochemicals sectors are inextricably linked to the energy sector.

Every year, over 70 billion cubic meters of natural gas enter the chemical sector as feedstock, along with substantial amounts of oil and to a lesser extent coal.

These fossil fuels end up in a huge variety of products that are integral to our daily lives, ranging from the fertiliser that helps us grow our crops, to the strong, lightweight plastics that are critical to modern electronics and vehicles.

And you’re absolutely right — these plastics take a toll on the environment, from fertilizers leeching into water supplies to plastics ending up in our oceans and the food chain. Finding sustainable alternatives to plastics will be a global challenge.

In the meantime, we can look to more sustainable alternatives to fossil fuels as feedstocks. These will include greater use of bioenergy feedstocks, as well as more efforts to recycle plastics.

For example, for each tonne of polyethylene recycled, we can save over 1.7 tonnes of oil equivalent in energy.

We will be exploring these issues in much greater detail in a brand new report IEA “The Future of Petro-chemicals” which will be released in September.
The show in full swing...
**WGC 2018 conference program**

THE WGC 2018 program benefits from the unrivaled expertise of more than 1000 industry specialists from around the world. This international outreach helps to create a truly global gas event representing the entire gas value chain.

Some 600 speakers will address technical, commercial and strategic issues and opportunities facing the global gas industry through a mixture of session types including Keynote Sessions and Keynote Luncheons, Current Debates, Industry Insights and Technical & Innovation Center Sessions.

**Download the WGC 2018 Event App to access full program information and speaker profiles, plus much more. Password: 27wgc2018**

### Keynote sessions

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30am — 10:00am</td>
<td><strong>What Next For the Asia Pacific Gas Market?</strong></td>
<td>Hall D</td>
</tr>
<tr>
<td>Opening Remarks:</td>
<td>Francis R. Fannon, Assistant Secretary, Bureau of Energy Resources, U.S. Department of State</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yalan Li, Chairperson of the Board of Directors, Beijing Gas Group</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anuar Taib, Executive Vice President &amp; CEO Upstream, Petronas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hendrik Gordenker, Chairman, JERA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mitchell W. Ingram, Executive Vice President, International, Deepwater &amp; Exploration, Anadarko Petroleum Corporation</td>
<td></td>
</tr>
<tr>
<td>1:10pm — 2:25pm</td>
<td><strong>Keynote Luncheon: Opportunities And Challenges For Natural Gas: The Customers’ Perspective</strong></td>
<td>Ballroom C</td>
</tr>
<tr>
<td>Moderator:</td>
<td>Calvin M. Dooley, President &amp; CEO, American Chemistry Council</td>
<td></td>
</tr>
<tr>
<td>Welcome Remarks:</td>
<td>Pierce Norton, President &amp; CEO, ONE Gas and Immediate Past Chair, American Gas Association (AGA)</td>
<td></td>
</tr>
<tr>
<td>Panelists:</td>
<td>Bhavesh V. Patel, CEO &amp; Chairman, Management Board, LyondellBasell</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mark Lashier, President &amp; CEO, Chevron Phillips Chemical Company</td>
<td></td>
</tr>
<tr>
<td>2:25pm — 3:55pm</td>
<td><strong>The Future Of Europe’s Energy Market</strong></td>
<td>Hall D</td>
</tr>
<tr>
<td>Moderator:</td>
<td>Coby van der Linde, Director, Clingendael International Energy Programme</td>
<td></td>
</tr>
<tr>
<td>Welcome Remarks:</td>
<td>Senator Joe Manchin, United States Senator for West Virginia, United States Senate</td>
<td></td>
</tr>
<tr>
<td>Panelists:</td>
<td>Péter Szijjártó, Minister of Foreign Affairs &amp; Trade, Hungary</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maroš Šefovič, Vice President, Energy Union, European Commission</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annie Krist, CEO, GasTerra</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Klaus Schäfer, CEO, Uniper</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marco Alverà, CEO, Snam &amp; President, GasNaturally</td>
<td></td>
</tr>
</tbody>
</table>

This year’s event is proud to offer the most comprehensive and diverse program in the event’s 87-year history, with sessions aimed not only at the traditional gas industry but also to those working in sectors such as finance, trading, law, sustainability & renewables, policy & Government and many more. Delegates interested in strategy, pricing and regulation can look forward to these sessions this week:

**WGC 2018 Industry Focus — Strategy, Pricing & Regulation**

This year’s event is proud to offer the most comprehensive and diverse program in the event’s 87-year history, with sessions aimed not only at the traditional gas industry but also to those working in sectors such as finance, trading, law, sustainability & renewables, policy & Government and many more. Delegates interested in strategy, pricing and regulation can look forward to these sessions this week:

**Tomorrow at 1:10 — Keynote Luncheon: Opportunities For Gas To Energize Developing Economies**

Speakers: David Carroll, President, International Gas Union; Dr Andrew Seck, Vice President, LNG Marketing & Shipping, Anadarko; and Riccardo Puliti, Senior Director, Head of the Energy & Extractives Global Practice, World Bank Group.

**Sponsored by:**

**Mozambique**

**Dynamic Current Debate Sessions this week include:**

- The Global LNG Market: Key Drivers, Challenges & Opportunities
- Gas Pricing
- Forecasting The Future: Predicting The Industry Game Changers And Disruptors
- Gas: Energy Source For The Future
- Case Studies On Regional Gas Pricing

Please refer to the WGC 2018 Event App for full programme information.

**Technical & Innovation Center**

Located on the Exhibition Floor, the Technical & Innovation Center will feature discussions, presentations and interactive poster displays on the latest developments and innovations in gas industry technology. Please refer to the WGC 2018 Event App for full details on the Technical & Innovation Center program and a detailed description of the sessions and speakers.

The first WGC 2018 Innovation Awards ceremony will take place here today at 1.10pm. Winners will be presenting on the below five categories.

- Liquefied Natural Gas
- Domestic Utilization
- Commercial and Industrial Utilization
- Digital and Smart Solutions
- Emissions Detection and Mitigation
Special Events

Government Day: Today is Government Day at WGC 2018 with various high-level government meetings taking place around the venue. A VIP networking reception is taking place on the AGA booth and these officials will be given a tour of the exhibition.

11:00 Young Professionals Program: WGC 2018 Young Professionals Program starts today and tomorrow in recognition of the key role of young professionals in the gas industry. The program aims to acknowledge, develop and support the industry’s future leaders.

3:30 WGC 2021 Drinks Reception — Concourse booth C2: Join the WGC 2021 NOC for a networking drinks reception and find out more about plans for the 28th World Gas Conference to be hosted in Daegu, South Korea in June 2021.

#WGC2018CONNECT — Pick up your networking lapel pins!

DON'T forget to pick up one (or more!) of these lapel pins from the WGC 2018 Networking Hub in the conference area, designed to represent your main area of interest. You can use the pins as an enhanced networking tool to seek out other delegates with the same interests or areas you want to know more about. Don't forget to #WGC2018Connect.

WGC 2018 EVENT APP

BENEFITS

- Message fellow attendees
- Share contacts
- Take notes
- Access the schedule
- Post photos
- Rate sessions
- Join the attendee list
- Check-in to sessions
- Share over social media

If you have not received your invitation or verification email, please email apphelp@wg2018.com or visit the App Helpdesk onsite at the event.

FOLLOW US: Search for #WGC2018 on
Around Washington, DC — show your badge!

Every hotel room for the event is within walking distance of the Convention Center, numerous restaurants, and the major attractions of Washington, DC including the Smithsonian Museums, the US Capitol, the White House and the Washington Monument.

We have teamed up with Destination DC to secure discounts at local attractions, restaurants and retailers for all our event attendees when you produce your conference badge!

More information about the promotions available can be found on the WGC 2018 Event App. We hope this helps you to explore the city and find local areas of interest to make sure you don’t miss out on anything DC has to offer during your stay at WGC 2018!

Flight Bar
10% off Food and Beverages all week Happy Hour from 5pm- closing on the Monday, Tuesday and Wednesday

777 6th St NW, Washington, DC 20001, USA
flightdc.com

Gordon Biersch Brewery
10% off Food and Beverages
900 F St. NW, Washington DC, 20004
gordonbiersch.com

Farmers and Distillers
10% of Breakfast, Lunch and Dinner (dine in only)
600 Massachusetts Ave NW, Washington DC, 20001
farmersanddistillers.com

Cure Bar & Bistro
15% of total bill (excluding alcohol)
1000 H St. NW, Grand Hyatt, Washington DC, 20001
washingtondc.grand.hyatt.com

Cabinet
15% off Breakfast & Lunch (excluding alcohol)
1000 H St. NW, Grand Hyatt, Washington DC, 20001
washingtondc.grand.hyatt.com

Ana at District Winery
10% off food and beverages in the restaurant and 1/2 off at the wine tasting bar
385 Water St SE, Washington, DC 20003, USA
districtwinery.com

National Building Museum
Free admission
401 F St. NW, Washington, DC 20001
www.nbm.org

General information
For up to date event information please download the WGC 2018 Event App. Password: 27wgc2018

The app is an essential tool to help you navigate the event and contains the program for the week, speaker profiles, exhibition layout, networking features and much more.

For inquiries please visit the App Helpdesk near the Registration Area in the Grand Lobby or email apphelp@wgc2018.com.

For media and PR inquiries please visit the CWC and Edelman teams in the Media Center, in Salon A.

Shuttle buses are provided for delegates between all event hotels and the venue — please visit the WGC 2018 Event App or refer to the Pocket Guide for schedule information.

Follow us on social media for event highlights and share your experiences and photos using #WGC2018. Search for 27th World Gas Conference (WGC 2018).

Social media highlights
Rick Perry @SecretaryPerry
About to kick off the World Gas Conference in Washington, D.C. America has become a world leader in #NaturalGas and LNG exports, and I’m excited to share @POTUS’ vision for the future of American energy.

#WGC2018

Jim Carr @jmccarr_wpg
I had great meeting this morning with @Chevron at @WGC2018. Very pleased with our collaboration and the opportunities to create jobs and develop the #LNG industry in Canada

AGA @aga_naturalgas
The @WGC2018 Exhibition floor is officially open! Make sure to stop by AGA Booth #2600 to say hello and learn about #natgas utilities. #WGC2018 #AGA100Years

SmartBrief Energy @SB_Energy
@Chevron Chairman and CEO Wirth says finding the right energy mix of oil, gas and renewables is like real estate. “Location, location, location” - Planning should take into account how some areas have different “indigenous” resources than others.

#WGC2018 #Connect @WGC2018

Graham Dodds @DoddsGraham
EXXONMOBIL CEO, Darren Woods in “Fueling the Future”. Clean burning natural gas better than coal for power generation. Technology will make the difference. #WGC2018

#WGC2018

Sarah Sandberg @SarCharLand
The human race has been in an energy transition throughout the entirety of modern history. And 1. We must eliminate energy poverty. 2. We need the power of free markets. - Michael Wirth @Chevron #WGC2018

ExxonMobil @exxonmobil
“We all have a responsibility to keep improving our operational performance. We have to come together to advocate for sound environmental policies to achieve sustainable results.” – Sara Ortwein, President XTO Energy #WGC2018
A US judge has ruled that Congress and President Donald Trump are best suited to address the contribution of fossil fuels to global warming, throwing out lawsuits that sought to hold industry heavyweights liable for climate change.

"In dismissing this case, the court rightly acknowledged the wealth of benefits of fossil fuels," Chevron chief executive Mike Wirth told delegates at the 2018 World Gas Conference.

"We — and everybody in our industry — stand ready to engage in this discussion, which is really where this issue needs to be addressed."

US Federal District Judge William Alsup on Monday granted a motion by supermajors BP, Shell, ExxonMobil and Chevron and US independent ConocoPhillips to dismiss lawsuits claiming 'Big Oil' should pay to protect US cities' residents from the impacts of climate change.

"The problem deserves a solution on a more vast scale than can be supplied by a district judge or jury in a public nuisance case," said Alsup.

The lawsuits brought in San Francisco and Oakland had claimed the five companies created a public nuisance and should pay for sea walls and other infrastructure to protect against the effects of climate change — construction that could cost billions of dollars.

The American Energy Alliance (AEA) commended Judge Alsup and the court for dismissing the lawsuits, saying the ruling "correctly concluded" that the complaint of climate change is beyond the proper purview of the courts.

"These lawsuits were nothing more than a shakedown of energy companies designed to bail out financially mismanaged cities," said AEA president Thomas J Pyle.

"This frivolous litigation ignored the benefits of affordable, reliable energy and should be seen as an insult to California residents, especially those who are already struggling to make ends meet."

Pyle added that the development of the modern world had literally been fuelled by fossil fuels, without which "virtually all of our monumental progress would have been impossible".

We hope plaintiffs of similar litigation elsewhere take heed."

Lawyers for the five oil companies earlier this month also urged a US federal judge to throw out a lawsuit filed by New York City seeking to hold the oil companies financially liable for damages caused by global warming.

Theodore Boutrous, a lawyer for Chevron, called this lawsuit an attempt to hold the oil companies liable for global carbon emissions since the industrial revolution. That and other similar cases are pending.

Bigger picture: US Federal District Judge William Alsup decided Congress has a role to play in addressing the contribution of fossil fuels to global warming

Photo:AFP/SCANPIX
Asian potential driving regulatory rethinking

Significant and continued growth in demand for gas across continent fuelling opportunities

FABIO PALMIANI
Washington, DC

ASIA and its apparent unlimited growth potential were the main topics of a panel covering the forces driving regulatory changes in natural gas markets at World Gas Conference 2018 in Washington on Tuesday.

Neil Chatterjee, commissioner of the US Federal Energy Regulatory Commission, highlighted a recent strategic energy partnership between the US and India covering sectors such as natural gas.

“I see many opportunities for US companies to tap India’s natural gas market. The partnership will help promote US jobs, while also developing the Indian market,” Chatterjee said.

India, the world’s third-largest energy consumer, has an estimated 100 trillion cubic feet of technically recoverable shale gas under its soil, according to the US Energy Information Administration.

Chatterjee said a US taskforce has identified three key points in which it will work alongside local authorities to help foster India’s natural gas market — pricing and policy, infrastructure and growth demand.

“India is seeking to make natural gas available to a larger part of its population, so we are focusing on strengthening and modernising the power infrastructure,” he said.

Also addressing the panel, Leslie Palti-Guzman, president of consultancy GasVista, said the Asian market has a lot of room to grow, and that natural gas can play a vital role in developing countries.

She split Asia into three separate groups of nations, with Japan and South Korea falling in the category of established and developed liquefied natural gas markets, while India and China are part of a cluster of emerging countries.

“The global gas market is changing very fast, particularly in Asia, with the diversification of players, especially in the third category of newcomers that features Indonesia, Malaysia, Thailand and the Philippines,” Palti-Guzman added.

Adid Zulkifli, senior vice president of production and development at Malaysia’s Petronas, said the country has gone through changes coming for the gas segment.

“Petronas still has a monopoly of production for the life of the facility,” he said.

Meanwhile, Branko Terzic, managing director at Berkeley Research Group, said many countries in Asia and other parts of the world are seeking to become natural gas hubs.

“We have the Henry Hub in the US but other nations want their own hubs to facilities gas purchases,” said Terzic.

Palti-Guzman added: “Every country wants to be a hub but for that to happen you need a market liberalisation.”

Decio Oddone, Brazil’s director general of market regulator ANP, said the country has gone through a transformational phase in its upstream sector since the opening of the market two decades ago, but stressed that only now are changes coming for the gas segment.

“Petronas has still a monopoly of the downstream and gas sectors but the company has recently implemented a new strategy to shift its focus,” he said.

Petronas in 2016 sold for $5.19 billion a 90% stake in its TNS natural gas pipeline business unit to a consortium led by Canadian investment fund Brookfield Asset Management, the company’s largest divestment to date.

Petronas is now understood to be in talks with Engie, after the French energy giant is said to have proposed $4.5 billion for its other pipeline unit, TAG, which supplies natural gas to Brazil’s north and northeastern regions.

Tellurian prioritises pipeline

TELLURIAN chairman Charif Souki said that the company is prioritising pipeline build-out for its planned Driftwood liquefied natural gas facility in Louisiana over acquiring more shale assets as booming production in the Permian basin overtakes capacity, writes Caroline Evans.

Souki said the company is “always” looking at land acquisitions but that there was “no rush” to execute a deal.

“When we find an opportunity that we think is really attractive on a long-term basis, then we will take action,” Souki told reporters on the sidelines of the World Gas Conference.

“But in the meantime, in terms of priorities, we are focused on building the pipeline and infrastructure that is lacking. You have to get the gas from the field to the facilities, and not necessarily just ours.”

Tellurian is seeking to be a fully-integrated LNG supplier, holding upstream and midstream assets as well as the 27.6 million tonnes per annum Driftwood liquefaction project.

The company has acquired about 11,000 acres in the Haynesville shale and last year unveiled plans for a pipeline network to connect the facility to both the Haynesville and the Permian basin.

“Currently we are more focused on the pipelines to get to the right basins than to worry about what basins we want to get in from the upstream assets,” Souki said. “What you want to give yourself is the optionality.”

Before Tellurian, Souki was chief executive at Cheniere Energy, which began exporting LNG in 2016. Looking back, Souki said he would have handled pipelines differently than he did at the time.

“What I think we could have done better, if we had known what we know today, (is sourcing) the gas better and (taking) our capacity on the pipelines better,” he said. “This is where we could have saved a significant amount.”

Tellurian is offering partnership interests in the Driftwood terminal and its associated infrastructure.

Through its business model, partners will contribute cash in exchange for equity and will receive LNG volumes at the cost of production for the life of the facility.

Tellurian chairman executive Meg Gentle last month said the company was close to revealing which players would be its co-venturers but Souki said on Tuesday that negotiations were still in various stages.

About 25 potential partners are “very seriously” looking at the data room, Souki said.

“We’re very satisfied with the progress to date — it is going exactly as we would wish,” he said.
US ENGINEERING giant GE is selling out of Baker Hughes less than a year after closing one of the largest industry merger deals of recent times.

The sale of the 62.5% controlling stake will take place over the next two to three years, as GE looks to concentrate on renewable energy, aviation and power markets.

The decision to quit Baker Hughes will come as little surprise to many in the industry, as GE chief executive John Flannery intimated not long after he took the reins from long-time leader Jeff Immelt in mid-2017 that a separation could be likely.

"Today’s actions unlock both a pure-play healthcare company and a tier-one oil and gas servicing and equipment player," Flannery said on Tuesday of the decision to divest, which came after a strategic review of GE’s whole business chain.

The company is also to spin off its large healthcare division into a standalone, pure-play entity as part of the new “GE operating system”, which “will result in a smaller corporate headquarters focused primarily on strategy, capital allocation, talent and governance”, it said.

The switch of focus is also expected to result in at least $500 million in corporate savings by the end of 2020.

GE said the “orderly separation” of Baker Hughes “will provide BHGE with enhanced agility and the ability to focus on leading in the oil and gas industry”.

Flannery continued: “We are confident that positioning GE Healthcare and BHGE outside of GE’s current structure is best not only for GE and its owners, but also for these businesses, which will strengthen their market-leading positions and enhance their ability to invest for the future, while carrying the spirit of GE forward.”

The exit from Baker Hughes, which has already been approved by the conglomerate’s board, comes after GE just completed the $7.4 billion merger of its oil and gas business, GE Oil & Gas, with Baker Hughes on 3 July last year.

However, any sale of the stake is subject to a lock-up agreement that bars a disposal within two years of completion without the approval of a conflicts committee.

Analyst Cowen stated in a note the divestment of Baker Hughes could mirror that of GE’s healthcare unit, of which 20% will be sold off and the remaining 80% spun off to shareholders.

“Assuming GE’s majority stake is not transferred to a single entity, removal of a controlling shareholder should benefit BHGE’s valuation,” it wrote.

Sempra LNG & Midstream develops, builds and operates world class liquefied natural gas liquefaction facilities and midstream natural gas pipelines and storage.

Our three LNG export projects offer flexible, low-cost and reliable LNG supply to buyers in the global market:

- **Cameron LNG**: The three-train, 14 Mtpa liquefaction export facility in Louisiana started construction in 2014 and expects to produce LNG in 2019. Learn more at www.CameronLNG.com.
- **Port Arthur LNG**: The two-train, 12 Mtpa liquefaction export facility in Texas is being permitted and developed with a final investment decision targeted for 2019 and first LNG supply in 2023. Learn more at www.PortArthurLNG.com.
- **Energía Costa Azul LNG**: The two-train, 12 Mtpa liquefaction export facility permitted at the existing regasification terminal in Baja California, Mexico is being developed in phases with an initial 3 Mtpa first phase. Learn more at www.ECALNG.com.

Our Midstream business will provide the needed pipelines to deliver natural gas to our liquefaction facilities and other industrial customers.

Learn more at www.SempraLNGM.com

Sempra LNG & Midstream is not the same company as San Diego Gas & Electric (SDG&E) or Southern California Gas Co. (SoCalGas), and Sempra LNG & Midstream is not regulated by the California Public Utilities Commission.
Kosmos fails off Suriname

US INDEPENDENT Kosmos Energy has had a disappoint -
ment with its latest explora -
tion well off the coast of Suri -
name, which has come up dry.

The Anapai-1A well was drilled in Block 45 using the drillship Enso DS-12 to test lower Cretaceous reservoirs in a structural trap on the flank of the basin.

The well reached a depth of 4,506 metres and, while Kosmos said it encountered a high qual -
ity reservoir, it did not encoun -
ter any hydrocarbons and the decision was made to plug and abandon the well.

Despite the disappointing results at Anapai-1A, Kosmos chief executive Andy Inglis said the well result would not affect the company’s plan to drill more wells off Suriname.

“We are still in the early stages of exploring this newly emerging basin and our for -
ward drilling programme remains unchanged given the independent nature of the pros -
pects,” he said.

“The drillship will proceed as planned in the third quarter to test Pontoenee, the first of up to three independent pros -
pects in Block 42 off Suriname.”

He added that Pontoenee was a similar play type to the Turbot and Longtail discover -
ings, which lie roughly 70 kilo -
metres to the west in Guyana.

Kosmos is the exploration operator of Block 42, where it holds an
interest in the US natural gas project Turbot and Longtail discover -
s, which lie roughly 70 kilo -
meters from the well.

Kosmos is the exploration operator of Block 45 in a 50:50 partnership with Chevron. It is also the exploration operator of Block 42, where it holds an equal 33.33% stake with Chev -
ron and Hess.

Global LNG makes pick

BAKER Hughes has been cho -
sen by Oslo-based Global LNG Services (GLS) to provide rotat -
ing equipment for its deepwa -
ter Main Pass floating liquefied natural gas project in the US Gulf of Mexico.

Located 16 miles (26 kilo -
metres) off southeast Louisi -
a, the Main Pass project is set to involve two FLNG vessels — based on GLS’ Liqui-Max concept — with a combined production capacity of 24 mil -
lion tonnes per annum.

The patented vessel design uses industry standard equip -
ment and foundations in order to allow greater through -
pout. According to GLS, this decision has a capital expenditure below $400 per tonne of annual liquefaction capacity.

The company claims its pat -
tented concept means it can “introduce a floating small-scale model with a floor rate of Henry Hub plus 15% plus $1.50 per thousand British thermal units for pre-processing and liquefaction and 50:50 sharing of the liquefaction netback value above the $1.50 level.”

Baker Hughes will provide its LM9000 gas turbine for the Main Pass development.

Azerbaijan set to add to Europe pipe diversity

Country’s sector has taken steps towards its integration on the international scene and sees the potential for infrastructure investment for exports

BAKER Hughes has been cho -
sen by Oslo-based Global LNG Services (GLS) to provide rotat -
ing equipment for its deepwa -
ter Main Pass floating liquefied natural gas project in the US Gulf of Mexico.
Freeport clinches new LNG sale

US player agrees multi-year contract with Trafigura to supply 500,000 tpa from new facility on US Gulf coast

US OPERATOR Freeport LNG has signed a multi-year deal to sell liquefied natural gas from its under-development facility in Texas to Trafigura.

The commodities trading giant has agreed to buy 500,000 tonnes per annum of LNG from the upcoming three-train facility on Quintana Island on the US Gulf coast.

The three-year deal will start on 1 July 2020.

"Trafigura puts the security of supply for its customers at the heart of our LNG strategy. We view this agreement as a further proof of our commitment to this and are proud to count Freeport LNG as our partner," said Hadi Hallouche, head of oil Asia at Trafigura.

Freeport LNG earlier this year signed a memorandum of understanding with Lithuanian trader UAB Lietuvos Duju Tiekimas for the supply of LNG, and has also agreed a memorandum of understanding with Lithuania’s Klaipeda Nafta for regasification terminal co-operation.

Freeport LNG has recently filed to expand to a fourth train at Quintana. The first three trains, currently under construction, are expected to come online between the end of 2018 and the third quarter of 2019.

Train 1’s capacity is contracted out to Chubu Electric and Osaka Gas of Japan, which will each take 2.2 million tonnes per annum.

Meanwhile, UK supermajor BP will take Train 2’s 4.4 million tpa capacity, and South Korea’s SK E&S and Toshiba of Japan have each contracted 2.2 million tpa from Train 3.

Train 4, expected online in 2023 or 2024, is expected to receive regulatory approval by the end of the year. Freeport LNG said it is marketing excess volumes from the first three trains and Train 4 base-load volumes.
Israel hopes European gas demand will knock on doors

Abundant resources at fields such as Leviathan give Mediterranean countries confidence to view export pipeline as realistic in coming years

BEATE SCHJOLBERG
Washington, DC

Israel hopes to forge closer ties with Europe by sending gas from fields including the giant Leviathan development through what would be the world’s longest deep-water gas pipeline to replace declining European gas supply from North Sea assets.

Even though domestic gas use is increasing, Israel’s 8.5 million population will not absorb the production expected from domestic fields including the Noble Energy-operated Tamar and Leviathan.

Exporting Israeli gas through a new pipeline via Cypriot gas fields to Greece and Italy is the government’s preferred option in addition to already agreed gas sales to neighbouring Egypt.

“It is estimated that in five to six years from now, there will be a sharp decline in production from the North Sea, and Europe needs a replacement,” Israeli Minister of Energy Yuval Steinitz told Upstream on the sidelines of the World Gas Conference in Washington.

“I think the best replacement may be Israeli and Cypriot gas, because those are two Western-style democracies and members of the OECD, and an under-water pipeline is better and more secure than any other kind of transmission.”

The East Mediterranean pipeline is a technologically complex project, encompassing a 2000-kilometre pipeline at water depths down to 3500 metres with an annual capacity of between 10 billion and 12 billion cubic metres of gas.

By comparison, Norway alone supplies Europe with about 10 times that volume every year, much of it from fields that are past their peak production.

An East Mediterranean pipeline would cost about $7 billion to build and could be ready in 2025, according to a preliminary study. Steinitz is hoping for an investment decision late this year or early in 2019.

The European Union and Greek player NOC Poseidon have already spent about $100 million on studies and planning, and the European Bank for Reconstruction & Development may be interested in helping with the financing, according to Steinitz.

“The feasibility study was very positive. It showed that it is technologically possible, and also economically feasible,” Steinitz said. “I do not see any real obstacles.”

If Israel, Cyprus and other eastern Mediterranean countries continue to find more gas resources to match Leviathan, they will have to look farther afield to sell their gas, Steinitz admitted.

One possibility is building a pipeline across the Negev Desert to the Red Sea, where a future liquefied natural gas facility in Eilat or Aqaba could supply India and other Asian customers.

“An East Mediterranean pipeline is better and more secure than any other kind of pipeline,” Steinitz admitted. “We need additional discoveries in Israel, Cyprus or Egypt, a second or a third Leviathan, and then we will have to consider also exporting gas to the East.”

Oasis sells packages in Williston as it switches to Permian

US INDEPENDENT Oasis Petroleum is selling a large portion of its non-core Williston basin assets in North Dakota and Montana through two sales that are together valued at $283 million.

The packages comprise about 4400 barrels of oil equivalent per day of net production and 65,000 net acres in the Williston. The acreage to be sold also includes Oasis’ Foreman Butte position, which holds inventory characterised by the company as a fairway.

However, the buyers of the asset packages were not disclosed. Oasis has a target to divest about 200,000 net acres and $800 million in total proceeds of $500 million as it focuses on its core Permian basin properties.

“Our transactions, we are pleased to report that Oasis has made significant progress towards that target, selling a fraction of the non-core acreage for over half the estimated proceeds,” Oasis Petroleum chief executive Thomas Nusz said.

“We continue to evaluate additional non-core properties for potential divestment as we optimise our portfolio and high-grade our assets.”

MARKET RECOVERY

UK-LISTED contractor Petrofac is eying work opportunities worth $20 billion after gaining $1.4 billion in new orders so far this year on the back of a nascent market recovery on increasing field development activity.

The engineering and construction contractor has seen “continued momentum in new orders” and “tendering activity remains high”, according to chief executive Ayman Asfari.

Asfari told Upstream in an interview that Petrofac is well-positioned on several bids, as around $20 billion of contracts are due to be awarded in the second half of this year.

The market situation is in marked contrast to the previous three years that witnessed a drought of awards due to a dramatic slump in activity on low oil prices. A recent rebound in prices and lower costs are now fuelling a recovery.

The bulk of Petrofac’s order intake in the first half of the year came from its core engineering and construction business that generated $1.2 billion in new contracts, which included upstream, downstream and renewables work.

Among these were a $233 million deal for the second phase of Cairn India’s Raageshwari Deep Gas field development project in India and a $265 million contract from state player Petroleum Development Oman to work on an enhanced oil recovery project in Oman.

Petrofac landed a further $600 million in order intake in the first half of 2018 in the engineering and production services segment including extensions and new awards in the UK from the likes of Chevron and Eni.

“In the UK North Sea we are seeing early signs of recovery despite continued low activity, utilisation and order intake,” Asfari said.

Its contract backlog stood at $9.7 billion as of the end of May, marginally down from $10.3 billion at the end of last year.
WGC 2021
KOREA

A Sustainable Future
- Powered by Gas

Visit us on
Stand C2 (Concourse)
& 3511 (Lower Level)
Perry points to energy co-operation as the way forward

US Energy Secretary sees LNG exports as a lead in to developing collaboration with other nations

CAROLINE EVANS
Washington, DC

US ENERGY Secretary Rick Perry on Tuesday urged nations to collaborate on energy development to promote security and prosperity. Perry, speaking at the World Gas Conference in Washington, said that as the US becomes a major liquefied natural gas exporter, other nations should be given the tools to become energy independent in their own right.

The US began exporting LNG from the US Gulf coast in 2016 and has so far exported to 30 countries on five continents, Perry said.

"We're empowering our friends, our allies, our trading partners, both economically and energy-wise as well," he said.

"I'm excited about the opportunities for investors and businesses to come here to help us write the next chapters, but I am also excited about the opportunities we have to help others create their own success stories. This is not just about exporting our energy bounty, including our natural gas. It's about exporting the technology, the know-how that unleashed our bounty in the first place."

His remarks came a day after the US Energy Department announced a partnership with Israel to develop a joint centre on excellence in energy, engineering and water technology.

The centre will aim to "accelerate development and more rapid deployment of critical and innovative technologies for fossil energy, energy cybersecurity in critical infrastructure, the energy-water nexus, energy storage, and other areas of energy" to diversify supply and promote efficiency, according to the US Department of Energy.

At the conference, Perry said he would meet with international energy ministers to "discuss how to make the world safer, more prosperous through energy collaboration".

His words contrasted with comments often made by US President Donald Trump, who has advanced a trade policy including steep tariffs on foreign steel and aluminium, and who has accused foreign nations of "taking advantage" of the US through their trade practices.

However, Perry also echoed the Trump administration’s promises to reduce regulations on the energy industry.

"Rather than punishing fuels to reduce emissions through regulation, we seek to reduce emissions by innovation."

US Energy Secretary Rick Perry

Rather than punishing fuels to reduce emissions through regulation, we seek to reduce emissions by innovation.

Gas sector outlook is bright

THE natural gas sector is positioned for success in the years ahead but there are many questions today facing the industry, some of which are difficult to address, according to outgoing International Gas Union president David Carroll.

"Is the gas industry ready and willing to embrace the challenges ahead to ensure that gas remains a major contributor to a prosperous and more sustainable world?"

That was one question posed by Carroll in his keynote address at the World Gas Conference 2018 opening ceremony.

"Will we see a truly global energy market emerge? And if so, when?"

Carroll also asked if industry was approaching the "point of no return" regarding final investment decisions on liquefied natural gas projects. Decisions need to be taken soon to help avoid a supply shortfall in a few years’ time, he suggested.

"The pace of change does seem to be quickening these days and it has certainly been the case in the natural gas world," he told delegates.

"Since our last World Gas Conference in Paris, we have gone from Cop 21 — where gas was an afterthought — to an age of energy realism with positive outlooks for global market growth."

However, despite buoyant year-on-year growth in 2017, gas today is facing increasing rivalry from renewable energy sources in certain nations.

"Are renewable energies a friend or a foe?" Carroll asked of his audience. "So many questions, but isn’t that why we are here this week?"

However, he concluded by pointing to the rosy outlook he sees for natural gas. "Make no mistake, this is an industry that’s on the move and it is positioned for long-term success," Carroll concluded.