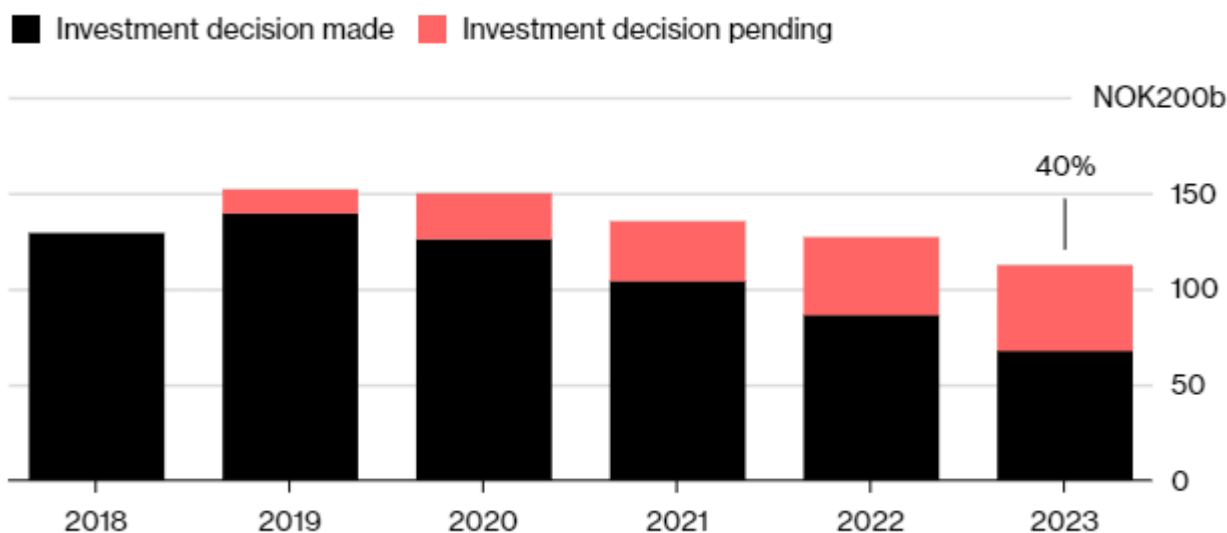


# Top Oil Lobbyist Warns of Rising Political Risk in Norway



Norway's oil industry is in full recovery mode, but the country's top petroleum lobbyist is worried about growing opposition ahead.

At the same time as it gave a big boost to investment forecasts for the next five years, the Norwegian Oil and Gas Association sounded one of its starkest warnings yet on the political risk facing the nation's biggest industry. Explorers and producers are finding themselves in the midst of an increasingly heated debate in Norway on the future of fossil fuels, with calls for cuts to incentives, more drilling restrictions and higher taxes.

While Norway's oil industry is tightly regulated, one of its main selling points has always been a stable framework with support across the political spectrum. That means that investment forecasts could be hit "dramatically" if that is looking shaky, Karl Eirik Schjott-Pedersen, the association's chief executive, said on Monday.

"I'm raising a flag to say that these investments are

vulnerable if such a situation arises,” Schjott-Pedersen, who represents companies including Equinor ASA and Royal Dutch Shell Plc, said in an interview. “It’s important for us to stress that this debate and these proposals for change aren’t cost-free.”

With the share of locked-in spending falling to 60 percent in 2023 from 92 percent in 2019, investment could drop sharply and make this year’s recovery brief, Schjott-Pedersen said.

Political risk is even a bigger concern than the market, where crude prices have tumbled by about 30 percent over the past three months, he said. After the industry cut costs drastically during the downturn from 2014 to 2017, projects are less vulnerable to Brent crude in the \$50s than to tax hikes, Schjott-Pedersen said.

The warnings from the former Finance Minister comes as two centrist parties involved in negotiations to broaden Norway’s Conservative-led government have signaled they will seek tougher restrictions on the oil industry. While Prime Minister Erna Solberg appears unwilling to offer concessions on oil policy, those efforts are only the latest in a long list of challenges for the oil industry, including:

- The prospect of smaller groups like the Green Party gaining more influence
  - Legal challenges seeking to restrict license awards or exploration incentives
  - Signs that Norway’s biggest party, Labor, currently in opposition, is growing increasingly skeptical of opening the Lofoten area to exploration, raising the possibility it could compromise on other aspects of oil policy
- Compounding these challenges is another, worrying prospect for Norway’s oil industry in the early 2020s: it sorely needs new, big discoveries to fill a dwindling project pipeline.

That challenge isn't new. While the oil association raised forecasts for all years through 2022 compared to its previous prognosis from December 2017, the new outlook still reflects a drop in investments after this year and 2020 due to a lack of large projects.

"If we don't make new, large discoveries, the activity level on the Norwegian shelf will drop a few years down the line," Schjott-Pedersen said. "Future earnings depends on oil companies being able to explore in interesting areas."

## الراعي دشن كنيسة مار يوحنا الحبيب بغوسطا بتمويل قطري



دشن البطريرك الماروني الكاردينال مار بشارة بطرس الراعي كنيسة مار يوحنا الحبيب في دير المخلص الكريم بغوسطا، والتي قامت دولة

قطر بتمويل بنائها بتقدمة من أمير البلاد الشيخ تميم بن حمد آل ثاني.

وفي المناسبة، أقيم قداس احتفالي ترأسه البطريرك الراعي، وحضره عن دولة قطر السفير محمد حسن جابر الجابر ممثلاً الشيخ تميم بن حمد آل ثاني، وعن الجانب اللبناني فاعليات دينية مسيحية.

وقال الجابر: "قامت دولة قطر ببناء الكنيسة لتكون داراً للعبادة للأخوة المسيحيين الموارنة وتحتضن مناسباتهم الدينية، كما أن سمو الأمير أرادها أن تكون على أجمل صورة لترجمة مشاعره الصادقة تجاه اللبنانيين عموماً، والمسيحيين خصوصاً".

وأضاف: "إن التقدمة السخية من دولة قطر لبناء هذه الكنيسة المارونية في هذه المنطقة العزيزة من لبنان جاءت دليلاً على انفتاح قطر وتأكيداً على توطيد أواصر العلاقة مع الإخوة اللبنانيين عموماً".

وتابع: "إن اهتمام دولة قطر بالمسيحيين وبضرورة ممارسة شعائرهم الدينية بحرية وأمن وأمان ليس أمراً جديداً علينا، لقد حملنا راية حوار الأديان منذ عشرات السنين. واحتضنت الدوحة مركزاً لحوار الأديان أنشئ بتوصية من علماء يمثلون الديانات الثلاث في مؤتمرات حوار الأديان التي استضافتها الدوحة خلال السنوات الماضية. وإن دولتنا هي دولة محبة وسلام وتآخ مع كل الأديان السماوية".

وأردف: "لقد كانت دولة قطر سباقة بين دول الخليج في إرساء وتكريس حق المسيحيين الذين يعيشون في الدوحة، ويفوق عددهم المئتي ألف من كل الطوائف المسيحية. وإن رسالتنا هي رسالة تسامح، وتاريخنا يشهد لنا بذلك. لقد بدأ بناء الكنائس في دولة قطر منذ عام 2005 يوم أعطى حضرة صاحب السمو الأمير الوالد الشيخ حمد بن خليفة آل ثاني موافقته على بناء أكثر من كنيسة للطوائف المسيحية التي تعيش في قطر، وتبرع بثمان الأرض لبنائها".

من جهته، شكر الراعي لـ "دولة قطر تغطيتها كلفة بناء الكنيسة"، وقال: "نسأل الله أن يكافئ حضرة صاحب السمو الشيخ تميم بن حمد آل ثاني أمير البلاد وحضرة صاحب سمو الأمير الوالد الشيخ حمد بن خليفة آل ثاني والشعب القطري الكريم بفيض من بركاته".

ونوه بـ "دور السفير الجابر ممثلاً صاحب السمو في تدشين كنيسة مار يوحنا الحبيب في دير المخلص الكريم غوسطاً"، متوجهاً بـ "الصلوات

والدعاء لدولة قطر وسمو أميرها على مساعيه الخيرة"، متمنيا لـ  
"دولة قطر المزيد من الازدهار والتقدم".

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## **Qatar partners Malaysia, Turkey to conquer Islamic finance market**



DOHA – Qatar is planning an ambitious new initiative with Malaysia and Turkey to serve the \$2 trillion global Islamic finance market from hubs in the three countries using common platforms and technology, as part of efforts by the Gulf emirate to overcome a blockade imposed by its neighbors and diversify its economy away from oil and gas.

"We have a vision to cover the entire globe's Islamic financial transactions between three financial centers: Doha, Istanbul and Malaysia," said Yousef Mohamed Al Jaida, CEO of the Qatar Financial Centre in a group interview on the

sidelines of the annual Doha Forum. "This requires international platforms and technology which we believe Qatar Financial Centre has."

Under the plan, Turkey would cover Islamic finance needs in Europe, Qatar would serve the greater Middle East and Malaysia would sell to Asia, he added.

"That's a big vision, we're working on it and this is a new project," Al Jaida said in the interview with the Nikkei Asian Review and a small group of other publications. Relations between Qatar, Turkey and Malaysia had "intensified recently and become a lot closer," he added. "We share similar visions, we share similar progressive outlooks... so there's a lot to be achieved between these three countries." He did not give time scales for the project.

The London Stock Exchange is currently a global venue for the issuance of sukuk, while Hong Kong and Luxembourg have also made inroads but Qatar believes the market should be led by Muslim countries, Al Jaida said.

Malaysia is already one of the world's biggest issuers of sukuk, or sharia-compliant bonds, with 34% of the global market last year. The Malaysian central bank signed a memorandum of understanding with the regulatory authorities of Qatar and Dubai in 2007 to promote mutual cooperation but efforts to consolidate the fragmented global Islamic finance industry have foundered in the past on regional rivalries and a lack of agreement on common standards.

The new Islamic finance initiative forms part of plans by Qatar, a Gulf emirate which is the world's largest exporter of liquefied natural gas, to diversify its economy and grow away from its neighbors, four of which imposed a blockade on its borders and airspace last year.

The United Arab Emirates, Saudi Arabia, Bahrain and Egypt accused Qatar of sponsoring terrorism and cut off land, sea

and air access demanding that Doha change its policies. Qatar rejects the accusations and says it is the victim of a hostile act which is illegal under international law.

Like other Qatari officials at the Doha Forum, Al Jaida described the blockade as a “blessing in disguise,” insisting that despite the considerable extra costs imposed, it had forced his country to become more self-sufficient in areas such as food production and to develop its port and air cargo infrastructure more quickly.

Before the blockade, Qatar imported almost all its food via its neighbors but government-funded emergency schemes to develop local agriculture have helped to fill the gap and increased trade with Iran, Turkey and Oman did the rest. State-owned Qatar Airways organized a massive air cargo operation to fly in imported essentials via a disused airport and the country rapidly expanded its own port facilities to replace the lost facilities of Jebel Ali in the UAE.

Qatar, which enjoys the world’s highest per capita GDP at purchasing power parity according to the World Bank, lost some growth momentum during the blockade and had to redirect \$50 billion from its sovereign wealth fund and reserves to prop up the banking system and protect the exchange rate.

But now a more confident Qatar is pushing its financial center aggressively as an alternative to the longer-established and larger Dubai International Financial Centre, despite the irony of an isolated Gulf peninsula offering itself as a regional hub.

Al Jaida said the UAE had undermined the business model of Dubai as a regional hub during the blockade by forcing international companies operating in the region to set up an alternative base to serve Qatar. As a result, the number of foreign companies operating in the Qatar Financial Centre had grown by 100% since the blockade and Qatar now had the



opportunity to challenge Dubai as a hub in the Gulf region.

Qatar has attracted foreign businesses by offering guarantees that Doha will be a cheaper base to operate from than Dubai, in return for a commitment to a minimum 10-year presence.

The Qatar Financial Centre offers 100% foreign ownership, a legal and judicial framework based on English law, 100% repatriation of profits and other regulatory advantages to attract businesses. It compares itself to Hong Kong in offering companies an access point to a wider market under internationally friendly terms.

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## Opec withdrawal fits Qatar's LNG strategy, says US finance attache



Qatar's recent decision to withdraw its membership from the



Organisation of the Petroleum Exporting Countries (Opec) is a business decision that supports the country's development strategy for its liquefied natural gas (LNG) sector, industry experts agreed during the Euromoney Conference held in Doha on Sunday.

Qatar is Opec's 11th-biggest oil producer. Lesley Chavkin, the US Department of the Treasury financial attaché to Qatar and Kuwait, pointed out that Qatar's total output accounts for "only 2%."

"Qatar is not a behemoth in Opec, and I think it (withdrawal from Opec) fits with the strategy to focus the resources on LNG. That seems to be the future of Qatar's energy industry," Chavkin said during the panel discussion titled 'Qatar's Economy – New Directions, New Opportunities'.

On the global market, Chavkin also said that Qatar is expanding its reach, veering towards the Asia Pacific region. She noted that Qatar may have to look into short-term contracts with its Asian buyers.

"Obviously, it's no surprise that the demand is coming from the Asia Pacific region. We have China aggressively moving from coal to gas...moving forward, it's going to be Asian-focused.

"What I think is a kind of interesting space to watch is LNG contracts. So, Asian buyers tend to prefer buying LNG on spot or short-term basis. LNG contracts here tend to be longer term, and Qatar has flexibility in adjusting some of its longer term contracts to maintain market share but that's something interesting that we would be watching, going forward," Chavkin explained.

Mohamed Barakat, the managing director of US-Qatar Business Council, said he agrees with Qatar's decision to withdraw its membership from Opec, "because this is a business-focused decision."

"Qatar is in the gas business and its oil production doesn't affect the market that much as countries like Saudi Arabia," Barakat said.

He added: "Qatar's decision to increase its gas production

will definitely increase the support and supplies that Qatar can provide globally, knowing that from a US perspective, Qatar has provided a lot of LNG to US allies, supporting them, and helping them to be more independent with a reliable partner in Qatar – that would help advance more the business interests globally in Qatar, as well.”

Alexis Antoniades, the director of International Economics at Georgetown University – Qatar, emphasised that the decision to withdraw Qatar’s Opec membership is a business decision and was not politically motivated.

“I don’t see any political decision behind it... this is a business decision. We have no role in Opec... we are in the LNG industry and not the oil sector. It makes sense for us to withdraw there, and it makes sense for us to figure out what is it that we are going to do well, and focus our time and resources on that,” Antoniades said.

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## **Tension Over Qatar Stalls Trump’s Mideast Agenda**



The first step toward any progress for the U.S. would be to resolve the conflict between its allies.

President Donald Trump has at least one clear and coherent foreign policy goal: to try to force Iran back to the negotiating table for more favorable terms in a nuclear accord. His administration is trying to lead a “maximum pressure” campaign, including wide-ranging new sanctions. The problem is, the countries most important in supporting this initiative – Washington’s key Arab allies – are too busy squabbling among themselves.

A series of recent developments, and my own trip to the region this month, strongly suggest that this isn’t likely to change anytime soon. Unless, that is, Trump decides to get serious about ending the argument.

For decades, the mainstay of support for the U.S. and hosting of American military bases in the Persian Gulf region has been from Gulf Cooperation Council countries: Saudi Arabia, the United Arab Emirates, Bahrain, Qatar, Oman and Kuwait.

But in June 2017, long-simmering tensions within the group boiled over as Saudi Arabia, the U.A.E. and Bahrain – joined by Egypt – announced a “boycott” of Qatar, which they accuse of promoting extremism and terrorism and coddling Iran. Qatar describes it as a “blockade” and says it’s being bullied by reactionary and autocratic neighbors.

Trump initially signaled support for the boycott but, over time, like the parties, Washington has apparently come to view the standoff as a “new normal,” despite the obvious disruption this is causing to the U.S. policy focus on Iran and complications for the massive American military assets strewn across these very countries.

Last week, the council held one of its increasingly truncated and pro forma leaders’ summits, but rather than pointing to a way forward, the dysfunctional meeting simply underlined and even exacerbated the internal Gulf Arab crisis. They are supposed to have annual summits with the U.S. president too, but that can hardly happen until their own differences are resolved.

Even more than last year’s meeting in Kuwait, which was suddenly cut short as tempers flared, this summit was a vivid enactment, in several episodes, of the depth of alienation among these core U.S. allies.

It was originally supposed to be held in Oman, but at the last minute, Saudi Arabia intervened and insisted it must be held in Riyadh.

Then Qatar began to complain that its ruler, Emir Tamim bin Hamad Al Thani, might not have been invited by the Saudis. When Riyadh made it clear that he was welcome, he refused to show up. The Saudis then framed that as an insult against them.

Meanwhile, the war of words continued to rage, with Qatar still complaining about being abused and with the boycotting

countries dismissing Qatar as both irresponsible and irrelevant.

Worse, the standoff isn't contained to internal council rows. Qatar recently withdrew its membership in the OPEC petroleum cartel, essentially to distance itself from Saudi Arabia.

And Qatar continues to deepen its ties to Turkey, which is a major beneficiary of the impasse.

But Turkey has also moved closer to Kuwait, which just signed a military cooperation agreement with Ankara.

One of the more dangerous effects of the lingering boycott is that not only Qatar but also Kuwait and Oman are becoming very nervous about what they see as an aggressive Saudi and Emirati effort to make all regional states conform to their agendas.

This is exacerbating one of the main reasons for the boycott: the sense that Turkey, in conjunction with Qatar and the Muslim Brotherhood parties, constitutes a third, Sunni Islamist, bloc in the Middle East competing with both the pro-Iranian and pro-Saudi and U.S. camps.

While they won't say so publicly, the boycotting quartet is increasingly concerned that, in a nightmare scenario, the Turkish-Qatari alliance could slowly begin to absorb other countries such as Kuwait and Jordan and constitute a real potential alternative set of allies against Iran for the U.S.

There are many reasons this scenario is far-fetched. It's hard, after all, to imagine Washington basing its Middle East policies on a partnership with what amounts to an Islamist coalition.

But anxieties are running high, and such a scenario is not impossible. And there is no question that the boycott and its long-term impact is at best complicating and at worst disrupting the Trump administration's efforts to keep

everyone's attention squarely focused on checking Tehran.

These and other recent developments show that the standoff is not only continuing, but in many crucial ways deepening. My own recent conversations with officials and experts in the U.A.E. indicated a clear determination to keep up, even intensify, the pressure on Qatar.

While Trump initially seemed to back the boycott, in fact Washington has adopted an effectively neutral stance on the confrontation.

It has been urging the Gulf Arabs to put their differences behind them and focus on countering Iran and terrorist groups. But it hasn't made any major aspect of U.S. relations with any of these parties contingent on any particular outcome. So American interventions have basically been helpful hints rather than urgent demands.

Both sides have known from the beginning that the U.S. role could be decisive, but Washington hasn't really tried to sort things out among its key Middle Eastern allies. The Trump administration would be wise to send two clear messages: First, Qatar's policies, and especially its promotion of radicals, need to change. And second, on that basis the boycott needs to end. These messages need to be connected to real consequences. That's the path to ending this impasse and achieving other key goals in the Middle East.

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## **Exxon leapfrogs rivals with**

# 41bn-barrel Brazil oil bet



In a single year, Exxon Mobil Corp has gone from being a tiny bit player in Brazil to the second-largest holder of oil exploration acreage, trailing only state-controlled Petroleo Brasileiro SA. The last 24 concessions the US giant bought with its partners may hold 41bn barrels, based on preliminary studies, according to Eliane Petersohn, a superintendent at Brazil's National Petroleum Agency, or ANP. While the existence of the oil still needs to be confirmed, along with whether its extraction will be cost-effective, it's a huge figure – almost double Exxon's current reserves. "When you do the cumulative effect of all of those multi billion-barrel targets, then you come up with quite a material resource out there that has the capability to produce at very large volumes," Stephen Greenlee, Exxon's president of exploration, said in an interview in Houston on Wednesday. The world's largest publicly traded oil producer is betting Brazil will be at least part of the solution to its long-term challenges. Exxon's stock has underperformed its Big Oil rivals over the past five years due to poor returns on historic investments, and



production has declined year over year in eight of the past nine quarters. "Brazil is the world's leading exploration play with 'yet-to-find' potential," said Tom Ellacott, a Madrid-based analyst for Wood Mackenzie Ltd. "There are only so many geographies that offer you the scale and low break-even price to compete if oil prices fall and are persistently low. Brazil is one of those."

Exxon's meteoric rise in Brazil started in 2016 after the impeachment of then-president Dilma Rousseff. Under her left-wing government, the company held just two idle blocks in Brazil. Rousseff's ouster ushered in policy changes, a shift that deepened after her Workers' Party lost ground in Congress, and as the next president, Michel Temer, scrapped nationalistic laws and auctioned off exploration rights. Exxon overtook Royal Dutch Shell Plc, Total SA and Equinor ASA in exploration acreage in a matter of months during the record offering of new blocks. The friendly environment for Big Oil is expected to continue if far-right congressman Jair Bolsonaro is elected president, an outcome that looks more likely after his surprisingly strong showing in the first round of polling on October 7.

His selection would reduce any risks of a policy reversal, according to most observers, even though the candidate hasn't spelled out his economic policies in detail. Whatever the political climate, "Brazil has had a really good track record of honoring their contracts as they go forward," Greenlee said. "Sticking with the contracts gives us the ability to invest." The Irving, Texas-based company is betting big in particular on Brazil's offshore, where a single block is currently producing more than all of Colombia and profitability compares to the best US tight oil, according to Decio Oddone, the head of the ANP. Brazil has surpassed Mexico and Venezuela to become Latin America's biggest producer and has been a major source of non-Opec production growth in recent years. At the same time, spending constraints

have prompted Petrobras to forgo its dominance in the so-called pre-salt, the oil deposits trapped under a thick layer of salt deep in the Atlantic seabed.

The pre-salt has become too big for a single company to produce, Oddone said. That offers well-funded majors like Exxon an opportunity. Before the recent investments, "pre-salt Brazil was probably the biggest gap in Exxon's portfolio," Ellacott said. With its mammoth resources, the South American country offers some relief for the company, albeit over the long-term. Of Exxon's five major projects over the next decade, Brazil probably has the longest ramp-up to peak production, but it also offers the most potential, according to Ellacott.

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**Goldman lifts its LNG price outlook 50% on China's one-two punch**



Bloomberg/Singapore

Goldman Sachs Group Inc jacked up its spot LNG forecast after the market was hit by China's double blow of boosting demand for gas while lifting prices of the fuel's main competitor coal by limiting mine output.

The bank increased its 2019 estimate for the Japan-Korea Marker, a closely watched liquefied natural gas Asian benchmark, by 52% to \$9.50 per million British thermal units, according to a report from analysts including Christian Lelong. They also raised their 2020 projection by 43% to \$8.55, and boosted their outlook for UK natural gas prices.

China became the world's largest buyer of natural gas in May in its pursuit to reduce smog in urban centres, as it forces homes and factories to burn the cleaner fuel instead of coal. A cold winter last year, which was followed by a hot summer, also increased demand for LNG, while disruptions at production plants reduced supply and longer tanker journeys increased transportation costs, Goldman said its research note dated Oct. 17.

"Global gas prices have exceeded our expectations," said Lelong and fellow analyst Damien Courvalin. "China's war on pollution has created significant demand with limited price

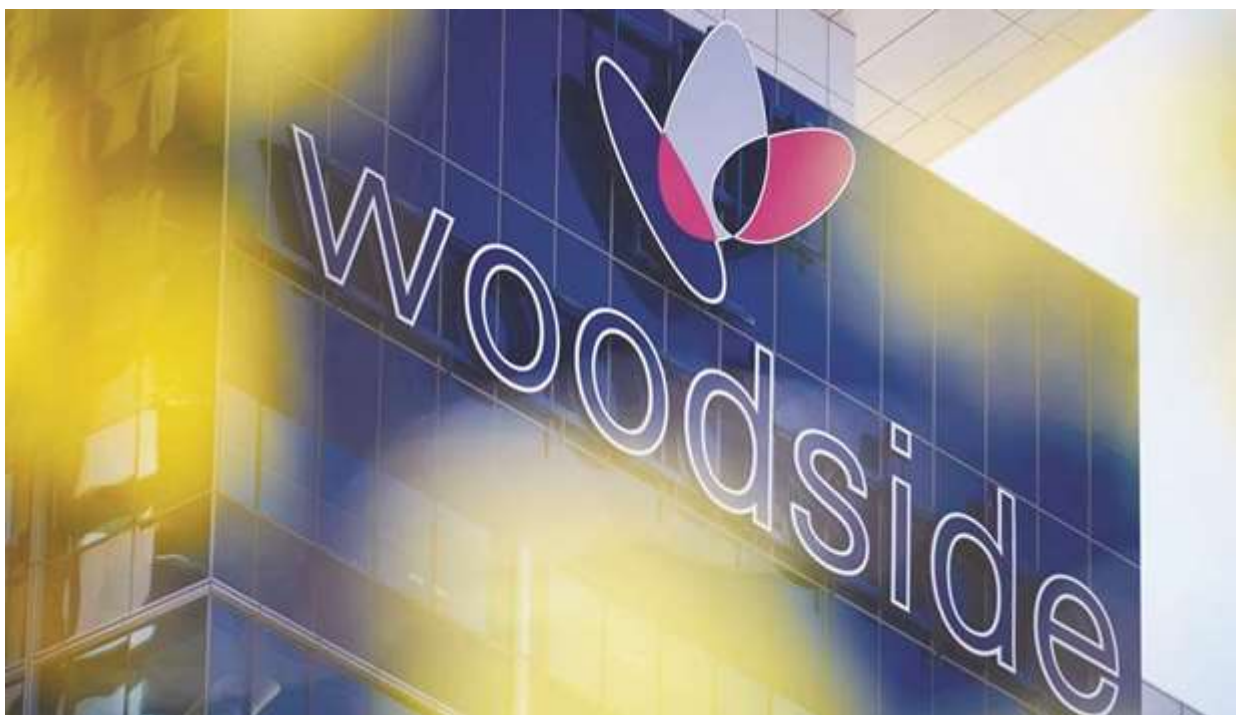
elasticity, and its supply reforms have reduced competition in the global fuel mix by closing thousands of coal mines.”

Goldman boosted its spot Asia LNG forecast for the upcoming winter to \$10.75 per million Btu, with downside potential if an El Nino event occurs and brings milder temperatures to East Asia. The bank raised estimates for UK natural gas prices by 45% in 2019 to \$8 and by 38% for 2020 to \$7.30.

Spot LNG in North Asia closed at \$10.50 per million Btu on October 15, according to a price assessment from World Gas Intelligence.

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## **Woodside eyeing Browse gas project deal in 2020**



Reuters/Melbourne

Woodside Petroleum Ltd yesterday said it was aiming to bring forward the target date for approving the mammoth Browse gas project off northwest Australia by a year to 2020, with the

\$15bn cost estimate potentially being pared.

Woodside, operator and top stakeholder in Browse, expects the earlier final investment decision thanks to recent progress on technical contracts and commercial agreements for processing gas from the project, Woodside chief financial officer Sherry Duhe said yesterday.

“It is something that technically we’re quite confident about at this point. And the progress that we’re making, in particular on getting very imminently to sign the preliminary agreements, is also supporting that as well,” Duhe told Reuters.

Woodside is driving Browse and the \$11bn Scarborough project, also off northwestern Australia, looking to capitalise on an LNG supply gap expected to open up in the early 2020s.

“It’s really about us having the confidence to proceed and knowing that the market is there,” Duhe said in an interview after the company released its quarterly production report.

Browse, the biggest undeveloped gas resource off northwestern Australia, has been stuck on the drawing board for years as plans for onshore and floating LNG developments estimated at up to \$45bn were scrapped.

The development cost has been slashed as Browse will now feed the existing North West Shelf LNG plant, rather than requiring a new plant to be built.

And contractors have indicated there might be opportunities to trim the estimated \$15bn cost of the project, Duhe said.

Royal Dutch Shell, BP and PetroChina, along with Japan’s Mitsubishi Corp and Mitsui & Co, are Woodside’s partners in Browse.

“BP supports developing the Browse resources as soon as possible and is working hard with its JV partners to achieve that,” a BP spokeswoman said.

However, a Mitsui spokesman said the joint venture had yet to agree on a 2020 target for a final decision.

Shell deferred to Woodside for comment, while Mitsubishi and Petrochina declined to comment.

Woodside, Australia’s largest independent gas and oil

producer, reported a 25% jump in third-quarter revenue to \$1.16bn, underpinned by rising output at the Wheatstone LNG project, run by Chevron Corp, and higher oil and LNG prices. Production for the quarter rose to 23.1mn barrels of oil equivalent (mmboe) from 20.3 mmboe at the same time last year. In Myanmar, Duhe said Woodside had obtained “encouraging” results from an appraisal of the Shwe Yee Htun gas find, but did not set out timelines for further work on it.

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## Climate action trumps Trump



By Laura Tyson And Lenny Mendonca /Berkeley

Now is not a good time to be a climate-change denier like US President Donald Trump, given all the recent evidence that the atmosphere is warming faster than expected.

On the Friday after Thanksgiving, for example, Trump’s own government published a major report warning that unchecked climate change will impose massive economic and human costs on



the United States. And that came on the heels of an alarming study by the United Nations Intergovernmental Panel on Climate Change (IPCC) that painted a dire picture of Earth's near future.

The IPCC finds that if greenhouse-gas emissions continue at current rates, the additional costs due to coastal flooding, droughts, storms, extreme heat, and wildfires will reach an estimated \$54tn by 2040. Shockingly, the world has only about a dozen years to keep global temperatures within 1.5°C above pre-industrial levels, a goal of the 2015 Paris climate agreement. Beyond that limit, even small temperature increases will raise the risk of catastrophic events, threatening millions with poverty and displacement.

For his part, Trump refuses to believe his own administration's assessment that climate change is man-made and poses an existential threat. He has unilaterally withdrawn the US from the Paris climate agreement, leaving the country standing completely alone on the issue (though Brazil under incoming far-right President Jair Bolsonaro could follow suit). And he has dismantled environmental regulations and strengthened subsidies to boost the US fossil-fuel industry.

Yet despite federal opposition to climate-change mitigation, cities and states are responding. Governors of states representing 40% of the US population and 46% of US GDP have committed to implementing the Paris agreement. Through the America's Pledge project, cities, states, and businesses accounting for over 35% of US carbon-dioxide emissions are adopting measures to cut them. State and local agencies are introducing new incentives and policies to encourage the use of renewable energy. A multistate taskforce has committed to putting a minimum of 3.3 million zero-emission vehicles on the road by 2025. And several states are preparing lawsuits to challenge the Trump administration's plans to roll back regulations on emissions from power plants and vehicles. Both the law and the facts favour the states.

State governments are also developing climate-adaptation plans. California, for example, is exploring ways to improve



the health of its forests so that they will be more resilient to wildfires – timely, since scientists predict that the state’s wildfires could be five times worse by mid-century, given base-case temperature rise simulations. And the California Coastal Commission is even considering a massive “managed retreat” plan to move residents away from the shoreline. Both the San Francisco Bay Area and Boston are strengthening natural barriers to absorb and disperse storm surges. Florida is preparing communities for hurricanes and rising sea levels through public-private partnerships across county lines. And with extreme weather threatening crops and livestock, the Iowa Farmers Union is lobbying for national measures to help farmers switch to more sustainable sources of power.

In the private sector, business leaders representing 20 economic sectors and upwards of \$1.3tn in revenue have publicly affirmed their commitment to combating climate change. A broad range of companies have joined the Climate Leadership Council and endorsed a carbon tax and dividend plan. Since 2014, the number of firms pricing carbon into their internal risk assessments has increased eightfold. And now, more than 90 large US companies have set, or have committed to setting, emissions-reduction targets consistent with the Paris accord, with over half of them reporting gains in competitiveness as a result.

Investors, too, are pushing for action on climate change. Globally, more than \$22.8tn – one-quarter of all funds under professional management – has been channelled into sustainable investment. And with climate change already posing a threat to around \$4tn worth of financial assets, the Financial Stability Board has created a task force to encourage more companies to disclose climate-related risks.

In recent years, the US has actually outperformed most other industrialised countries in reducing its CO<sub>2</sub> emissions. But that is largely due to its natural-gas boom, and the US is still the world’s second-largest per capita emitter. At the global level, CO<sub>2</sub> emissions increased in 2017 after three

years of stability and are headed to a record high in 2018. In most countries and regions, the Paris agreement's pledges, which already are insufficient to keep the increase in global temperatures below the 1.5°C threshold, are not being fulfilled.

According to the IPCC, to stay within this limit would require a reduction of human-caused net CO<sub>2</sub> emissions by 45% from 2010 levels by 2030, and by 100% by 2050. This is "possible within the laws of chemistry and physics," notes Jim Skea of the IPCC, "but doing so would require unprecedented changes." For example, emissions from industry would need to fall by 75-90% by 2050, while the share of renewable energies in the electricity mix would have to increase to 67%, from around 20% today.

Fortunately, innovation, investor pressure, the growth of green finance, and falling renewable-energy prices all give cause for guarded optimism. Solar power is already the cheapest form of energy for new electricity capacity in the US and around the world, and it is half the price of fossil fuels in some emerging-market economies. By 2020, the cost of renewables already in commercial use is expected to fall within or below the cost range for fossil fuels. Ongoing innovations in electric-vehicle and jet-engine technologies will further reduce carbon emissions from transportation – with today's technology, an electric vehicle has half the carbon emissions of a fossil-fuel-based vehicle over its lifetime. And other innovations like "regenerative organic agriculture" are reversing environmental damage through natural processes.

In addition to reforestation and new carbon-capture technologies, carbon pricing has an essential role to play in reaching the IPCC's threshold target. Yet, despite a broad consensus among economists that carbon pricing is the most efficient and effective way to reduce emissions, it faces huge political obstacles. In the US, cap-and-trade and other carbon-pricing tactics remain confined to California and a few other coastal states. Worldwide, the 71 countries and regions

that have introduced a carbon price account for only around 20% of total emissions.

At a recent climate summit in California, former US vice-president Al Gore argued that we can combat climate change with both old and new technologies, and that we must do so, because it poses an existential threat to us all. Whether we will, however, depends on the behaviour of political and business leaders in the US and around the world. In the absence of federal leadership, American states, cities, businesses, and citizens are rising to the challenge. – Project Syndicate

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## **Philippines edges nearer to China energy deal**



Philippines edges nearer to China energy deal China and the Philippines moved closer to a controversial deal on oil and gas development in the South China Sea yesterday in the latest sign of a deepening rapprochement between the two. As President Xi Jinping arrived in the Philippines for the first state visit by a Chinese leader in 13 years, a long discussed bilateral understanding to unlock rich offshore deposits was signed between the two countries. Relations between Beijing and Manila had frayed because of a longstanding territorial dispute in the South China sea, but since becoming president in 2016 Rodrigo Duterte has tilted the Philippines away from the US, its additional ally, and towards China.

Yesterday Mr Duterte described Mr Xi's visit as "a landmark moment", adding: "We have turned a new page and we l I are ready to write a new chapter of openness and co-operation." But the framework oil and gas agreement was roundly condemned by Mr Duterte's political opponents. Opposition senators Antonio Trillanes IV and Francis Pangilinan urged Mr Duterte not to

sign an agreement with China or any other country that “diminishes the Philippines’ exclusive ‘[The draft deal] reverses our historic victory at The Hague and signs away Philippine sovereignty’ rights”. Doing so, they said, would violate the country’s constitution. In 2016 an international tribunal in The Hague ruled in the Philippines’ favour in its maritime dispute with China over what Manila calls the West Philippine Sea. Mr Trillanes yesterday circulated what he said was a Chinese draft of the deal, seen by the Financial Times, which proposed equal sharing of the proceeds from joint exploration and “friendly consultations” to resolve disputes. The FT could not independently verify the document’s authenticity. “It is preposterous and treacherous;” said Risa Hontiveros, another opposition senator. “It reverses our historic victory at The Hague and signs away Philippine sovereignty in the West Philippine Sea.” Both Mr Xi and Mr Duterte were keen to play down the issue. “China and the Philippines have a lot of common interest in the South China Sea,” Mr Xi said, adding that the two sides would “continue to manage contentious issues and promote maritime co-operation”. Mr Duterte spoke of “deepening trust” and said he was “pleased with the current positive momentum of the Philippines-China relations”. The area of the South China Sea off the Philippines’ Palawan island is thought to contain some of the region’s richest energy deposits, but the country has until now been unable to explore it because of pressure from China.