

# Opec expects weaker demand for its crude next year as rivals surge



Bloomberg/London

Opec is under intense pressure right now from consumers to ease prices by pumping more crude, but for 2019 it sees a more doubtful picture.

The group cut its estimate for global demand for its crude next year due to weakening economic growth and higher output from rivals, notably US shale drillers. The world will need almost 900,000 fewer barrels from the group each day in 2019 – equivalent to Libya's average output this year.

The weaker outlook comes as pressure is increasing on the Organization of Petroleum Exporting Countries and its allies to pump more to offset the impact of looming US sanctions on Iran and Venezuela's collapsing oil industry. In addition to tweets from President Donald Trump demanding action, Opec secretary-general Mohammad Barkindo said yesterday that India has written to the group expressing its discomfort with the

current market. "There is no cause for alarm," Barkindo said at the Oil and Money conference in London. Opec and its allies "are ready and willing to continue to make sure that the market remains well supplied."

The group's daily production rose by 132,000 barrels in September to 32.76mn. While Iran's output fell by 150,000 bpd and Venezuela lost 42,000 bpd, Saudi Arabia and Libya more than offset the decline.

Still, Opec's monthly oil market report provided some reasons to question the sustainability of the rally in crude futures to four-year highs last week.

The group reduced its estimates for the expansion in global consumption in 2018 and 2019, citing slowing economic activity in emerging markets. Demand growth of 1.54mn bpd this year will slow to 1.36mn next year. At the same time, it added 200,000 bpd to its estimate for non-Opec supply this year as the US, Canada, Kazakhstan and Brazil grow faster than expected.

Stockpiles of crude and refined products in industrialised countries rose by 14.2mn barrels in August, a second consecutive monthly increase. The outlook for supply and demand in 2019 indicates that inventories could continue to rise, Barkindo said.

Oil prices could fall next year as the "fear factor" that's currently gripping the market subsides, Ian Taylor, chairman of the world's largest independent oil trader Vitol Group, said in an interview with Bloomberg television on Wednesday.

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## **Next UK Fracer Shrugs Off**

# Shutdown Risk Seeing Need for Gas (Friday, 12 October 2018)



The head of the corporate set to drill Britain's first fracking effectively in a decade shrugs off the danger that protesters and authorities's foremost opposition will shut down his undertaking earlier than it will possibly begin.

Francis Egan, the CEO of Cuadrilla Resources, is poised to start hydraulic fracturing inside days at a effectively in northwest England. No matter what's determined by courts or politicians weighing the problems, Egan stated the UK's rising wants for pure fuel will stay a distinguished issue within the debate.

While the ruling Conservative Party has backed fracking, the Labour opposition stated it can ban it if it takes energy. And Labour's ascent is more and more attainable given the delicate majority the federal government is sustaining forward of knife-edge votes deliberate on Britain's plan to depart the European Union.

"Brexit or no Brexit, having cheap homegrown manufacturing of your power is an effective factor," Egan stated. "Governments

come, and governments go. But power demand isn't going anyplace and fuel provide is continuous to lower. Fundamentally will probably be a political selection whether or not you wish to supply your fuel from Lancashire or Russia."

## **Earthquakes**

The UK shale business was stopped in its tracks in 2011 after fracing by Cuadrilla prompted minor earthquakes at its northwest England web site. The drilling is a magnet for indignant protests amid claims that it'll irreparably hurt the surroundings and maintain the nation wedded to polluting fossil fuels. Proponents say that Britain's untapped shale fuel reserves might make the nation's home power provide safe for years to return.

"What's typically both forgotten or intentionally sidelined is that we are going to be utilizing fuel," Egan stated. "There is not any situation that any credible power forecaster that claims we received't be utilizing fuel for a lot of a long time to return."

Cuadrilla has permission to drill and frac 4 wells at its Lancashire web site. It will start fracing the primary of two horizontal shale fuel exploration wells by Friday on the earliest. The firm will then take three months to extract the primary move of fuel earlier than testing its viability. It's unlikely the location can be commercially productive till 2021, Egan stated.

Fracing entails pumping fluid and sand-like particles into wells below excessive stress that breaks aside underground rock formations liberating petroleum deposits trapped in troublesome to succeed in reservoirs. There have been aspirations for the UK to emulate the U.S. shale increase, however the business stays small and unproductive.

It's one of many few applied sciences that would sluggish and

even reverse the sharp declines in oil and fuel manufacturing from the North Sea as typical deposits are pumped dry. Britain prospered within the 1980s and 1990s with wealth tapped by the oil business, however revenue has shrunk since manufacturing peaked.

Natural fuel can also be in demand. Britain has been working to restrict fossil gas emissions to rein in local weather change, re-positioning its power sources away from coal crops and towards cleaner sources akin to fuel, which at the moment makes up about 42% of the nation's power combine.

"It is a fossil gas, nevertheless it has the bottom emissions of fossil fuels and our view is it might be higher to develop this right here the place you'll be able to regulate and management it than simply shut your eyes and fake nothing is going on as you ship it throughout Europe from Russia," Egan stated.

Protesters are nonetheless making themselves heard, completely stationed outdoors the Lancashire web site the place three males have been arrested and later jailed for so long as 16 months for public nuisance offenses.

Lawmakers aren't backing off both – Labour power spokeswoman Rebecca Long-Bailey has pledged to ban fracking ought to her celebration win an election. There's disquiet in regards to the follow within the Conservative ranks over plans to streamline the appliance course of.

In a final gasp try to dam Cuadrilla from fracking, a protester filed for an injunction on the UK High Court. Cuadrilla can't do a factor till a choose decides on Thursday whether or not the authorized problem has any...

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# Trump is rerouting the world's oil tankers



President Donald Trump is redirecting global oil flows.

West African and Latin American producers are sending ever-growing volumes of crude to China. America's exports to the Asian country have slumped in favor of its neighbors. There's an urgent global need to find replacement barrels for Iran's, whose exports might just collapse next month.

The thing that connects the shifting flows is Trump's foreign policy. China's slumping purchases of American crude – and its extra buying from elsewhere – have coincided with a trade war between the U.S. and the Asian country. Likewise, reimposed sanctions on Iran, which start Nov. 4, have increased the need for the type of heavy, sour crude that the Persian Gulf state sells.

"If you combine the impact of U.S. sanctions on Iran and the U.S. trade war with China, it is Trump's foreign policy which is reshaping oil flows," said Olivier Jakob, managing director of consultancy Petromatrix. "The U.S. is becoming a great

energy power and they will use that, we are starting to see the implementation of that in different parts of the energy scene, part of that is being seen today in the oil flows.”

Oil markets are also grappling with record U.S. output, fueled by shale production, and America’s removal in late 2015 of longstanding crude-export limits. Those shipments – just a few hundred thousand barrels a day a few years ago – now consistently top an average of 2 million barrels a day each month. American crude increasingly flows to markets in Asia, Europe and Latin America, data from the U.S. Energy Information Administration show.

## **October 16, 2018**

But there have been recent changes in precisely where those barrels are going. China, the world’s largest energy consumer, in August didn’t import any U.S. crude for the first time since September 2016, according to the most recent data from the U.S. Census Bureau. That compares with almost 12 million barrels in July, when China was the second-largest recipient.

Shipments to South Korea soared to a record 267,000 barrels a day in August – a 313 percent year-on-year increase, according to Bloomberg calculations from Census data. Volumes to Japan and India rose by 198 percent and 165 percent, respectively. Exports to the U.K., Italy and the Netherlands have also surged this year.

“The pattern of trade does look as though it’s going to ebb away from a focus on China to other Asian countries, and Europe,” said Caroline Bain, chief commodities economist at Capital Economics.

China is also increasingly turning to other regions. Colombian exports to the Asian nation rose fivefold in September, while Brazilian shipments hit their highest level this year. Chinese refiners bought 1.71 million barrels of crude a day from West

Africa for October loading, the most since at least August 2011.

It's not yet clear to what extent, if any, China will curb shipments of Iranian crude due to U.S. sanctions. However, buyers in India, Japan and South Korea are reducing purchases from the Persian Gulf state. Saudi Crown Prince Mohammed Bin Salman said that the kingdom and other OPEC producers are making up for lost supply from Iran.

The demand for replacement crudes is apparent. Exports from Oman last month rose to their highest levels this year on healthy demand from China, Bloomberg tanker-tracking showed. Kuwait is directing more flows to Asia, while its shipments to the U.S. by late September all but dried up – the first time that's happened since the Gulf War of 1990-91.

The curbs on Iran are having an effect on oil prices, with global benchmark Brent trading now trading near its highest level in four years. Oman was the talk of one of the oil market's biggest gatherings last month, as its crude surged past \$90 a barrel. Supertankers, which often benefit when trade flows are dislocated, are earning the most since early 2017.

Flows from Iran could drop by 2 million barrels a day, to below 1 million barrels day in November and possibly December, Energy Aspects Ltd. said in a report dated Oct. 1.

Whether it's the need he's created for replacement supplies from Iran, or other actions by the U.S. president, Trump's policies are now having a direct impact on where oil is flowing, said Eugene Lindell, an analyst at JBC Energy in Vienna.

"What you can say beyond doubt is that it's creating lots of exotic trade flows that hadn't been in the market before," he said. "It's been a major influence that has forced a change in trade flows."



– Bloomberg contributors: Sheela Tobben, Lucia Kassai, Debjit Chakraborty, Dhvani Pandya, Julian Lee, Sherry Su, Christopher Sell and Helen Robertson.

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## **Qatar Petroleum announces a 5-year LPG supply agreement with China's Oriental Energy**



Qatar Petroleum has announced the signing of a sale and purchase agreement to directly supply China with 600,000 metric tons of Liquefied Petroleum Gas (LPG) per year for a period of five years.

The long-term agreement was signed by Qatar Petroleum for Sale of Petroleum Products Company Ltd. ("QPSPP") and Oriental Energy (Singapore), with the contract starting in January 2019.

Mr. Saad Sherida Al-Kaabi, President & CEO of Qatar Petroleum,

welcomed the signing, and said “This agreement reflects our marketing strategy for promoting direct engagement with end-users, especially in China. I would like to thank Oriental Energy for concluding this important agreement. We hope this deal will further enhance our energy relationship with China, as we place greater importance to meeting the needs of the world’s largest growing LPG market.”

Mr. Yan Jia Sheng, Vice-President of Oriental Energy Group and Managing Director of Oriental Energy (Singapore) International Trading Pte Ltd, signaled similar sentiments stating, “Through this first step, we hope to build a strong and sustainable relationship with Qatar Petroleum and to continue exploring other areas in which Qatar Petroleum and Oriental Energy can further collaborate on.”

Oriental Energy (Singapore) is a subsidiary of Oriental Energy, responsible for the procurement, trading and logistics of Oriental Energy.

Oriental Energy, China’s largest LPG player, has the largest LPG distribution network and LPG storage facilities in China. In addition, it has five major LPG importing terminals along with several petrochemical facilities.

The LPG industry continues to enjoy sustainable growth in China where LPG is used for domestic use and the growing petrochemical sector.

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## **Changing LNG market dynamics require Qatar to adjust plan:**

# Dr Ibrahim



Major changes on the supply and demand sides of the global liquefied natural gas (LNG) market require Qatar to adjust its strategy to maintain its position as the world's leading LNG supplier, according to HE Dr Ibrahim B Ibrahim, Economic Adviser at the Amiri Diwan.

Dr Ibrahim was speaking at Carnegie Mellon University in Qatar (CMU-Q) as a part of the 'Dean's Lecture Series', a forum for leaders in business and government to discuss issues that affect the future of Qatar and the wider world.

"As we develop Qatar's long-term policies for LNG, it is crucial that young people understand the issues that we face. LNG policy has an enormous impact on Qatar and I am delighted to share the challenges and opportunities with young professionals who will one day make these policies themselves," said Dr Ibrahim.

"The Dean's Lecture Series is an opportunity to speak directly to the students about issues that are crucial to Qatar," he said yesterday.

Dr Ibrahim noted that the LNG sector faced challenges on the supply side, including the development of the shale gas

industry sector in the US, the expansion of LNG supply from Australia, and the expected ascendance of the LNG positions of Russia and African countries.

On the demand side, there is expected expansion of gas consumption in large economies such as China, India and Brazil.

Dr Ibrahim suggested that Qatar should adhere to the pillars of its LNG strategy to weather these challenges. These encompass a fully integrated production and delivery model, cost optimisation in the LNG delivery model, and the leveraging of the Qatargas brand, which is associated with “reliability, flexibility, loyalty, and a strict compliance” to contractual obligations.

While the development of shale gas would have a negative impact on LNG prices in the short-term, Dr Ibrahim argued that the impact could be positive in the long-term, particularly for large gas suppliers such as Qatar.

In other words, the development of shale gas would contribute to lengthening the duration of gas as a viable source of energy.

Qatar should also intensify the development of its gas resources, Dr Ibrahim said, noting that the country has recently lifted the moratorium on expanding production from the North Field, and announced its intention to increase its LNG production capacity by 32mn tonnes. This announcement is expected to affect future projects from marginal suppliers, and the resulting capacity would allow Qatar to maintain its position as a leading world LNG exporter for years to come.

Michael Trick, dean, CMU-Q, noted the educational value of Dr Ibrahim’s remarks: “Our students study science, business and technology, fields that all intersect with the oil and gas sector. His Excellency’s perspective will illustrate to them how the concepts they are studying are managed from a policy standpoint. We very much appreciate HE Dr Ibrahim’s dedication to education and cultivating human capital.”

Carnegie Mellon Qatar offers undergraduate programs in biological sciences, business administration, computational

biology, computer science, and information systems. Graduates from CMU-Q are making a deep impact in Qatar and around the world, including within Qatar's LNG sector.

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## Can Eurozone reform help contain Trump?



By Jochen Andritzky/Brussels

US President Donald Trump is using economic warfare to pursue his foreign-policy objectives. In August, his administration announced that it would double tariffs on steel and aluminium imports from Turkey, in order to pressure the Turkish

authorities to release an American pastor detained for two years on espionage charges. At the beginning of next month, the United States will also ratchet up unilateral sanctions against Iran.

The Trump administration knows that a key source of US economic leverage is the dollar's role as the world's dominant reserve currency. Countering America's disproportionate power to destabilise the global economy thus requires reducing the share of international trade conducted in dollars. Can the euro serve as a credible alternative?

The euro is the world's second-leading currency, but it still lags far behind the US dollar. Two-thirds of all loans issued by local banks in foreign currencies are denominated in dollars, compared to just 20% in euros. Similar proportions apply to global foreign-exchange reserves.

European Commission President Jean-Claude Juncker is eager to change this. Last month, he declared it "absurd" that "Europe pays for 80% of its energy import bill – worth €300bn a year – in US dollars," even though only about 2% of the EU's energy imports come from the US. He then called for the euro to become "the instrument of a new, more sovereign Europe," and promised to "present initiatives to strengthen the international role of the euro."

Juncker is not alone among European leaders in recognising how powerful a tool the single currency can be when it comes to projecting power. German Foreign Minister Heiko Maas has proposed that the European Union establish its own international payments system.

But these proposals, while ambitious, may overlook what is really needed to elevate the euro's status. If the euro's role in international trade increased, so would foreign companies' holdings of euro-denominated assets and the total volume of euro-denominated loans. More global trade in euros could lead foreign banking systems to become heavily exposed to the currency.

That means that, in the event of a crisis, the European Central Bank would have to take action, much as the US Federal

Reserve has done in the past. During the 2008 global financial crisis, the Fed served as de facto global lender of last resort, agreeing to unsecured swap lines not only with reserve-currency central banks like the ECB and the Swiss National Bank, but also with emerging economies like Mexico and Brazil. The goal was to stabilise the global economy, but the liquidity also helped to prevent domestic disturbances from foreign sales of dollar assets and to stop foreign banks from scrambling to buy dollars.

The ECB adopted a much more restrictive approach. In late 2008, it began to provide euros to the central banks of Hungary, Latvia, and Poland, but required them to put up euro-denominated securities as collateral. The ECB wanted to guard its balance sheet against unsecured exposure to Hungarian forint or Polish z?oty. But these countries held too few eligible securities to obtain enough euros under the ECB's initial terms. It took another year for the ECB, under pressure from Austria and other countries, to establish proper swap lines against foreign-currency collateral with the Hungarian and Polish central banks.

Even now, the ECB will provide euro liquidity only to countries considered systemically relevant for the eurozone. This risk-averse approach contrasts with that of the Fed and, more tellingly, with that of the People's Bank of China, which in recent years has established an extensive network of swap lines to promote the renminbi's use in trade – and thus its standing as an international currency.

If Juncker's vision is to be realised, the ECB will have to abandon this parochial mindset and adopt a Fed-style role as international lender of last resort. Yet it remains unclear whether the ECB actually would be willing to leave part of its balance sheet exposed to the fate of non-eurozone countries.

The ECB has good reason to be cautious: it lacks a political counterpart akin to the Fed's US Treasury Secretary. With no eurozone finance minister with whom to coordinate in times of crisis, a decision by the ECB to help third countries – even EU countries – could be met with strong resistance. The ECB's

reluctance to establish a swap line with Hungary may be a case in point: Hungary was already distancing itself from the EU. Eventually, the ECB did resolve to do “whatever it takes” to save the euro. But if European leaders want to advance Juncker’s vision of strengthening EU sovereignty by boosting the euro’s international role, they cannot rely on the ECB to repeat that approach, without proper institutional support. Instead, eurozone leaders should complete the reforms of the currency union’s architecture and provide a political counterpart to the ECB that would support centralised monetary policy. This is the best initial response to Trump’s economic attacks. Anything else would be putting the cart before the horse – yet again. – Project Syndicate

1 Jochen Andritzky, a former secretary-general of the German Council of Economic Experts, is a visiting fellow at Bruegel, a Brussels-based think tank.

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## **Egypt to receive first Israeli gas in March**





Egypt will begin importing natural gas from Israel under a \$15 billion deal as early as March if an undersea pipeline connecting the Mediterranean neighbors is found to be in good condition, moving the country closer to its goal of becoming an energy-exporting hub.

Mohammad Shoeib, chief executive officer of East Gas Co., a major Egyptian partner in the pipeline, said supplies would begin at 100 million standard cubic feet of gas per day in the first quarter of 2019 and gradually rise to a maximum of 700 million scf a day.

"We expect the pipeline is in good condition," he told Bloomberg in an interview. "We aim to reach the pipeline's maximum flow rate within three years."

East Gas and the companies developing Israel's largest natural gas fields agreed last month to buy 39 percent of the East Mediterranean Gas Co., which owns the pipeline connecting southern Israel to Egypt's Sinai peninsula, clearing the main legal obstacle to the 10-year export contract signed in February. East Gas separately made a deal to buy a further 9 percent from MGPC.

The EMG pipeline was built to export Egyptian gas to Israel, but has been idle for about six years.

The partners expect to begin testing the pipeline soon before modifying facilities to reverse the flow, Shoeib said in his first public comments since the deal was announced, adding that the procedures were expected to take up to four months. Once the gas has been flowing for 30 days, the deal will close, he said.

Egypt halted supplies to Israel in 2012 due to a domestic gas shortage and repeated attacks by Islamist militants on a connecting overland stretch of pipeline in the Sinai. It was because of those stoppages that Egypt was embroiled in arbitration cases with some of EMG's owners, which had threatened to delay export plans.

Delek, Noble and Egypt Said to Put Final Touches on Gas Deal Those issues have been all but resolved because East Gas and its partners bought out the litigants, but northern Sinai remains unstable. The army embarked on a months-long campaign this year to root out militants who killed more than 300 people at a mosque in November.

"We are not worried about the security issue," said Shoeib, who headed Egypt's state gas company EGAS when the country decided to halt its exports. "We're confident that the army and police have secured the area well."

Shoeib, whose East Gas Co. also owns and operates a separate pipeline through Jordan, said that link could be used as a backup in case of problems with the EMG infrastructure or to pump additional quantities if needed.

Egypt announced at the end of last month it had once more become self-sufficient in gas due to a six-fold increase in production at its own giant Zohr gas field. Egypt also has idle liquefaction plants that allow it to export any of its own surplus gas or re-export gas piped in from Israel or

elsewhere in the region. For Israel, using existing infrastructure to export via Egypt saves it the cost of building its own facilities.

“It’s a win-win situation,” Shoeib said. “It also sends the message to international investors that Egypt is able to settle disputes and create a good investment climate.”

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## **Unleashing the potential of Euro-Med cooperation**

Ten years ago, the leaders of the coastal states of the Mediterranean and the EU met in Paris to take the next step in regional cooperation, building on the Barcelona Process launched over a decade earlier. This led to the Union for the Mediterranean.

Ten years on, there is an even greater need for Mediterranean cooperation. Our region is going through a long and difficult transition. Competition among global and regional powerhouses and the absence of effective mechanisms for dialogue and cooperation can only worsen today’s conflicts and risk sparking new ones. A more cooperative dynamic is the only way to put an end to the ongoing wars, and create jobs and sustainable growth for our peoples.

This region rich in history, culture and diversity has been the cradle of vibrant civilizations and cultures that gave birth to the alphabet, to democracy, philosophy, as well as the world’s first great libraries and academies. With its wealth of natural and human resources, the economic weight of the region cannot be understated. In recent years, however, this region has had to face major challenges that undermine

the realization of its tremendous potential.

Today we are convening the ministers of Foreign Affairs of the Union for the Mediterranean in Barcelona for the Third Regional Forum. The UfM is a unique space for dialogue and the only one where all countries of the region are able to focus on their shared interest in sustainable security and human development, through practical cooperation on common projects.

Our region's unique diversity is part of our richness: an opportunity more than a challenge. Beyond ethnic, cultural and religious divides, there is much more that unites us than divides us. We all want to counter the threat of terrorism and extremism. We all want to find political solutions to crises in Syria, Yemen, Libya and elsewhere in the region that have caused too much suffering. We are determined to solve the Palestinian-Israeli conflict on the basis of the two-state solution as the only path to comprehensive peace and security. And we all want to manage migration in a more sustainable and humane way, both for those on the move and for their host communities. We share an interest in investing in our young people, with education and good jobs for all. National policies alone are not sufficient. A coordinated regional approach is essential.

Our primary objective is to put the people of the region at the center of our cooperation. We are working together to match the aspirations of young people with the opportunities they deserve. Extremism, poverty and conflict not only ruin lives today, but have dire consequences for generations to come. We will not find all the solutions, but we must be bold in exploring new ways of tackling these common challenges, together.

It is in this complex context that the UfM has been working and engaging substantially in a wide range of sectors. We have created Euro-Mediterranean universities to educate a new generation with a unique Euro-Mediterranean vision. We have

given opportunities and training to over 100,000 young people and supported the development of over 800 small and medium enterprises. Ministers have met to work in areas as varied as mobility, women empowerment, climate action, renewable energies, environmental protection, resource management, regional connectivity and urban development. The structure and the system of governance of the UfM, with its co-presidency currently held by Jordan and the EU, has created a sense of shared responsibility among the different partners. The commitment and dedication of the UfM Secretariat to the cause and the mission of the organization has been crucial. With its action-oriented approach, the UfM has been delivering on concrete initiatives with a tangible impact on the ground.

Leveraging its diversity of experiences, capitalizing on the continuous political support from member states and pooling its human capital, we are confident that the UfM will proceed pragmatically with its positive agenda. We are realistic about the difficult state of our region, but this is no reason to give up and accept chaos. Now more than ever, on the conduct of each depends the fate of all.

Federica Mogherini is the European Union's high representative for Foreign Affairs and Security Policy and vice president of the European Commission. Ayman Safadi is the Foreign Affairs and Expatriates minister of the Hashemite Kingdom of Jordan. Nasser Kemal is the secretary-general of the UfM Secretariat.

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## **U.S. duo win Nobel for climate change work**



STOCKHOLM: Two Americans won the Nobel Prize in economics Monday, one for studying the economics of climate change and the other for showing how to help foster the innovation needed to solve such a problem. William Nordhaus of Yale University and Paul Romer of New York University will share the 9 million-kronor (\$1.01 million) award, the Royal Swedish Academy of Sciences said. Nordhaus has called for the world to combat climate change by imposing a universal tax on carbon.

Carbon dioxide, which is emitted when fossil fuels are burned, is a heat-trapping “greenhouse gas” blamed for global warming, and a tax would make polluters pay for the costs imposed on society.

By using a tax rather than government edicts to slash emissions, the policy encourages companies to find innovative ways to reduce pollution.

Romer has studied the way innovation drives prosperity and has looked at ways to encourage it.

He told a news conference Monday his research had given him

hope that people can solve even a problem as difficult as a warming planet.

“Many people think that dealing with protecting the environment will be so costly and so hard that they just want to ignore the problem. They want to deny it exists,” Romer said.

“I hope the prize today could help everyone see humans are capable of amazing accomplishments when we set about trying to do something.”

While the two academics worked separately, their research dovetails on an issue that has become pressing. The question of climate change remains politically sensitive, especially in big oil-producing countries like the United States, which U.S. President Donald Trump has pulled out of the Paris accord on fighting climate change.

“It’s an ingenious pairing,” said David Warsh, author of the 2007 book “Knowledge and the Wealth of Nations” about the award.

“Nordhaus has been concerned all along with repairing the damage” to the global environment.

“Romer has been writing about the means at your disposal” to attack such a technological challenge.

Per Stromberg, head of the Nobel economics prize committee, said the award is “about the long-run future of the world economy.”

The prize comes just a day after an international panel of scientists warned that preventing an extra single degree of global warming could make a life-or-death difference in the next few decades for multitudes of people and ecosystems.

The wide-ranging report from the Intergovernmental Panel on Climate Change which has itself won a Nobel prize cited

Nordhaus in its research. It detailed how Earth's weather, health and ecosystems would be in better shape if world leaders limited human-caused warming to just a half degree Celsius from now, instead of the globally agreed-upon goal of 1 degree Celsius.

Nordhaus has argued that climate change should be considered a "global public good," like public health and international trade, and regulated accordingly, but not through a command-and-control approach. Instead, by agreeing on a global price for burning carbon that reflects its whole cost, this primary cause of rising temperatures could be traded and taxed, putting market forces to work on the problem.

Many economists have since endorsed the concept of taxing carbon and using this financial lever to influence societal behavior.

But adopting the regulatory frameworks on a global scale has been a challenge, and the world's political leaders are failing to meet it, the head of the United Nations said last month. While many developed economies have adopted a carbon tax, the United States has not.

U.N. Secretary-General Antonio Guterres bluntly told leaders in New York last month that unless current emission trends for greenhouse gases are reversed by 2020, it will be impossible to reach the goals of the Paris climate accords.

The U.N. chief challenged governments to end fossil fuel subsidies, help shift toward renewable energy and back a price for carbon emissions that reflects their actual cost.

He cited, for example, that climate-related disasters cost the world \$320 billion last year, a figure likely to grow with increased warming.

Romer's work suggests that to achieve the innovation needed to meet the climate change goals, regulation is needed. His



research found that unregulated economies will produce technological change, but insufficiently provide research and development; this can be addressed by government interventions such as R&D subsidies.

The economics prize is the last of the Nobels to be announced this year. Last year's prize went to American Richard Thaler for studying how human irrationality affects economic theory.

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## **Natural gas here to stay beyond energy transition, Big Oil says**



LONDON (Reuters) – Energy companies are betting demand for

natural gas will rise at break-neck pace for decades, undermining warnings that tackling climate change would require a rapid switch to renewable energy.

Top oil companies including Royal Dutch Shell (RDSA.AS), BP (BP.L) and Total (TOTF.PA) are adapting with growing urgency to the need to develop cleaner energy sources, investing more and more in solar and wind power, electric vehicle technology and even forestation.

Still, they see oil, and especially natural gas, the least polluting fossil fuel, playing a major role throughout the decades of transition and beyond as demand for electricity and plastics grows.

"Shell's core business is, and will be for the foreseeable future, very much in oil and gas... and particularly in natural gas," Shell Chief Executive Officer Ben van Beurden said in a speech at the Oil & Money conference.

By 2035, Shell expects global gas demand to grow annually by 2 percent, twice the pace of worldwide energy demand, van Beurden said.

The United Nations said in a report earlier this week that limiting the Earth's temperature rise to 1.5 degrees Celsius means making rapid, unprecedented changes in the way people use energy.

That will include the tripling of renewable energy to supply 70-85 percent of electricity by 2050.

Technology to capture and store carbon emissions would further reduce the share of gas-fired power to 8 percent, the report said, while making no mention of oil in this context.

It is unclear how the global economy will reach such goals.

Natural gas is today around 22 percent in the global energy mix. But many energy company executives prefer to see it as

part of the shift to low-carbon economies.

Qatar, one of the world's largest gas suppliers, is set to grow its liquefied natural gas (LNG) capacity by over 40 percent by the next decade to around 110 million tonnes per year, as demand for the super-chilled fuel is set to soar, particularly in fast-growing economies such as China and India.

Royal Dutch Shell PLC29.325  
RDSA.ASAMSTERDAM STOCK EXCHANGE  
-0.29(-1.00%)

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- RDSa.AS
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- TOTF.PA

"We believe that natural gas will continue to play a key role, not as a so-called transition fuel but rather as a destination fuel," Qatar Petroleum CEO Saad Al Kaabi said.

Shell is investing more than any other of its peers in clean energy, spending \$1 billion to \$2 billion a year on renewables and low-carbon energy. That compares with a total annual spending budget of \$25 billion-\$30 billion.

The investments “might even make people think we have gone soft on the future of oil and gas. If they did think that... they would be wrong,” van Beurden said.