# Solar, wind power are so cheap they're outgrowing subsidies



Bloomberg/San Francisco/New York

For years, wind and solar power were derided as boondoggles. They were too expensive, the argument went, to build without government handouts.

Today, renewable energy is so cheap that the handouts they once needed are disappearing.

On sun-drenched fields across Spain and Italy, developers are building solar farms without subsidies or tax-breaks, betting they can profit without them. In China, the government plans to stop financially supporting new wind farms. And in the US, developers are signing shorter sales contracts, opting to depend on competitive markets for revenue once the agreements expire.

The developments have profound implications for the push to phase out fossil fuels and slow the onset of climate change. Electricity generation and heating account for 25% of global

greenhouse gases. As wind and solar demonstrate they can compete on their own against coal- and natural gas-fired plants, the economic and political arguments in favor of carbon-free power become harder and harder to refute.

"The training wheels are off," said Joe Osha, an equity analyst at JMP Securities. "Prices have declined enough for both solar and wind that there's a path toward continued deployment in a post-subsidy world."

The reason, in short, is the subsidies worked. After decades of quotas, tax breaks and feed-in-tariffs, wind and solar have been deployed widely enough for manufacturers and developers to become increasingly efficient and drive down costs. The cost of wind power has fallen about 50% since 2010. Solar has dropped 85%. That makes them cheaper than new coal and gas plants in two-thirds of the world, according to BloombergNEF.

"Solar got cheap," said Jenny Chase, an analyst at BNEF. "It's really that simple."

Yet for all its promise, clean energy still has a long way to go before fully usurping coal and gas. Wind and solar still only accounted for about 7% of electricity generation worldwide last year, according to BNEF. And most wind and solar projects still depend on subsides. In the US, in fact, the solar industry is pushing to extend federal tax credits that are scheduled to decline over the next few years.

And then there's the issue of round-the-clock power. Solar doesn't work at night. Wind farms go idle when breezes slack. So until battery systems are cheap enough for generators to stockpile electricity for hours at a time, renewables can't constantly provide power like coal and gas.

Perhaps nowhere is the push toward subsidy-free clean energy clearer than on arid expanses of Southern Europe. About 750 megawatts of subsidy-free clean-energy projects are expected to connect to the grid in 2019 alone, across Spain, Italy, Portugal and elsewhere — enough to power about 333,000 households, according to Pietro Radoia, an analyst at BNEF.

"The cheapest way of producing electricity in Spain is the sun," Jose Dominguez Abascal, the nation's secretary of state

for energy, said last year.

The road to subsidy-free renewables wasn't easy for Spain. A decade ago, it offered developers a lavish feed-in tariff, prompting an uncontrolled boom that strained the national treasury. Spain slashed incentives and now has a hands-off energy policy.

China, the world's largest renewable energy market, also propped up wind and solar for years. Now it's shifting toward a more market-driven approach. Earlier this year, officials announced a plan to develop 20.8 gigawatts of renewable projects that can only profit from selling electricity into grids at prices equal to or less than coal. Plus, most wind farms built on land — as opposed to in the ocean — won't be eligible for subsidies after 2021.

The picture is less clear in the US. Nearly every American wind and solar project remains eligible for subsidies through federal tax breaks, which are scheduled to decrease or phase out altogether over the next few years. Plus, dozens of states have renewable-energy quotas, forcing utilities to buy a certain amount of wind and solar.

Still, they're starting to compete on their own. The proof is in the sales agreements. For years, clean-energy developers needed 20- or 25-year power-purchase contracts to ensure a return on investment. Now they're building wind and solar farms with agreements for 15 years or less — with the expectation that projects will compete against gas- and coalfired plants in wholesale markets after the deals conclude.

### Talks on track for Qatar-

### Germany LNG project: envoy



Preparations are ongoing for the arrival of a large trade delegation led by the Prime Minister of the Federal State of Lower Saxony, Stephan Weil, who is scheduled to visit Qatar by November-end, German ambassador Hans-Udo Muzel has said.

Muzel said Lower Saxony hosts several ports where a proposed LNG distribution terminal would be located.

He said discussions with Qatar Petroleum (QP) are underway and that "there are ports in Germany that are tendering for the project."

"Lower Saxony is where the ports are located and the home of Volkswagen. It is a very commercially active business state with ports on the North Sea coast, as well as the food chamber of Germany with a lot of agriculture-related and food processing industries. In this context, we are looking forward to have continued talks on the LNG terminal and other projects," Muzel told reporters on the sidelines of a recent meeting.

In an earlier statement to *Gulf Times*, Muzel said Germany is looking to source some of its liquefied natural gas (LNG) needs from Qatar as part of the Western European country's energy supply diversification plans.

"Germany is also actively looking at diversifying its energy supply and considering options to set up an LNG terminal. In this context, German companies are, of course, talking to Qatar Petroleum concerning the supply of LNG to Germany in the near future," the ambassador said.

Quoting HE the Minister of State for Energy Affairs and QP president and CEO Saad Sherida al-Kaabi's interview with business daily Handelsblatt in Berlin last year, Reuters reported that QP was in talks with German energy firms Uniper and RWE for the establishment of a local LNG terminal.

Reuters also reported an RWE spokesperson saying that discussions with QP were not about a shareholding in a potential German LNG terminal but potential gas deliveries to Germany.

Muzel also said the German embassy in Doha is also gearing up for the visit of Deputy Minister of Economics and Energy Thomas Bareiss on November 1 for the 'Qatar IT Conference and Exhibition (2019)'.

Similarly, preparations are being made for the next official meeting of the Joint Task Force on Trade and Investment on the sidelines of the Doha Forum 2019 slated for December 14-15, the ambassador said.

"Qatar and Germany are keen to keep stronger political and economic relations," Muzel said.

Asked about the status of the €10bn pledged by His Highness the Amir Sheikh Tamim bin Hamad al-Thani during the 'Qatar-Germany Business and Investment Forum' held in September 2018 in Berlin, Muzel said some of the funds would be utilised to spur further growth in the SME sector and in promoting young entrepreneurs through private sector expertise to steer the direction of the investments.

"There are key investments in many different sectors, and Qatar's investments are very much welcome because they contribute a lot, and we have a great experience with Qatari investors," Muzel added.

# Exxon Mobil, Shell among groups picked to build 5 Pakistan LNG terminals



Pakistan has selected groups that include Exxon Mobil Corp and Royal Dutch Shell to build five liquefied natural gas (LNG) terminals as it aims to triple imports and ease gas shortages. The terminals could be in operation within two to three years, Omar Ayub Khan, Pakistan's minister of power and petroleum, said in an interview on Friday.

Pakistan is chronically short of gas for power production and to supply manufacturers such as fertilizer makers, hobbling the country's economy.

"It will make a significant dent in the gas shortage," Khan said.

The groups selected to build terminals are Tabeer Energy, a unit of Mitsubishi Corp; Exxon and Energas; Trafigura Group

and Pakistan GasPort; Shell and Engro Corp; and Gunvor Group and Fatima.

It was not immediately clear if the companies involved had made final investment decisions to proceed.

The five must submit plan details to the ministry of ports and shipping by Nov. 5 for approval, but cabinet has already approved them, Khan said.

Pakistan's two LNG terminals currently have 1.2 billion cubic feet per day of capacity, and a third expected to come on line next year will add 600 million cubic feet per day, Khan said.

The country has sought bids for a 10-year LNG supply tender for the current terminals and the results will be announced in two to three weeks, Khan said.

It was unclear what capacity the five new terminals will have, but Khan said they could collectively triple Pakistan's LNG import capacity.

The arrests this summer of two LNG industry executives by the National Accountability Bureau raised some concerns about the risks of investing in Pakistan.

But Khan said the interest of five investment groups speaks for itself.

"That is a ringing endorsement that (Pakistan's) policies are clear and transparent," he said. "It's a competitive market."

The cost of building the terminals and finding buyers for the gas will be up to the groups, and they will pay Pakistan a royalty based on volume, Khan said.

Pakistan's contribution will be funding construction of a \$2 billion north-south pipeline to distribute the gas, and storage facilities, he said.

Pakistan's fertilizer industry has coped in the past year with a steep increase in government-set natural gas prices, Sher Shah Malik, executive director of Fertilizer Manufacturers of Pakistan Advisory Council, said in an interview on Thursday.

Gas is the main ingredient in production of urea fertilizer.

Two of Pakistan's urea plants lack gas to run regularly, and one closed last year, forcing Pakistan to import fertilizer.

Since LNG is often too expensive for making fertilizer, the government should also expand domestic gas exploration before reserves are depleted, Malik said.

"We are heading for very difficult times," he said. "If nothing happens, we'll be high and dry."

Source: Reuters (Reporting by Rod Nickel in Islamabad; additional reporting by Sabina Zawadzki in London; editing by Tom Hogue and Jason Neely)

## E.ON to tackle Npower after EU clears Innogy takeover



ESSEN, Germany/BRUSSELS (Reuters) — E.ON (EONGn.DE) will move quickly to address problems at Npower, the loss-making British retail business it is taking over after European regulators approved its purchase of assets from peer Innogy (IGY.DE), the German energy group's CEO said on Tuesday.

"(Npower) is an open wound which bleeds heavily," Johannes Teyssen told journalists. "I am pretty sure that we will make statements on the matter in the course of this year."

His comments came after European Union antitrust regulators earlier cleared E.ON's purchase of Innogy's network and retail assets, paving the way for a major reshuffle in Germany's energy sector that was first unveiled in March 2018.

The approval seals the fate of Innogy, which was carved out from RWE (RWEG.DE) and listed three years ago as a separate entity, with its assets being taken over by its parent and E.ON.

Npower, one of Britain's big six energy suppliers, has been losing money for years and both Innogy and E.ON have said they would look at all options for the business, leaving room for a

sale, restructuring or winding it down.

Innogy's break up marks the biggest overhaul in Germany's power industry since the country sped up its exit from nuclear energy earlier this decade, and will turn E.ON into a networks and retail energy group with more than 50 million customers.

RWE, in turn, will become Europe's No.3 renewables player after Spain's Iberdrola (IBE.MC) and Italy's Enel (ENEI.MI) and hold a 16.7% stake in E.ON, making it the largest shareholder. RWE CEO Rolf Martin Schmitz will join E.ON's supervisory board.

#### PAINFUL CONCESSIONS

The European Commission, which oversees competition policy in the 28-member EU, approved the deal on condition E.ON sells certain businesses in Germany, the Czech Republic and Hungary.

"It is important that all Europeans and businesses can buy electricity and gas at competitive prices," EU Competition Commissioner Margrethe Vestager said in a statement, adding E.ON's commitments meant the deal would not lead to less choice or higher prices.

E.ON agreed to drop most of its customers supplied with heating electricity in Germany and to discontinue the operation of 34 electric charging stations along German autobahn highways.

It will also divest part of its retail business in Hungary as well as Innogy's retail power and gas business in the Czech Republic, which have already drawn interest from potential buyers, Teyssen said.

The disposals, which include about 2 million supply customers, will reduce E.ON's results by more than 100 million euros (\$110 million), he added.

Teyssen said he was relieved by the regulatory clearance after the Commission vetoed deals by Siemens (SIEGn.DE) and Alstom (ALSO.PA) as well as Thyssenkrupp (TKAG.DE) and Tata Steel (TISC.NS) earlier this year.

"We decided in favor of addressing the concerns and against having our way no matter what," Teyssen said. "Considering ... E.ON's outstanding development opportunities, these quite painful concessions are tolerable."

Writing by Christoph Steitz; Editing by Michelle Martin and Mark Potter

Our Standards: The Thomson Reuters Trust Principles.

# 'Saudi oil output to recover in two or three weeks after attack'



Reuters London/Dubai

Tuesday, 17 September 2019 09:35 PM

Saudi Arabia sought to calm markets yesterday after an attack on its oil facilities, with sources in the kingdom saying output was recovering much more quickly than initially forecast and could be fully back in two or three weeks.

International oil companies, fellow members of the Opec oil group and global energy policy makers had heard no updates on the impact of the weekend attack from the Saudis for 48 hours, according to sources with knowledge of the situation. And on Monday, sources briefed on state oil giant Aramco's operations had said it could take months for output to recover.

The attack knocked out half of Saudi Arabia's oil production, or 5% of global output, sending prices soaring when trading resumed on Monday.

So the new prediction of a quick return to normal output sent prices down sharply yesterday.

The kingdom is close to restoring 70% of the 5.7mn barrels per

day lost due to the attack, a top Saudi official said, adding that Aramco's output would be fully back online in the next two to three weeks.

# Half of lost Saudi oil to remain offline for a month: S&P



DUBAI: Around three million barrels per day of Saudi oil will remain offline for a month, about half the production halted by the weekend's devastating attacks on key crude facilities, S&P Platts said on Tuesday.

The report came as oil prices dipped slightly following record

gains Monday as uncertainty prevailed on global markets over when the OPEC kingpin will be able to restore lost production.

Strikes on Abqaiq — the world's largest processing plant — and the Khurais oilfield that the US has blamed on Iran have knocked out 5.7 million barrels per day (mbpd), or six percent of global production.

"At this point, it looks likely that around 3.0m bpd of Saudi Arabian crude supply will be offline for at least a month," S&P Global Platts said in a report.

The Saudi cabinet chaired by King Salman warned on Tuesday the unprecedented attacks posed a threat to global energy supply.

"The goal of the unprecedented destructive aggression... is to target primarily global energy supplies," the cabinet said in a statement.

"We urge the international community to take firmer measures to stop these flagrant aggressions," said the statement, cited by the SPA news agency.

The kingdom stressed that it was "capable of responding to the attacks", regardless of who the perpetrators were, but did not name any.

But it reiterated earlier claims that the strikes were carried out with Iranian weapons.

#### Challenging

Riyadh pumps some 9.9m bpd of which around 7.0m bpd are exported, mostly to Asian markets.

"Saudi Arabia will likely say that they can fully supply their customers, although as time goes on this may be challenging. Any indication of delays or supply tightness will lead to further price increases in the weeks/months ahead," S&P said.

The threat of a prolonged supply outage from Saudi Arabia highlights the lack of spare production capacity in the market, estimated at 2.3m bpd, most of it held by Riyadh, the energy news provider said.

Reports said Monday the kingdom was likely to restore up to 40 per cent of the lost production immediately, but experts had conflicting views on how long it will take to bring production back to pre-strike levels.

The crisis revived fears of a conflict in the tinderbox Gulf region and raised questions about the security of crude fields in the world's top exporter as well as for other producers.

London-based Capital Economics said global crude stocks, estimated at around 6.1 billion barrels, should be able to compensate for the lost output.

It said that if Saudi Arabia manages to restore full production by next week, oil prices would quickly come down to around \$60 a barrel.

But if it takes months and tensions persist, benchmark Brent crude prices could hit \$85 a barrel, it said.

#### Oil prices sink

Oil prices sank five per cent on Tuesday, reversing some of the previous day's gains as analysts predicted Saudi output would recover sooner than expected after weekend drone attacks.

In the space of several minutes in afternoon European trading, North Sea Brent crude oil for delivery in November tumbled from \$67.75 to \$65.00. It fell as low as \$64.24, before recovering somewhat.

The market was already trading in negative territory after the previous day's record gains that were fuelled by attacks on Saudi facilities which wiped out half the kingdom's crude

output.

"The markets were once again wrong-footed by the Saudi news," said Forex.com analyst Fawad Razaqzada in reaction to Tuesday's price drop.

"This time prices slumped on reports of sooner-than-expected return for oil production after the attacks.

"Although little details have emerged, speculators are evidently happy to sell now and ask questions later. And who would blame them after that big (price) gap?"

The spike in the oil price had stoked fears that costlier energy and geopolitical instability could weigh on an already slowing global economy, but a quick recovery in Saudi exports and a return to earlier price levels would alleviate those concerns.

"Arguably Monday's spike in oil was unsustainable, since oversupply concerns have been the much more dominant theme this year, but the sudden drop came earlier and quicker than expected," said Chris Beauchamp, chief market analyst at online trading firm IG.

Traders were meanwhile nervously awaiting a further response from the United States after it said Iran was likely to blame.

The crisis revived fears of a conflict in the tinderbox Gulf region and raised questions about the security of crude fields in the world's top exporter Saudi Arabia as well as other producers.

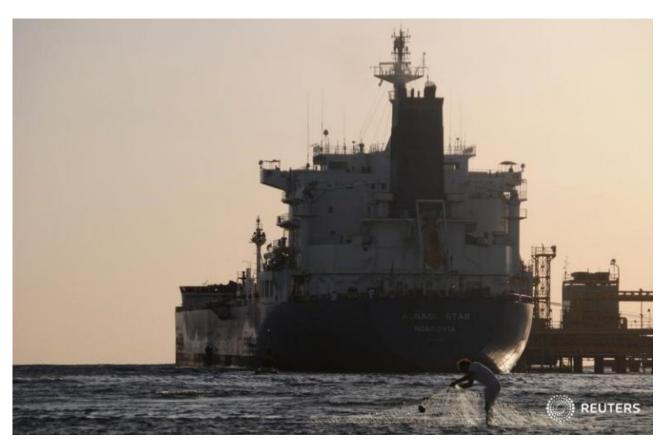
"Oil's reversal didn't do much for the global markets. The indices remain concerned over what happens next between Saudi Arabia and Iran, fears that helped to undermine sentiment," said Spreadex analyst Connor Campbell.

The attack on Saudi oil facilities also took attention away from the upcoming trade talks between China and the US, as

well as a much-anticipated policy meeting of the Federal Reserve, which is expected to cut interest rates Wednesday.

Published in Dawn, September 18th, 2019

# Oil market gripped by uncertainty over lost Saudi production



Oil markets are grappling with uncertainty over how long it will take Saudi Arabia to restore output after the devastating attacks that knocked out five per cent of global crude supply.

As state oil giant Saudi Aramco grows less optimistic that there will be a rapid recovery after the strikes that cut the nation's output by half, investors are seeking clarity on just how bad it could be. Initially, it was said significant volumes could begin to return within days, but Saudi officials later told a foreign diplomat they face "severe" disruption measured in weeks and months. Saudi Energy Minister Prince Abdulaziz bin Salman is scheduled to hold a press briefing on Tuesday evening in Jeddah.

"Today's press conference is going to be crucial — we have to wait for that really," said Olivier Jakob, managing director at consultant Petromatrix GmbH in Zug, Switzerland. "We need to have that update in order to make a proper assessment."

The worst ever sudden disruption to global oil supplies continues to reverberate as geopolitical risk premiums soar on concern over instability in the Middle East and a potential retaliation against Iran, which the U.S. has blamed for the strikes. Traders may not have fully priced in the impact of the supply losses, according to Citigroup Inc.

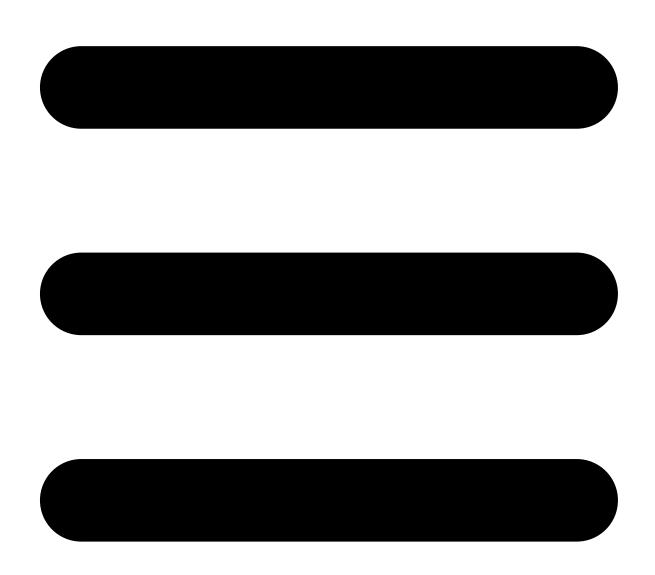
The attacks, which damaged one of the Saudis' flagship fields and a key processing complex, triggered one of the wildest bouts of trading seen in oil markets, with Brent futures rising 19 per cent in a matter of seconds at the open on Monday and ending the day up 15 per cent, their biggest single-day advance.

It was a more subdued start to trading on Tuesday, with both Brent and West Texas Intermediate futures edging lower.

Saudi Aramco lost about 5.7 million barrels a day of output on Saturday after 10 unmanned aerial vehicles struck the Abqaiq facility and the kingdom's second-largest oil field in Khurais.

While Aramco is still assessing the state of the Abqaiq site and the scope of repairs, it currently believes less than half of the plant's capacity can be restored quickly, according to people familiar with the matter, who asked not to be identified because the information isn't public.

Saudi Aramco is firing up idle offshore oil fields — part of its cushion of spare capacity — to replace some of the lost production, one person said. Customers are also being supplied using stockpiles, though some are being asked to accept different grades of crude. The kingdom has enough domestic inventories to cover about 26 days of exports, according to consultant Rystad Energy A/S.



Customers are also preparing to tap strategic reserves if needed. U.S. President Donald Trump authorized the release of oil from the U.S. Strategic Petroleum Reserve, while the

International Energy Agency, which helps coordinate industrialized countries' emergency fuel stockpiles, said it was monitoring the situation.

The disruption surpasses the loss of Kuwaiti and Iraqi petroleum output in August 1990, when Saddam Hussein invaded his neighbor. It also exceeds the loss of Iranian oil production in 1979 during the Islamic Revolution, according to the IEA.

Nevertheless, U.S Energy Secretary Rick Perry said Tuesday that the market is well-supplied and a "staggering spike" in prices is unlikely.

Brent futures slipped 83 cents to US\$68.19 a barrel on the ICE Futures Europe exchange as of 2:02 p.m. London time, while WTI dropped 60 cents to US\$62.30 on the New York Mercantile Exchange. Brent is trading at a US\$6.11 premium to WTI for the same month.

"It is still difficult to assess the exact scale of the damage caused by the drone attacks to Saudi infrastructure in the Eastern province, but recent official statements lean toward a longer outage than initially anticipated," Citigroup Inc. analysts Ed Morse and Francesco Martoccia said in a report.

-With assistance from Shery Ahn and Grant Smith.

## Eurozone's €140bn interest windfall could allow spending

#### boost



LONDON (Reuters) — Record-low borrowing costs and falling debt payments could give the euro zone a 140 billion-euro windfall by the end of 2021, freeing cash for projects ranging from new roads to climate protection.

This year's slide in borrowing costs has put the bloc's finances in a far stronger position — cutting the interest rates it pays, allowing governments to cheaply refinance older debt, and above all leaving them with cash in hand.

That's bolstering the case of those who argue the euro zone can and should spend its way out of economic doldrums. With Germany teetering near recession and the European Central Bank's monetary policy looking maxed out, many now regard government spending as the key to lifting growth and inflation.

At current yields, euro zone governments will save an average 0.10% of gross domestic product in interest this year, or

almost 12 billion euros, Frank Gill, senior director in the sovereigns team at ratings agency S&P Global, estimates.

Savings would rise to 0.25% of GDP in 2020 and 0.80% in 2021, Gill says, noting this was above already expected savings, and the long tenor of euro securities means debt savings increase over time.

The savings would total around 140 billion euros — to put that in context, pent-up demand in Germany for public investment amounts to 138 billion euros, state-owned development bank KfW estimates.

"It is very significant, this is a windfall really," Gill said. "Since 2013-14, the decline in interest expenditure to GDP, especially in places like Italy and Spain, has given governments some breathing space.

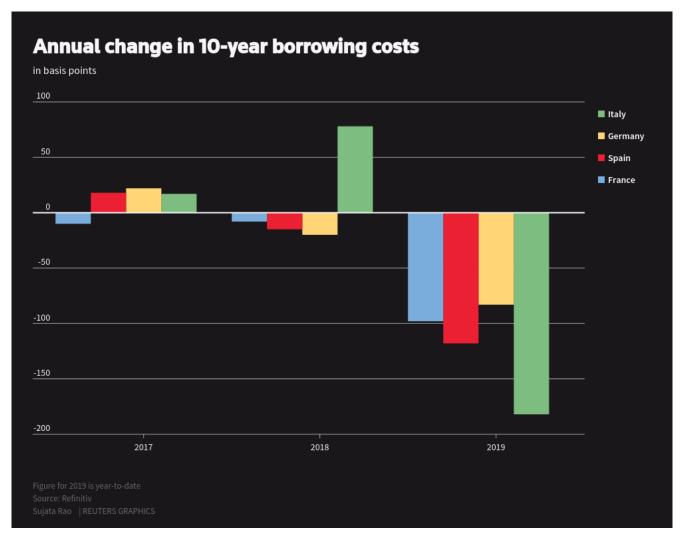
"(Savings will be )much greater for those sovereigns which have seen larger yield compression, namely, Italy, Portugal, and Spain, and the savings snowball over the next two years."

According to Societe Generale, a 10-basis-point drop in bond yields translates into roughly a fall in interest payments of 0.35% of GDP for Italy, 0.27% in Spain, 0.22% in France and 0.16% in Germany.

From environment projects in Germany to greater education and welfare spending in Italy and infrastructure improvements across the euro zone, the fall in borrowing costs could finally spell the end of austerity.

Ten-year bond yields, the usual reference rate for borrowing costs, have fallen by half to two-thirds this year. With the ECB resuming rate cuts and dropping time constraints on asset purchases, yields have little impetus to rise.

(Graphic: Annual fall in 10-year EZ borrowing costs , here)



Until now, euro zone monetary stimulus has effectively been counteracted by stringent budgets. ECB President Mario said last week that if fiscal measures had been in place, they would have complemented central bank policy and boosted growth.

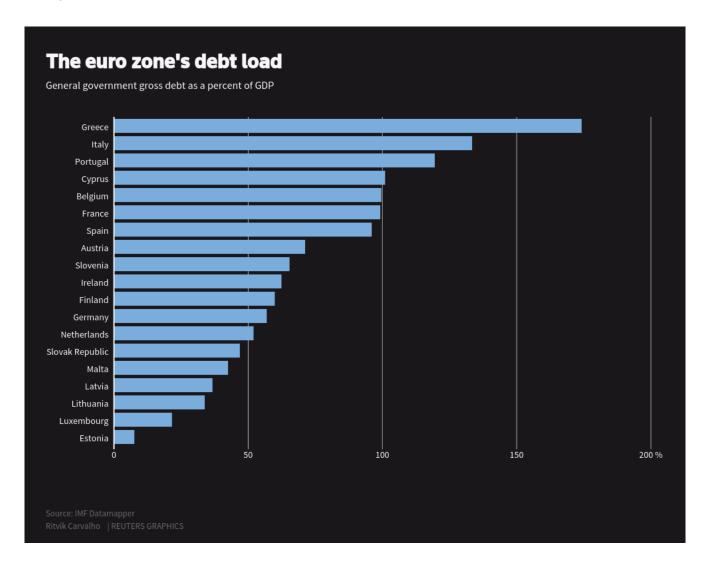
Globally too, there is a perception that central banks are nearing the limits of what they can achieve. Former U.S. Treasury official Lawrence Summers calls it "black hole monetary economics", where small rate changes and aggressive stimulus strategies have only limited impact.

Jorge Garayo, senior rates strategist at Societe Generale, noted that U.S. President Donald Trump's fiscal spending plans had boosted inflation expectations in 2016.

"That had a much bigger impact than QE (quantitative easing)," he said. "With diminishing returns from monetary policy

easing, the only thing that could push (Europe's) inflation expectations sustainably higher is if we go through a credible fiscal stimulus, most likely coordinated in some way."

(Graphic: The euro zone's debt load, here)



#### **OPPORTUNITY KNOCKS**

Euro zone governments have been saving on interest for years as ECB QE drove down yields. The savings amounted to almost 2% of GDP since 2008, Unicredit estimates.

The question is, will the budget room now being created persuade fiscal hawk Germany to drop its opposition to more saved over 160 billion euros in interest since 2008. This year's windfall, following a 70-basis-point slide in 10-year yields, may exceed 5 billion euros, Reuters has reported.

Stewart Robertson, senior economist at Aviva Investors reckons if Germany's 10-year bond yields stay around -0.50% and it can raise debt at this level for four to five years, it would save some 15 billion to 20 billion euros annually.

There are caveats. Lower yields can take years to feed through. Benefits accrue only when yields fall and stay low for some time. Persistently low yields would also signal economic weakness, in turn threatening tax receipts.

#### ITALIAN JOB

Italy, one of the bloc's most indebted members, probably has most cause to celebrate low yields. Desperate to revive its sluggish economy, it has frequently clashed with EU authorities for overstepping spending limits.

Now, though, the tumble in its 10-year borrowing costs, to 0.9% from 2.6% in early 2019, is defusing concern over its 2020 budget, due to be submitted next month.

Assuming unchanged yields, Rome can save up to 20 billion euros a year in interest payments, or 1% of annual economic output, Pictet Wealth Management strategist Frederik Ducrozet calculates. That assumes interest payments are spread over the years and yields stay low.

The government hopes to use that budget leeway to avoid an upcoming sales tax increase. Ducrozet noted the Bank of Italy is also profiting from its 400 billion euros of bond holding, most of it bought under ECB QE. That will partly be redistributed to state funds.

"In plain English, the Treasury is saving money on all fronts, probably over 1% of GDP on an annual basis," Ducrozet said. "If the political situation were to improve for whatever reason — arguably a big IF — the fiscal picture would improve dramatically."

## California weighs plan to save tropical forests



By Julia Rosen /Los Angeles Times

The smoke is still rising from the Amazon as fires smoulder in the world's largest rain forest. The blazes triggered a wave of global outrage over the loss of precious trees. But California says it has a plan to keep tropical forests standing.

This week, state officials will consider a proposal to protect these forests by steering billions of dollars to countries such as Brazil. The money would fund government efforts to fight deforestation and promote sustainable industries that don't involve chopping down and burning trees. And it would come from companies that offset their own emissions by purchasing carbon credits through markets such as California's cap-and-trade programme.

Preserving tropical rain forests is essential to combating

climate change — around the world, roughly a third of the greenhouse gases released each year come from clearing forests. And backers say this plan is the best way to funnel much-needed cash toward that crucial task.

Others agree on the pressing need to halt deforestation, but they say California's plan is a dangerously misguided way to do it. In their view, it would simply allow polluters to keep on polluting without doing anything about the true drivers of forest loss: rising demand for products such as beef, soy and palm oil.

The issue has divided scientists, environmental groups and indigenous leaders who say the Tropical Forest Standard, or TFS, has ramifications far beyond the Golden State. California is a leader on climate change, and approving the TFS could inspire other states, countries and companies to adopt a similar approach.

"This is a critical moment," said ecologist Christina McCain, who heads the Environmental Defense Fund's climate initiatives in Latin America. "The world is watching."

The TFS wouldn't be the first attempt to fund forest protection through carbon offsets. Several international programmes have employed them as a way to preserve and restore forests while lowering the cost of reducing emissions in wealthy countries and funding sustainable development in poorer ones.

Some of these projects succeeded, but others never came to fruition, leaving the fate of the carbon they promised to store in limbo. Many also spelled disaster for people who live in the forest.

Indigenous groups fell prey to unscrupulous "carbon cowboys" who used questionable methods to secure the rights to native land — and its potentially lucrative carbon. People were kicked out of their territories by governments eager to launch conservation projects without local interference.

In any event, the programmes never attracted enough money to reach their intended scale, said Louis Verchot of the Center for International Forestry Research, who has studied previous initiatives.

"It wasn't what you would call a real enabling environment," he said. "That's where things are stuck right now."

Can the Tropical Forest Standard do better? Its backers certainly think so. They've spent the last decade trying to learn from past mistakes.

The TFS lays out criteria for certifying state, provincial or national governments that want to sell forest offsets, leaving no room for carbon cowboys. Participating governments must commit to reducing deforestation, and they'll only receive credit for the forest they spare beyond their baseline goal.

Plans must be posted publicly, and progress must be closely monitored and independently verified.

"There will be a ton of eyes on it," said Jason Gray, the head of California's cap-and-trade programme.

Governments also have to prove that local stakeholders — especially indigenous groups — have a say in the programme and stand to benefit from it. The Brazilian state of Acre, which has spent years developing partnerships with tribes, is often cited as a model.

"Indigenous peoples are very well-informed and prepared not to let their rights be violated," said Francisca Oliviera de Lima, a member of Shawadawa People who works at Acre's staterun Climate Change Institute. "We are in favour of this California programme."

The TFS tries to address other problems, such as leakage, which occurs when suppressing deforestation in one place simply pushes it elsewhere. That would be difficult to get away with in a state that's part of the programme, said Steve Schwartzman, senior director of tropical forest policy at EDF, a leading supporter of the TFS.

In addition, the TFS mandates that participating states and provinces pony up extra credits as insurance, in case fires or other natural disasters accidentally release carbon that was stored for offsets.

With these safeguards in place, proponents argue the TFS could finally allow real money to flow toward fighting

deforestation. Today, less than 1.5% of funding to fight climate change goes to forest protection, according to a new analysis by a coalition of scientific organisations and environmental groups.

That has bred frustration in countries such as Brazil, where the government had reduced deforestation by upping enforcement of protected areas but where low levels of investment have failed to create new economic opportunities for farmers, loggers and miners who obeyed the rules, said Dan Nepstad, executive director of the Earth Innovation Institute.

With the TFS, offset money could fund things such as community centres, fish ponds for aquaculture and government programme to support sustainable farming practices.

For California, the reward is the chance to drive greenhouse gas reductions far beyond what the state could accomplish at home, Nepstad said: "The TFS lays out the framework for magnifying that tenfold."

Critics of the TFS object to almost everything about it, starting with the very idea of offsets.

He and other opponents say California's cap-and-trade programme already relies too heavily on offsets — polluters can use them to cancel up to 8% of their emissions in the state — and argue that the TFS would take things even further in the wrong direction.

Chief among their concerns is the legitimacy of tropical forest credits.

Barbara Haya, who studies offset programmes at the University of California, Berkeley, worries that leakage will still be a problem, since activities shut out of a participating state can still shift to other states or countries.

It's also hard to ensure that the programme will dole out credit only for carbon savings that wouldn't have happened anyway. Haya examined two decades' worth of data and found that a quarter of potential partners would have been able to generate offsets under the TFS's rules due to declining deforestation rates, even though their progress clearly wasn't due to the programme (it didn't yet exist).

Then there's the fear that, despite the TFS's insurance provision, the carbon that was supposed to offset a polluter's emissions will end up in the atmosphere eventually, either in a bad fire season or after a change in political leadership reverses a country's deforestation policies.

Others contend that the TFS is based on flawed economic reasoning. So far, the price of carbon offsets on exchange markets is just too low to compete against the forces of global commerce, which make land more valuable than trees, said Tracey Osborne, a geographer at the University of Arizona.

And while advocates for indigenous communities applaud the TFS's social safeguards, some of them say it will be nearly impossible to ensure they are being honoured from afar.

Governments in many tropical countries have a long history of corruption, said Alberto Saldamando, an advisor to the Indigenous Environmental Network. He worries the TFS will only heighten the incentive to coerce or threaten indigenous groups to participate in programmes that don't always serve their interests.

"Carbon, instead of being a poison, is a value, and that perspective leads to all kinds of abuses," he said.

Opponents raised all these issues last fall, when California's Air Resources Board first met to consider the standard. It opted to delay a vote and asked legislators to gather input from both sides. If the board endorses the standard when it meets on Thursday, it won't mean that credits generated under the TFS will be used in the state's market right away; governments that want to participate would first have to qualify, and then CARB would have to decide whether to accept tropical offsets, Gray said. The motivation to propose the standard now is "to set a very high bar" for forest offset programmes in general, he said.

Regardless of whether California ever uses the TFS in its own cap-and-trade programme, CARB's approval would be a powerful endorsement of forest offsets and a setback for efforts to zero out greenhouse gas emissions, opponents said.

Critics would rather see the state focus on other strategies for preserving forests, such as empowering indigenous groups to protect their lands and pressuring companies to rid their supply chains of goods associated with deforestation. (California lawmakers are considering a bill that would require government contractors to do so.)

Haya and more than 100 other researchers laid out their objections to the TFS and submitted them to CARB. Last month, senator Bob Wieckowski, D-Fremont, released his own letter imploring the board to reject it.

But supporters are speaking up, too.

In June, four Assembly members encouraged CARB to approve the standard as long as it commits to "vigorous and proactive monitoring" of any government that uses it. More than 100 scientists also penned an open letter endorsing the TFS. — Tribune News Service

### Attacks on Saudi Oil Plants Risk Lowering Aramco IPO Valuation



(Bloomberg) — As bankers discussed Saudi Aramco's initial public offering at the Ritz Carlton hotel in Dubai last week, a drone attack was being planned to hit the heart of its operations over the weekend. It caused Saudi Arabia to halve its oil output and may cut the valuation of Aramco's milestone deal.

The giant oil producer has accelerated preparations for a share sale that could happen as soon as November in Riyadh. Dozens of bankers from Citigroup Inc (NYSE:C). to JPMorgan Chase (NYSE:JPM) & Co. met last week to work on the deal, with analyst presentations scheduled for Sept. 22, people familiar with the matter have said.

"Crown Prince Mohammed bin Salman will push the company to demonstrate that it can effectively tackle terrorism or war challenges," analysts led by Ayham Kamel, head of Middle East and North Africa research at the Eurasia Group, said in a report. "The attacks could complicate Aramco's IPO plans."

In an attack blamed by the U.S. on Iran, a swarm of drones laden with explosives set the world's biggest crude-processing

plant ablaze. Floating a minority stake of the oil giant, officially known as Saudi Arabian Oil Co., is part of Prince Mohammed's efforts to modernize and diversify the economy.

The attacks underscored geopolitical tensions in the region. Iran denied responsibility, which was instead claimed by Iranian-backed Houthi rebels in Yemen.

Oil prices surged by the most on record to more than \$71 a barrel after the strike removed about 5% of global supplies. The main Saudi stock index Sunday fell as much as 3.1%, leading losses in the Gulf.

Back in 2017, investors suspected that Saudi government-related funds swooped in to support the market after the imprisonment of local billionaires at the Ritz-Carlton in Riyadh. That also happened amid the international crisis following columnist Jamal Khashoggi's murder at the Saudi consulate in Istanbul.

Here's more from analysts and investors:

#### Eurasia

- "The latest attack on Aramco facilities will have only a limited impact on interest in Aramco shares as the first stage of the IPO will be local. The international component of the sale would be more sensitive to geopolitical risks"
- Current valuation estimates for Aramco and its assets might not fully account for geopolitical risks
  - NOTE: Prince Mohammed, the architect of the IPO, has said he expects Aramco to be valued at over \$2 trillion, but analysts see \$1.5 trillion as more realistic

#### Al Dhabi Capital, Mohammed Ali Yasin

• "I think this attack may delay the IPO even on the local

exchange, and could affect the valuation negatively, as the investors have seen a live demonstration of the risk levels of the future revenues and business of the company. That was very low prior to this weekend attack"

"Aramco has one main source of revenue, oil. That is its strength, but now it is becoming its biggest weakness if it gets disrupted"

#### United Securities, Joice Mathew

- This "will force investors to go back to the drawing board and re-evaluate their risk models on Aramco"
- "Even though this is a rare event, which could be potentially categorized as 4 or 6 sigma levels, the geopolitical risk premium on Aramco's valuation model would show a sharp increase"
- "As far as the pricing is concerned, my view is that there may not be much of an impact if the government is contemplating a 1% listing on the Tadawul. I think the government has the power and ability to influence the decisions of anchor investors there"

#### Tellimer, Hasnain Malik

- "Ultimately the security risk is not so acute that it outweighs oil price, oil output and free float drivers of the valuation"
- This attack "also provides an opportunity for Aramco to demonstrate the redundancy and resilience of its supply chain by minimizing disruption to customers and thereby helping to mitigate the valuation impact of this risk"

#### Qamar Energy, Robin Mills

- "It will be all but impossible to proceed with the IPO if there are ongoing attacks"
- "Valuing Aramco like Shell (LON:RDSa) or ExxonMobil (NYSE:XOM) gets us to about \$1.2-1.4 trillion. But that would drop significantly if we apply company-specific

#### risk factors"

#### Al Ramz Capital, Marwan Shurrab

- "The attacks could impact foreign sentiment for the IPO, but I don't see a substantial hit to the valuation at this stage"
- "Geopolitical risk has always been an important factor for valuations across the Middle East region. Aramco will have to demonstrate its financial resilience toward such incidences to gain investors confidence"