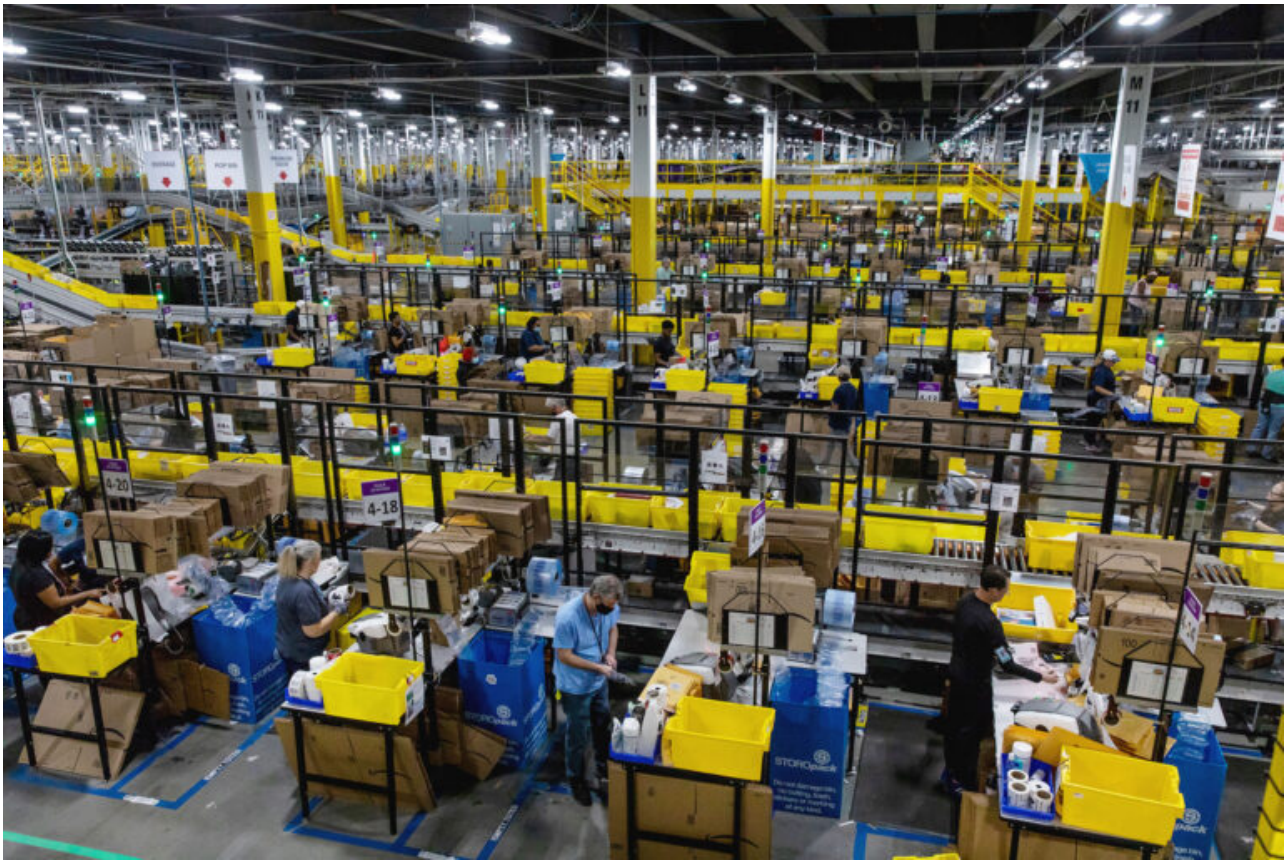
Sweden Sets Up $23 Billion Emergency Backstop for Utilities



Niclas Rolander

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Sweden's government will provide Nordic and Baltic utilities as much as 250 billion kronor ($23.2 billion) in credit guarantees as it seeks to prevent Russia's energy curbs from setting off a financial crisis.

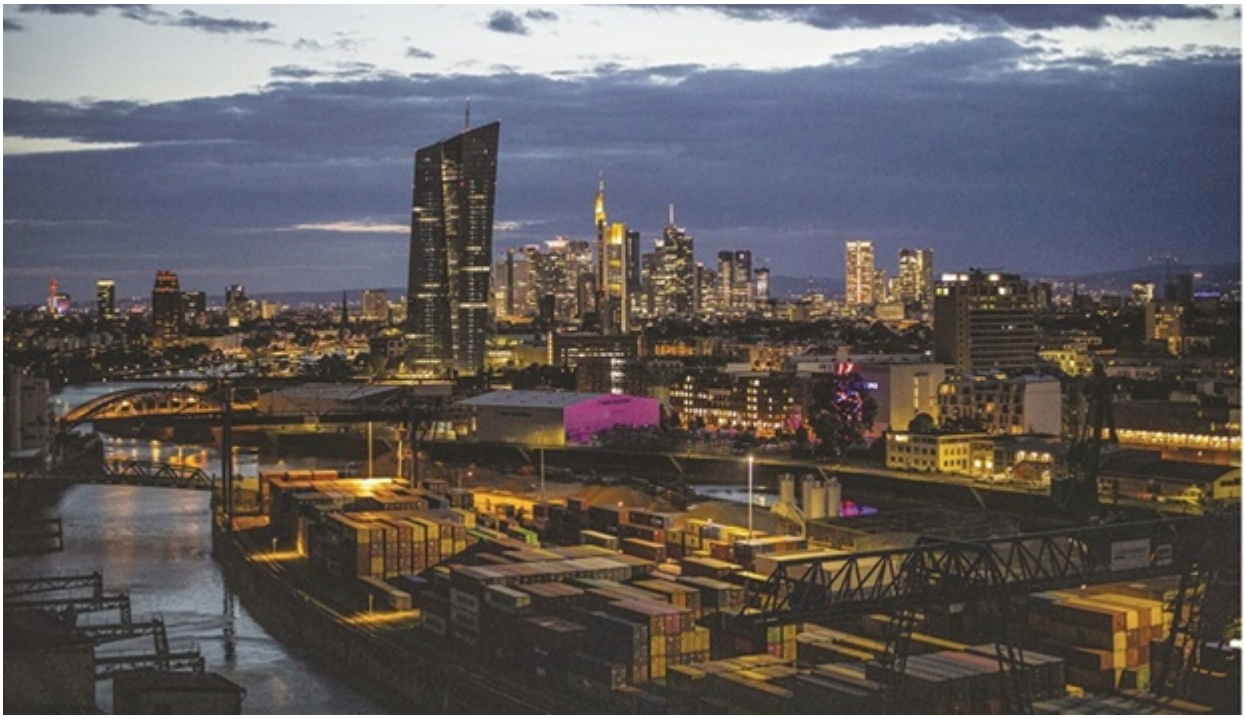
The measure is aimed at helping companies struggling to meet the surging collateral requirements needed to trade electricity, and avoid the threat of some going into technical defaults as soon as Monday, Finance Minister Mikael Damberg said at a news conference in Stockholm. Utilities registered

with Nasdaq Clearing AB are eligible for the guarantees.

“The issue is currently isolated to energy producers, but unless we act, it could have contagion effects on the rest of the financial market,” the minister said on Sunday. “Ultimately, it could lead to a financial crisis.”

The surging price of energy in Europe has made it more expensive for utilities to buy and sell electricity, because of the collateral required to guarantee trades on power markets facing unprecedented turbulence. Fortum Oyj of neighboring Finland said Aug. 29 its collateral rose by 1 billion euros ($1 billion) in a week to 5 billion euros, excluding funds posted by its German subsidiary Uniper SE.

Germany agrees $65bn inflation relief package



AFP / Berlin

The German government yesterday unveiled a new multi-billion euro plan to help housesholds cope with soaring prices, and said it was eyeing windfall profits from energy companies to help fund the relief.

German businesses and consumers are feeling the pain from sky-high energy prices, as Europe's biggest economy seeks to extricate itself from reliance from Russian supplies in the wake of Moscow's invasion of Ukraine.

Rapid measures to prepare for the coming cold season will ensure that Germany would "get through this winter," Chancellor Olaf Scholz said at the unveiling of the €65bn ($65bn) package.

The latest agreement, which brings total relief to almost €100bn since the start of the Ukraine war, was hammered out overnight into Sunday by Germany's three-way ruling coalition of Scholz's Social Democrats, the Greens, and the liberal FDP.

Among the headline measures are one-off payments to millions of vulnerable pensioners and a plan to skim off energy firms' windfall profits. The government's latest relief package came two days after Russian energy giant Gazprom said it would not restart gas deliveries via the Nord Stream 1 pipeline on Saturday as planned after a three-day maintenance.

The government had made "timely decisions" to avoid a winter crisis, Scholz said, including filling gas stores and restarting coal power plants. But preventative measures, including a drive to reduce consumption, have done little to break a sharp increase in household bills.

The latest announcement follows two previous relief packages totalling €30bn, which included a reduction in the tax on petrol and a popular heavily subsidised public transport ticket.

But with the expiration of many of those measures at the end of August and consumer prices soaring, the government has been under pressure to provide new support. Inflation rose again to 7.9% in August, after falling for two straight months thanks to previous government relief measures.

The take-off in energy prices is expected to push inflation in

Germany to around 10% by the end of the year, its highest rate in decades. Scholz said however that not everyone is suffering from the high consumer prices.

Some energy companies which may not be using gas to generate electricity were “simply using the fact that the high price of gas determines the price of electricity and are therefore making a lot of money,” he said.

“We have therefore resolved to change the market organisation in such a way that these random profits no longer occur or that they are skimmed off.” The trimming of windfall profits would create “financial headroom that should be used specifically to relieve the burden for consumers in Europe,” the government said in its policy paper.

The move could potentially bring “double-digit billions” of euros in relief, finance minister Christian Lindner estimated in the press conference. The government said it would push for the move to be implemented across the European Union, before going ahead with the measure on its own.

Brussels on Monday said it would prepare “emergency” action to reform the electricity market and bring prices under control. Scholz said he expected the EU to “deal quickly” with the issue, adding that it was “very clear that we need rapid changes in this area”.

Repeating his mantra that Germans will “never walk alone” through the energy crisis, the chancellor unveiled a raft of measures, including a one-off payment of €300 to millions of pensioners to help them cover rising power bills.

The government will also target students with a smaller one-time transfer of €200, and an heating cost payment for people receiving housing benefits.

Berlin also set aside €1.5bn for work on a successor to the wildly popular nine-euro monthly ticket on local and regional transport networks. The relief package as a whole should be financed without planning to take on further debt, Lindner said.

“These measures are included within the government’s existing budget plans,” covering 2022 and 2023, he said, with the

remainder covered by the windfall energy profit measures.

France faces uncertain winter as nuke power shortage looms

By Forrest Crellin, Silvia Aloisi And Nina Chestney/Paris

France, once Europe’s top power exporter, may not produce enough nuclear energy this winter to help European neighbours seeking alternatives to Russian gas, and may even have to ration electricity to meet its own needs.

France has for years helped to underpin Europe’s electricity supply, providing about 15% of the region’s total power generation.

But this year, for the first time since French records began in 2012, France has become a net power importer as its own production of nuclear energy hit a 30-year low, based on data from consultancy EnAppSys.

The supply squeeze, caused by a wave of repairs at the

country’s nuclear power stations, couldn’t have come at a worse time. Europe is in the grip of an energy crisis as Russian gas supplies plummet in the wake of the Ukraine conflict and France, which derives 70% of its electricity from nuclear energy, has lost its edge.

French power prices have hit a string of all-time highs – topping 1,000 euros ($1,004.10) per megawatt hour earlier this month – on expectations the country will not have enough electricity to meet domestic demand. That surge, from prices of around €70 a year ago, has added to a cost-of-living crisis.

“Sky-high electricity prices are an economic threat, with France’s nuclear issues seemingly turning into a greater challenge than Russian gas flows,” said Norbert Rücker, head of economics and next generation research at Julius Baer.

A record number of France’s 56 nuclear reactors have gone offline for overdue maintenance and checks related to corrosion issues that first surfaced last December. Some reactors have had to cut production during the summer to prevent rivers used to cool reactors from overheating.

As of August 29, 57% of nuclear generation capacity was offline, based on data provided by state-controlled nuclear power group Electricite de France, or EDF.

EDF’s current outage schedule sees production levels returning to around 50 gigawatts (GW) daily by December from around 27 GW now as reactors gradually come back for the winter season.

But the market, analysts and union officials think that forecast is too optimistic.

In a normal year, France produces around 400 terawatt-hours (or 400,000 GWh) of nuclear electricity and exports about 10% of it in warmer months. But during winter consumption peaks, France imports power from its neighbours, particularly Germany.

This year, EDF forecasts French nuclear production at 280-300 terawatt-hours, the lowest since 1993. France has imported power from the likes of Germany and Belgium during the summer, when it would usually be exporting it.

“That makes for scary winter prospects,” said Paris-based nuclear energy consultant Mycle Schneider.

Six analysts polled by Reuters estimated that France’s power capacity during the winter will fall below EDF’s forecasts, by 10 to 15GW a day until at least late January. This means France will need to import more power when the rest of Europe will also be facing an energy crunch, or risk blackouts.

Last week, EDF – which this year has cut its nuclear output forecasts several times and issued four profit warnings – delayed the restart of several reactors to at least mid-November, fuelling more uncertainty.

Current power market prices reveal a lack of confidence in EDF’s ability to put all its reactors back online in time for the cold season, a parliamentary source close to government said, although this source also said the availability of the fleet should improve from current low levels.

“We should be able to recover a large part of the reactors which are currently offline,” the source said. “We can also ask the French to make efforts, especially to reduce consumption peaks.”

The measures the French government could take include forced interruption of power supply to industrial and commercial consumers, reduced heating in public buildings, turning off street lights and controlled power cuts, he said.

French Prime Minister Elisabeth Borne has urged companies to draft energy savings plans by next month, warning they would be hit first if France has to ration gas and electricity.

The CGT union, France’s biggest, is bracing for some rolling blackouts this winter.

“The situation is really worrying… to say that there won’t be power cuts is a very optimistic gamble, unless one already knows for sure that the winter will be warm,” said Virginie Neumayer, who follows nuclear issues at CGT.

Even if EDF can boost nuclear production, analysts say France will still not have spare power to sell to neighbours starved of Russian gas, with Italy, Britain and Switzerland seen as the countries worst hit.

“We have seen some effects over the last months already, as Spain, the UK and Italy all have had to increase their domestic production, since export volumes from France have been much lower than normal,” said Fabian Ronningen of consultancy Rystad Energy.

“I think Italy would be the most affected country (if France stopped exporting electricity), as they are Europe’s overall largest power importer.”

EDF CEO Jean-Bernard Levy said on Monday that among the reactors that are closed, 12 were for corrosion problems and the rest were either shut for routine maintenance delayed by the pandemic or taken off-line to prepare them for winter.

Levy said the company was “totally mobilised” to avoid more outages.

“These works are heavy, we will need hundreds and hundreds of very skilled people, we are making them come from abroad, the US in particular,” he told a business conference. He said corrosion issues required workers to operate in a part of the reactor where radiation is high, meaning exposure had to be limited.

For the coming winter, meteorologists often look at how the La Niña weather pattern develops over the summer as an indicator of a colder than average winter.

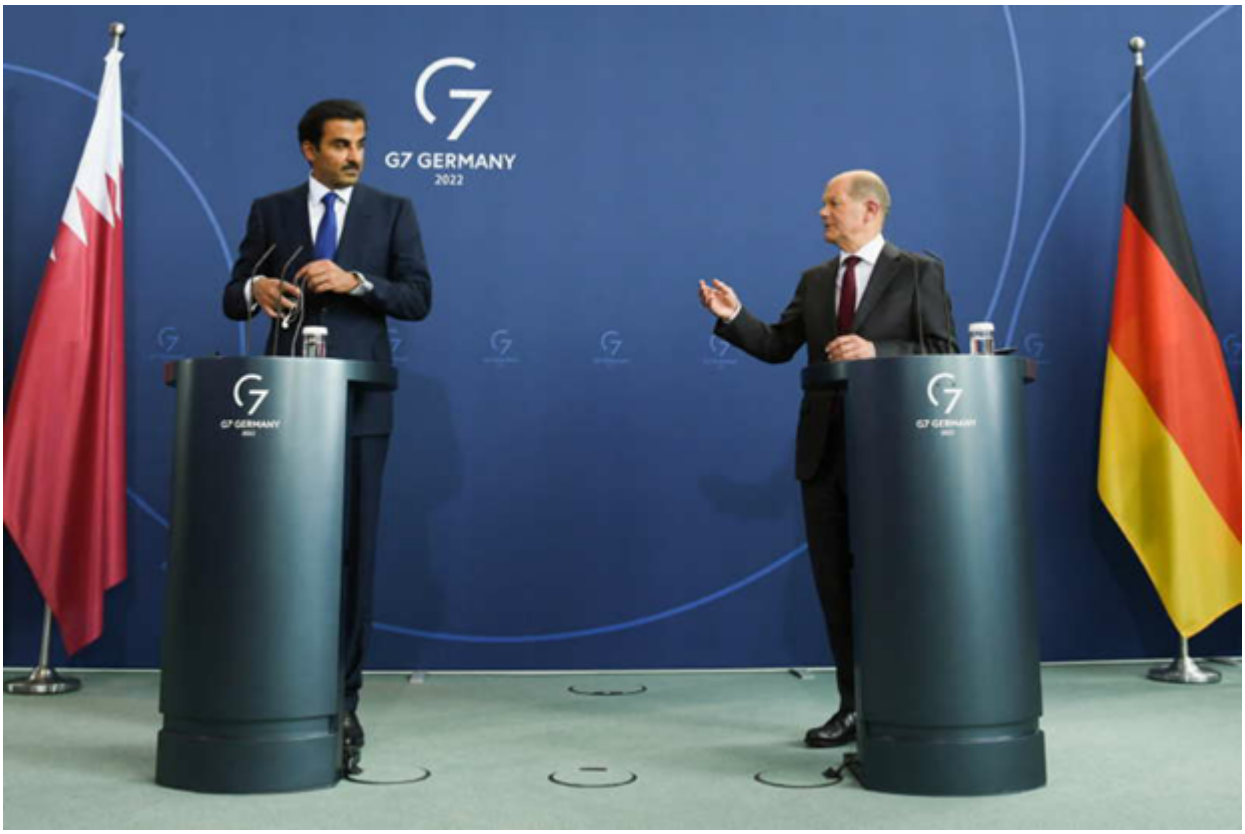
Currently, the odds of that happening are at 60% during December-February 2022-23, US government weather forecaster the National Weather Service’s Climate Prediction Center said.

Longer term, questions remain over whether EDF, which is in the process of being fully nationalised, can maintain its ageing fleet of existing power stations – mostly build in the 1980s – or build new ones quickly enough to replace them.

France’s nuclear safety watchdog ASN said in May that fixing the corrosion issues affecting EDF’s reactors could take years.

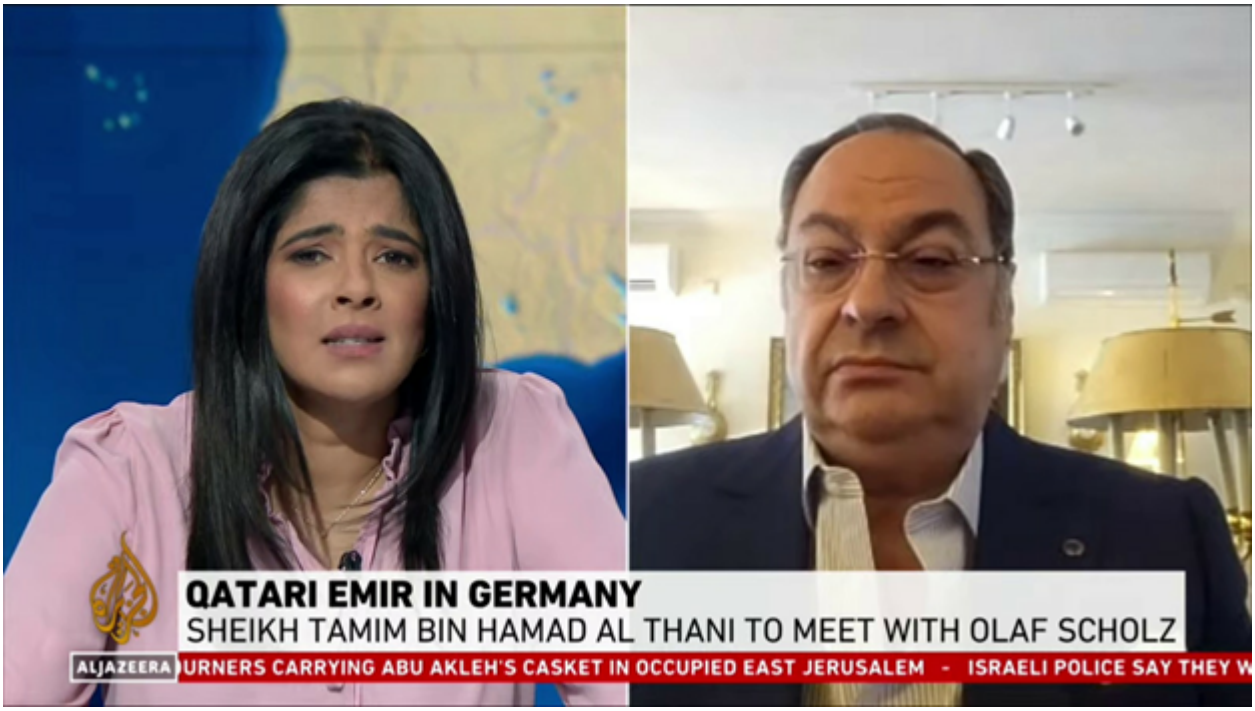
The next generation nuclear reactors EDF has built – including one in Flamanville in France, and another at Hinkley Point in England – have run billions over budget and several years beyond schedule. – Reuters

EUROPE ENERGY CRISIS – Qatar and Germany sign energy strategic partnership



News – Oil and Gas – Berlin, May 2022

Qatar's Emir, His Highness Sheikh Tamim bin Hamad Al Thani, and German Chancellor Olaf Scholz signed a strategic energy partnership on May 20 as Germany scrambles to reduce its dependence on imports of coal and pipelined natural gas from Russia, mainly to punish the latter for its invasion of Ukraine.



Al Jazeera turned to regional energy expert Roudi Baroudi to provide context and analysis for the summit, which could have historic implications. Baroudi confirmed that the German plan centers on a rapid switchover to seaborne shipments of liquefied natural gas, so the government is building two LNG plants, at Brunsbüttel and Wilhelmshaven, along with the possibility of adding three offshore floating storage and regasification units (FCRUs).

Baroudi estimated that these facilities, including the FSRUs, could account for 20-30% of German's annual gas needs of approximately 85 billion cubic meters.

He also explained that Qatar, which has the world's second largest gas reserves and has led the industry in LNG exports for most of the past two decades, would be a natural secure and reliable fit to supply even more gas to European terminals that it already does. The Gulf state has recently invested in even more LNG capacity, via an expansion of its North Field operations, which will see its output once again surpass those of the United States and Australia as the world's largest producer

QatarEnergy announces long-term LNG supply agreement with China’s Guangdong Energy Group

*** Under the sale and purchase agreement with Guangdong Energy Group, Ras Laffan Liquefied Natural Gas Company will supply 1mn tons per year of LNG to China over a 10-year period, beginning 2024**

QatarEnergy announced that its LNG producing affiliate, Ras Laffan Liquefied Natural Gas Company, entered into a long-term sale and purchase agreement (SPA) with Guangdong Energy Group Natural Gas Company (GEG) for the supply of 1mn tons per year of LNG to China over a 10-year period starting in 2024.
Commenting on the occasion, HE the Minister of State for Energy Affairs Saad Sherida al-Kaabi, also the President and CEO of QatarEnergy said, “We are pleased to enter into this

long-term supply agreement with Guangdong Energy Group and look forward to establishing a successful and mutually rewarding relationship. This agreement further demonstrates our commitment to continue to be a trusted and reliable energy partner for the People's Republic of China."
Al-Kaabi expressed his thanks to Sheikh Khalid bin Khalifa al-Thani, the CEO of Qatargas, and the working teams from both sides for the successful conclusion of this new long-term LNG supply agreement.
Deliveries of LNG under the SPA will utilise Qatar's fleet of conventional, Q-Flex and Q-Max LNG vessels, allowing GEG to receive LNG primarily at the Dapeng and Zhuhai LNG Receiving Terminals.

The West's wasted crisis

The silver lining in the gloomy cloud of the pandemic was the opportunity it gave the West to mend its ways. During 2020, rays of light shone through. The European Union was forced to contemplate a fiscal union. Then, it helped remove Donald Trump from the White House. And a global Green New Deal suddenly appeared less far-fetched. Then 2021 came along and drew the blackout curtains.
Recently, in its financial stability review, the European Central Bank issued an angst-ridden warning: Europe is facing a self-perpetuating debt-fueled real estate bubble. What makes the report noteworthy is that the ECB knows who is causing the bubble: the ECB itself, through its policy of quantitative easing (QE) – a polite term for creating money on behalf of

financiers. It is akin to your doctors alerting you that the medicine they have prescribed may be killing you.

The scariest part is that it is not the ECB's fault. The official excuse for QE is that once interest rates had fallen below zero, there was no other way to counter the deflation menacing Europe. But the hidden purpose of QE was to roll over the unsustainable debt of large loss-making corporations and, even more so, of key eurozone member states (like Italy).

Once Europe's political leaders chose, at the beginning of the euro crisis a decade ago, to remain in denial about massive unsustainable debts, they were bound to throw this hot potato into the central bank's lap. Ever since, the ECB has pursued a strategy best described as perpetual bankruptcy concealment.

Weeks after the pandemic hit, French President Emmanuel Macron and eight other eurozone heads of government called for debt restructuring via a proper eurobond. In essence, they proposed that, given the pandemic's appetite for new debt, a sizeable chunk of the mounting burden that our states cannot bear (unassisted by the ECB) be shifted onto the broader, debt-free, shoulders of the EU. Not only would this be a first step toward political union and increased pan-European investment, but it would also liberate the ECB from having to roll over a mountain of debt that EU member states can never repay.

Alas, it was not to be. German Chancellor Angela Merkel summarily killed the idea, offering instead a Recovery and Resilience Facility, which is a terrible substitute. Not only is it macroeconomically insignificant; it also makes the prospect of a federal Europe even less appealing to poorer Dutch and German voters (by indebting them so that the oligarchs of Italy and Greece can receive large grants). And, despite an element of common borrowing, the recovery fund is designed to do nothing to restructure the unpayable debts that the ECB has been rolling over and over – and which the pandemic has multiplied.

So, the ECB's exercise in perpetual bankruptcy concealment continues, despite its functionaries' twin fears: being held to account for the dangerous debt-fueled bubble they are

inflating, and losing their official rationale for QE as inflation stabilises above their formal target.

The scale of the opportunity Europe has wasted became obvious at the recent United Nations Climate Change Conference (COP26) in Glasgow. How could EU leaders lecture the rest of the world on renewable energy when rich Germany is building lignite-fueled power stations, France is doubling down on nuclear energy, and every other EU member state saddled with unpayable debts is left to its own devices to deal with the green transition?

The pandemic gave Europe an opening to devise a credible plan for a well-funded Green Energy Union. With a eurobond in place, and thus liberated from the purgatory of perpetual bankruptcy concealment, the ECB could be backing only the bonds that the European Investment Bank issues to fund a Green Energy Union. So, yes, Europe blew its opportunity to lead the world by example away from its addiction to fossil fuels.

We Europeans were not alone, of course. As US President Joe Biden was landing in Glasgow, the usual corrupt congressional politics back home were uncoupling his already much-shrunken green agenda from a very brown infrastructure bill, placing climate change on the back burner. While the United States, unlike the eurozone, at least has a Treasury Department that works in tandem with its central bank to keep debts sustainable, it, too, has missed a magnificent opportunity to invest heavily in green energy and the high-quality jobs implied by the transition from fossil fuels. How can the West expect to persuade the rest of the world to embrace ambitious climate commitments when, after two years of waxing lyrical about the green transition, Biden and the Europeans arrived in Glasgow virtually empty-handed? As 2021 winds down, Western governments, having wasted their chance to do something about the clear and present climate emergency, are choosing to focus on exaggerated worries. One is inflation. While the acceleration in price growth must be checked, the widespread comparisons with the stagflation of the 1970s are ludicrous. Back then, inflation was essential for a US actively blowing

up the Bretton Woods system in order to maintain the dollar's "exorbitant privilege." Today, inflation is not functional to American hegemony; rather, it is a side effect of the US economy's reliance on the financialisation process that imploded in 2008.

The West's other constructed panic is China. Initiated by former US President Donald Trump, and zealously perpetuated by Biden, the emerging new cold war has an unacknowledged purpose: to enable Wall Street and Big Tech to take over China's finance and technology sectors. Terrified by China's advances, like a functioning central bank digital currency and a macroeconomic stance that is vastly more sophisticated than their own, the US and the EU are opting for an aggressive stance that is a mindless threat to peace and to the global co-operation needed to stabilise our planet's climate. A year that began hopefully is ending grimly. Western political elites, unable (and perhaps unwilling) to turn a deadly crisis into a life-preserving opportunity, have only themselves to blame. — Project Syndicate

? Yanis Varoufakis, a former finance minister of Greece, is leader of the MeRA25 party and Professor of Economics at the University of Athens.

The case against green central banking

The fact that central banks could use their limited policy tools to pursue climate targets does not mean that they should. There are far more effective climate measures available to fiscal policymakers and regulators, and central bankers already have enough on their plates.

NEW YORK – One way or another, central banks' behavior will have to change with the climate. But it should evolve only because climate change will create new constraints and drive new forms of public and private economic activity. Central banks' primary function should not change, nor should they adopt "green" targets that could undermine the pursuit of their traditional objectives: financial stability and price stability (which in the United States is a dual mandate of price stability and maximum employment).

Climate change will be a defining global issue for decades to come, because we are still a very long way from ushering in a low-carbon, climate-resilient world. Three features of our greenhouse-gas (GHG) emissions will impede the appropriate response. First, the benefits (cheap energy) are enjoyed in the present while the costs (global warming) are incurred in the future. Second, the benefits are "local" (they accrue to the GHG emitter) while the costs are global – a classic

externality. Third, the most efficient methods of limiting GHG emissions impose disproportionate burdens on developing countries, while the task of compensating poor countries remains politically fraught.

The most efficient way to address climate-change externalities is through targeted fiscal and regulatory measures. Pigouvian taxes or tradable quotas would create the right incentives for reducing GHG emissions. Carbon taxes, as advocated by William D. Nordhaus of Yale University, must become the global norm (though it is difficult to envisage a global carbon tax working without a significant transfer of wealth from developed to developing countries). Rules and regulations targeting energy use and emissions can complement green taxes and quotas, and public spending can support research and development in the green technologies that we will need.

What does not belong in the mix is a green mandate for central banks. To be sure, legal mandates can change, and central banks have a well-established tradition of exceeding them. The European Central Bank's financial-stability mandate is secondary to – "without prejudice to" – its price-stability mandate. This did not prevent it from acting decisively and quite effectively during the global financial crisis, the eurozone sovereign debt crisis, and the COVID-19 crisis, even when this meant overriding the price-stability target in 2021 and likely also in 2022. Moreover, Article Three of the Treaty on European Union explicitly provides for "a high level of protection and improvement of the quality of the environment," so it is easy to see how the ECB's financial-stability and monetary instruments *could* be used to target climate change.

But that does not mean they should be used in this fashion. The standard monetary-policy instruments (one or more policy interest rates, the size and composition of the central bank's balance sheet, forward guidance, and yield curve control) are typically used to target price stability or the dual mandate. Judging by the results, there is no spare capacity in the

monetary-policy arsenal.

These monetary-policy instruments impact financial stability as well, and not always in desirable ways. In addition, capital and liquidity requirements underpin micro- and macroprudential stability; and central banks can impose additional conditions on the size and composition of regulated entities' balance sheets. As the lender and market maker of last resort, the central bank can choose its eligible counterparties, the instruments accepted as collateral or bought outright, and the terms and conditions on which it lends or makes outright purchases.

There is no doubt that climate change affects a central bank's price-stability objective, including through current and anticipated changes in aggregate demand and supply, energy prices, and other channels. Climate change also could significantly alter the transmission of monetary policy, and thus will have to become an integral part of the models that guide central banks in pursuit of their primary objectives.

Green issues also affect financial stability in major ways. Extreme weather events can damage assets held by financial institutions and their counterparties. Climate-mitigation and adaptation efforts can depress the value of assets, potentially leaving many "stranded" or worthless. A central bank's financial-stability mandate requires it to recognize and respond appropriately to the foreseeable effects that climate change will have on asset valuations and on the liquidity and solvency of all systemically important financial entities and their counterparties in the real economy.

But anticipating and responding appropriately to these risks now and in the future does not mean that higher capital or liquidity requirements should be imposed on "brown" loans, bonds, and other financial instruments. Financial-stability risks and global-warming risks are not perfectly correlated. Moreover, there are no redundant financial-stability policy

instruments, and capital and liquidity requirements have a clear comparative advantage in pursuing financial-stability objectives, just as carbon taxes and emissions-trading systems have a clear comparative advantage in pursuing and achieving “green” objectives.

The shocks and disruptions caused by climate change will complicate central banks’ pursuit of their price-stability and financial-stability mandates. The last thing they need is to feel pressure to load additional objectives on their limited instruments. Just as it makes no sense to use carbon taxes or emissions-trading schemes to target financial stability, it makes no sense to use capital and liquidity requirements to address global warming. The appropriate tools to address climate change – fiscal and regulatory – are well-known and technically feasible. What is missing is the foresight, logic, and moral courage to deploy them.

Can small nuclear reactors really help the climate?

Much of the world has been turning away from nuclear power, with its ageing plants, legacy of meltdowns and radioactive waste. But some governments, big companies and billionaires including Bill Gates and Warren Buffett are convinced the technology can help save the planet.

Unlike wind and solar sources, nuclear power can be switched on and off at any time, and without the planet-warming emissions produced by gas and coal.

Investments of hundreds of millions of dollars are going toward a new generation of so-called small modular reactors (SMRs), which ultimately could provide a safe and nimble source of carbon-free energy – if they can overcome challenges related to economics, safety and public opinion.

HOW SMALL IS SMALL?

Of the more than 70 such reactors that the International Atomic Energy Agency lists as in some stage of design or development, the smallest are less than 5m in diameter and 10m in height. (The plant that would be built to operate the reactor would be bigger, of course.)

SMRs typically have less than 300 megawatts of generating capacity, about a third of that of existing reactors. The “M” in SMR – modular – means these reactors can largely be built in factories and shipped in standardised parts for assembly on-site. That means shorter construction times and greater flexibility to expand to meet demand.

WHY AREN’T TRADITIONAL NUCLEAR PLANTS ENOUGH?

Since the Fukushima Dai-ichi meltdowns in Japan in 2011, there has been a dearth of investor interest in building expensive new plants, with China, Russia and India as notable exceptions.

Instead, utilities have gravitated toward carbon-intensive coal and gas plants to supplement less reliable solar and wind resources. That has led climate advocates such as James Hansen, one of the first scientists to publicly warn about the danger of global warming, to call for more nuclear energy.

DO SMRS ALREADY EXIST?

The only ones currently in commercial operation are two 35-megawatt units on a floating power plant deployed by Russia in the Arctic in 2020. China expects to begin trials in 2026 on an SMR being built near an existing power plant on Hainan island.

The first commercial SMR project in the US, planned for the site of the Idaho National Laboratory, will consist of six reactors capable of producing a combined 462 megawatts. It’s supposed to be operational by the end of this decade.

ARE THEY SAFE?

Proponents say SMRs will be safer than earlier generations of nuclear power plants.

The basic idea remains the same – splitting atoms to release energy, a process known as nuclear fission, that heats water to produce steam that spins turbines to make electricity. About half of the SMR models under development use water as a coolant, as most currently operating reactors do.

Explosions at Fukushima and at Three Mile Island in the US in 1979 were caused by heat from exposed fuel rods splitting the hydrogen from the steam used to cool the reactor.

Some SMR designs, by contrast, use molten salt and metals as coolants. SMR designs also integrate new kinds of fuel and backup emergency systems that should reduce the likelihood of meltdowns.

On the other hand, smaller reactors would ideally be located closer to population centers, increasing the possible danger from an accident. And like their larger brethren, SMRs produce radioactive waste that must be stored safely for centuries.

WHAT ARE THE ECONOMIC CHALLENGES?

Cost competitiveness is an uphill climb. US manufacturer NuScale Power, to cite one example, is aiming for an SMR that can sell power for US$55 per megawatt-hour.

Yet wind power in much of the world is now about US$44 a megawatt-hour, solar is US$50, and in some regions, renewable energy will be below US$20 a megawatt-hour by the end of the decade, according to BloombergNEF.

A 2020 study by professors at the University of British Columbia found that on a lifetime basis, the cost of

electricity produced by SMRs could be 10 times greater than the cost of electricity produced by diesel fuel.

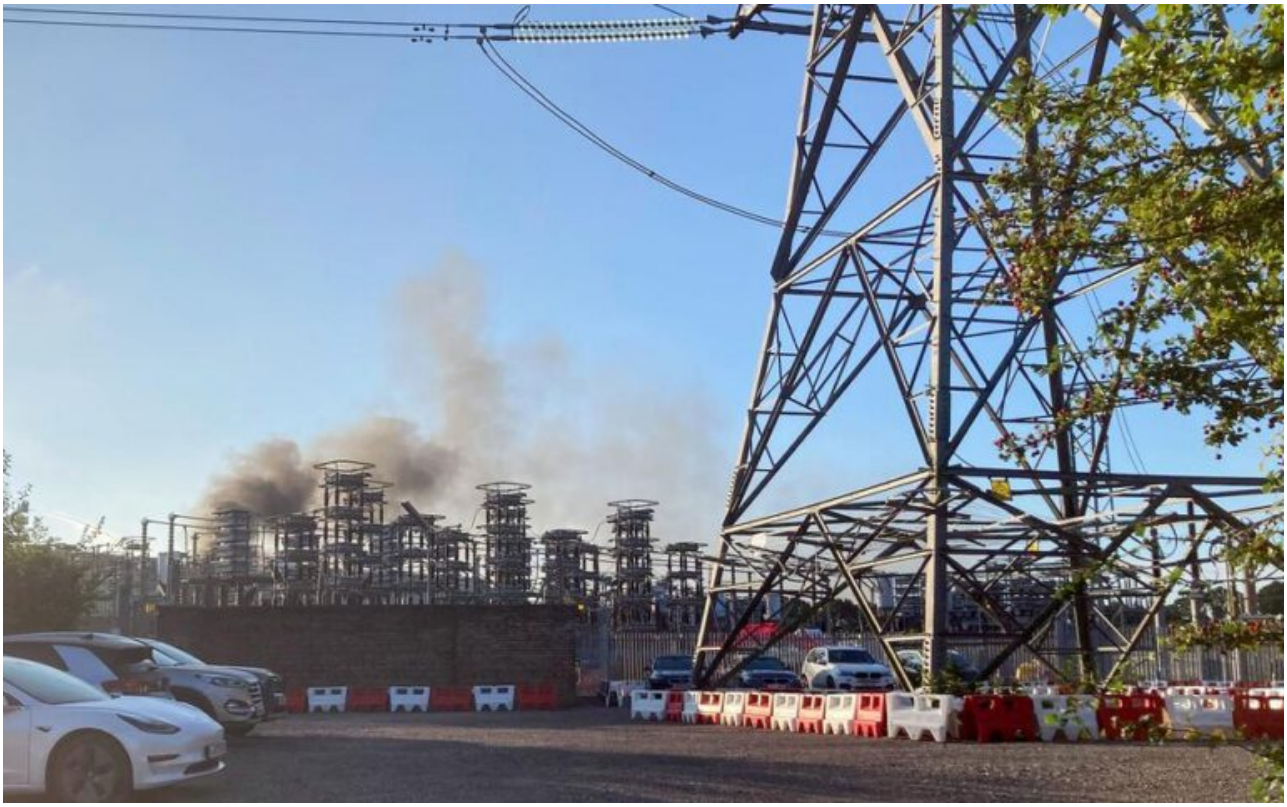
The economics might be more favorable when considering SMRs as alternatives to large-scale batteries to serve as at-the-ready backups for solar and wind power when the sun isn’t shining or the wind isn’t blowing.

WHO’S INVESTING IN SMRS?

Electricite de France, China National Nuclear, Japan’s Toshiba and Russia’s Rosatom are pushing SMR designs, as is NuScale. Gates and Buffett have teamed up to build and test a reactor at an abandoned coal plant in Wyoming.

Rolls-Royce Holdings raised £455 million (US$608 million) to fund the development of SMRs, with almost half of the financing coming from the UK government. The Canadian and US governments have also offered hundreds of millions of dollars in subsidies to kick-start the SMR industry.

What’s Behind Europe’s Skyrocketing Power Prices



Europe’s energy ambitions are clear: to shift to a low-carbon future by remaking its power generating and distribution systems. But the present situation is an expensive mess. A global supply crunch for natural gas, bottlenecks for renewable energy and wind speeds in the North Sea among the slowest in 20 years, idling turbines, have contributed to soaring prices for everything from electricity to coal. Governments are preparing to intervene if needed in volatile energy markets to keep homes warm and factories running.

1. What’s the problem here?

Energy prices skyrocketed as economies emerge from the pandemic — boosting demand just as supplies are falling short. Coal plants have been shuttered, gas stockpiles are much lower than normal and the continent’s increasing reliance on renewable sources of energy is becoming a vulnerability. Even with mild weather, benchmark gas prices traded as high as 100 euros per megawatt-hour on Oct. 1, the first day of the official heating season for the European energy markets. That’s up almost 400% from the start of the year. Italy’s ecological transition minister, Roberto Cingolani, said he

expected power prices to increase by 40% in the third quarter. In the U.K., CF Industries Holdings Inc., a major fertilizer producer, shut two plants, and Norwegian ammonia manufacturer Yara International ASA curbed its European production because of high fuel costs. Mining company Boliden AB says the record prices will boost costs for the industry for years to come.

2. What do gas prices have to do with electricity?

Some 23% of European Union electricity was generated from gas in 2019, just behind the 26% that came from nuclear plants. Electricity is very hard to store, which means that big swings in fuel costs translate quickly into price volatility. Large batteries exist, of course, and that technology is developing quickly, but it will be many years before they can offer serious storage capacity for renewable energy. Some European countries have become increasingly dependent on electricity exports from others with an abundance of power.

3. Why is there a supply shortfall?

Storage sites in Europe reached late summer, when natural gas inventories usually get replenished, at their lowest levels in more than a decade for the time of year. Supplies from Russia were limited because it was rebuilding its own inventories, while Norwegian gas flows were lower than average during maintenance work at its giant fields and processing stations. That said, prices in Europe would need to rise even higher in order to attract cargoes of liquefied natural gas away from Asia, where China is stockpiling to power its economy and build reserves for winter.

4. Why is China important for European energy markets?

It’s by far the biggest consumer of energy and commodities in the world, and it has ordered state-owned companies to secure supplies at all costs.

5. How are power prices set in Europe?

Utilities and big companies buy and sell power years in advance, relying heavily on forecasts about the economy and long-term fuel costs. The broader European power market has traditionally been focused on the price for the following day, with auctions supplying a day-ahead price functioning as the benchmark. Traders submit bids and offers for each hour based on their calculations of supply and demand, and then an average price is calculated by the exchange handling that market. Consumer prices are set by state regulators after utilities request rate changes based on how much they've paid for wholesale power, transmission investments and overall upkeep of their grids.

6. What's new in the system?

The explosion of renewable energy, which is more intermittent than fossil- or nuclear-fuel generators. Because weather patterns can create big price shifts, markets for shorter time periods later the same day have also become vital.

7. How reliant is Europe on wind?

Northern coastal countries including the U.K., Germany and Scandinavian nations have become leaders in wind generation and technology. In Spain, the growth in wind and solar plants helped send its share of renewable energy to a record 44% of total power in 2020. France also is producing more power from wind, but its electricity generation is still dominated by nuclear plants.

8. Which countries are most at risk of running out of power?

Those with limited cable links to their neighbors. In a crisis, they are less able to benefit from Europe's interconnected market, which enables power to flow to where it's needed the most and where it fetches the highest price. Ireland's grid operator warned in September that there was a risk of blackouts due to lack of wind. Many U.K. plants are old and break down from time to time. If big outages coincide

with little wind or sun, the nation could be close to running out of electricity.

9. What does this mean for Europe’s climate goals?

Renewable energy brings volatility, and that’s going to make it very costly for the continent to reach its targets. In Germany, for instance, outgoing Chancellor Angela Merkel’s energy policies have cost citizens hundreds of billions of euros in subsidies. EU climate chief Frans Timmermans has said higher prices must not undermine the bloc’s resolve to expand renewable power and that the industry should speed up instead to make more cheap green energy available.

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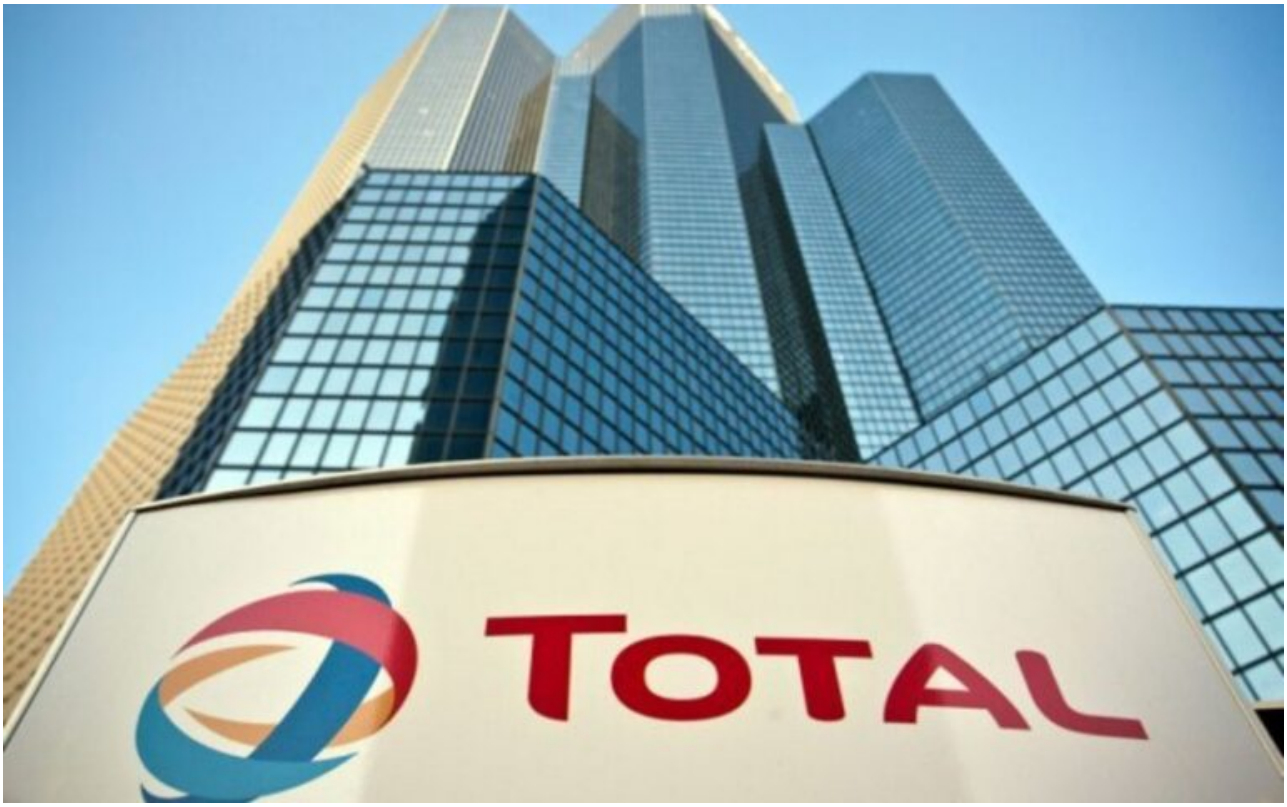
Total, Eni to invest in Libya’s energy sector



France’s TotalEnergies and Italy’s Eni said they were ready to invest billions of dollars in Libya as the OPEC nation emerges from a decade of conflict and civil war. France’s TotalEnergies and Italy’s Eni said they were ready to invest billions of dollars in Libya as the OPEC nation emerges from a decade of conflict and civil war. “I want to contribute to Libya’s comeback,” TotalEnergies’ Chief Executive Officer Patrick Pouyanne said on Monday at an energy conference in the capital, Tripoli.

“Some may see more boldness than wisdom in TotalEnergies’ decision to partner with Libya. I don’t. Where they see risks, I see the opportunities.” The Paris-based firm will put $2 billion into Libya’s Waha oil project, which will boost production by around 100,000 barrels a day, he said. It will also work to raise output at the Mabruk field and help build 500 megawatts of solar power to feed the local grid. Libya will be a vital source of supply for global petroleum markets over the next decade, Pouyanne said. The nation contains Africa’s biggest oil reserves but has been mired in fighting for much of the period since 2011, when leader Moammar Qaddafi was toppled in an uprising.

Warring sides struck a truce in mid-2020, leading to more stability and enabling crude output to rise from barely anything to around 1.1 million barrels a day. The government has said it needs plenty of foreign investment to sustain that level of output, let alone reach its target of between 2 and 2.5 million barrels per day within six years. Elections Loom An interim government led by Prime Minister Abdul Hamid Dbeibah is meant to govern the country until shortly after presidential elections scheduled for Dec. 24. Dbeibah said this week that he will run for the presidency, joining a field that includes Saif al-Islam Qaddafi, a son of the former dictator, and eastern-based commander Khalifa Haftar. The two-day conference is the first prominent energy forum in Libya for over 10 years. Pouyanne and Eni's chief operating officer, Alessandro Puliti, were the highest-profile foreign executives to attend on the first day. Eni will push ahead with oil, natural-gas and solar projects, according to Puliti. "Libya has significant remaining oil and gas potential," he said. "Eni is ready to support that development." The Italian company was one of the first firms to explore in Libya and struck oil there in the late 1950s. It currently pumps about 400,000 barrels a day of oil and gas, making it the biggest foreign energy company in the country, Puliti said.