

# Schedule tight to meet December drill deadline



Lebanon remains on track to have its first exploration well drilled in maritime Bloc 4 by December this year, though the schedule is tight, according to an expert closely involved in the field.

Abboud Zahr, Managing Director at DEP Oil and Gas, which is involved in providing services to the companies involved in the planned exploratory drilling, told LOGI that Total – the lead company in the qualified consortium – was set to complete by August three studies required for drilling to commence. These include the Environmental Impact Assessment, environmental baseline assessment and social baseline assessment.

At that point, they must be approved by Lebanese authorities.

In the meanwhile, Total is set to award “at least 20 contracts” for logistics on shore – in Beirut’s port – and for other services and equipment, including for the rig or drill ship that will go about drilling Lebanon’s first ever exploratory well, Zahr said.

“These activities, as they need a long time for preparation, should be awarded very soon, otherwise the December deadline will not be met,” Zahr said.

Once the exploratory drilling commences, it will take about 6 weeks to reach the target point – some 4400 meters below sea level. If gas is found, a second well, known as an appraisal well, will be drilled to determine the quantity and quality of the gas, which would answer the billion-dollar question of whether Lebanon has a commercially viable find.

“To be realistic, the probability to find something in this first well is maximum 25 percent,” Zahr said.

The qualified consortium has committed to drilling at least two exploratory wells in each of the two blocs they have qualified for.

In the case the find is commercially viable, a third well, known as a production well, will have to be drilled, and a large amount of associated infrastructure must be constructed. Before gas can begin pumping.

Zahr estimated that this entire process, in the best case scenario, would require about a decade.

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## **Egypt to Develop 11 Oil and Gas Projects in FY 2019/20**



Egypt plans to develop and operate 11 exploration and production (E&P) projects in the oil and gas field during fiscal year (FY) 2019/20 to be in the deep waters of the Mediterranean Sea, the Gulf of Suez, Delta and the Western Desert, Daily News Egypt reported.

The 11 projects are expected to increase Egypt's production by 2.5 billion cubic feet per day (bcf/d) of natural gas and 32,000 barrels per day (b/d) of crude oil and condensates, said Tarek El Molla, Minister of Petroleum.

Egypt will develop the Zohr natural gas field to reach maximum production, and Raven natural gas field during the third phase of the North Alexandria project. The projects will further include the West Nile Delta, the fields Southwest of Baltim, 9B phase of West Delta, Western Burullus, phase 2 of North Sinai fields, as well as several projects in the Delta.

The projects will further be directed at north-west of October in the Gulf of Suez, the development of the Iris; Qasr and Bat in the Khalda Petroleum Company fields in the Western Desert, and the project aimed to boost marine shipping facilities' capacity for crude oil for the Western Desert Operating Petroleum Company (WEPCO).

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# Lebanon says Russia, Europe eye investment in oil and gas



Beirut (AFP) – Russian and European firms are mulling investments in Lebanon’s nascent oil and gas sector as it prepares to launch offshore drilling by the end of 2019, Energy Minister Nada Boustani said.

“Several big companies have visited Lebanon,” she told AFP in an interview.

“We are talking about Gazprom (Russia), Lukoil (Russia), and soon, the (Britain) BP firm is expected to visit,” the 39-year-old minister said in her office in Beirut.

“There is also interest from Total (France), ENI (Italy) and Novatek (Russia).”

US firms have not yet participated in offshore bidding rounds.

But US State Department official David Satterfield told Boustani on Wednesday that Washington “has no problem with US firms participating” in the energy sector, she said, calling this a “positive step”.

Last year, Lebanon signed its first contract to drill for oil and gas in its waters.

A consortium comprising energy giants Total, ENI and Novatek took the first two of its 10 blocks, including one disputed by neighbouring Israel with which Lebanon has fought several wars.

On April 5, Lebanon invited international consortia of at least three companies to bid for five more blocks by the end of January 2020.

On Thursday, Boustani wrote on Twitter that she had met with the regional head of BP who said his company was “interested in the second licensing round”.

Two more of the blocks now up for tender are also adjacent to Israel’s waters.

- ‘Negotiations with Israel’ -

Israel and Lebanon are technically at war, although the last Israeli troops withdrew from southern Lebanon in 2000 after two decades of occupation.

This has complicated attempts to demarcate land and maritime borders with Israel, which produces natural gas from reserves off its coast in the Mediterranean.

In recent weeks, Satterfield has been mediating in indirect negotiations between the two countries over their disputed maritime border, whose delimitation could affect offshore exploration.

“If we agree on entering talks with Israel, then in addition

to negotiations over the maritime borders, we will also discuss ways to divide offshore oil and gas fields," Boustani said.

Lebanon is set to start drilling in block 4 in December, and later in the disputed block 9.

Last year, Total said it was aware of the border dispute in less than eight percent of block 9 and said it would drill away from that area.

In the wider region, Lebanon is also considering agreements with other neighbours.

In January, representatives of seven Mediterranean countries – including Egypt, Cyprus and Israel – agreed on establishing the East Med Gas Forum, a Cairo-based body that aims to create a regional gas market to benefit member states.

Lebanon refused to take part in the forum because of the participation of Israel, but it has since started working on separate deals.

In April, Lebanon and Cyprus said they were working together towards a deal over adjacent oil and gas exploration zones in the Mediterranean.

– Regional alliances –

"We have made way for negotiations with Cyprus and we are doing the same with Egypt," said Boustani, the youngest sitting minister in Lebanon's government.

"We can't be involved where the Israelis are," she said, referring to the East Med Gas Forum.

"But nothing prevents us from striking a tripartite agreement" with Cyprus and Egypt, she added.

Laury Haytayan, a Middle East oil and gas expert, says such a

tripartite deal is one way for Lebanon to secure strategic regional alliances in the energy sector.

Lebanon may also have to strike a deal with Syria, with which it also has a maritime border dispute.

Two of the five blocks up for bidding until January 2020 border Syrian waters, which may complicate drilling.

“There is certainly room for (negotiations) with Syria, and we need to look into this very soon,” Boustani said.

“When the government agreed to open blocks 1 and 2 for bidding... this means that it knows a deal will be brokered” with Syria, she said.

But divisions among Lebanon’s political class may complicate such an agreement.

Prime Minister Saad Hariri and his Future Movement refuse a normalisation with Damascus.

Syrian regime backer Shiite movement Hezbollah and its Lebanese ally the Free Patriotic Movement, however, are in favour.

Haytayan said Russia may take the lead in negotiations because Moscow is interested in conducting exploration works on block 2.

“The Russians could mediate between Lebanon and Syria and together they will put in place a plan to share resources and outputs,” she said.

While many hurdles still stand in the way, Boustani says she has “big hopes for this industry”.

“The Lebanese will hopefully benefit from this sector soon.”

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# International action can scale up hydrogen to make it a key part of a clean and secure energy future, according to new IEA report



KARUIZAWA, Japan – The world has an important opportunity to tap into hydrogen’s vast potential to become a critical part of a more sustainable and secure energy future, the International Energy Agency said in a major new report today.

The in-depth study, which analyses hydrogen’s current state of play and offers guidance on its future development, is being launched by Dr Fatih Birol, the IEA’s Executive Director,



alongside Mr Hiroshige Seko, Japan's Minister of Economy, Trade and Industry, on the occasion of the meeting of G20 energy and environment ministers in Karuizawa, Japan. The report – *The Future of Hydrogen: Seizing Today's Opportunities* – finds that clean hydrogen is currently receiving strong support from governments and businesses around the world, with the number of policies and projects expanding rapidly.

Hydrogen can help to tackle various critical energy challenges, including helping to store the variable output from renewables like solar PV and wind to better match demand. It offers ways to decarbonise a range of sectors – including long-haul transport, chemicals, and iron and steel – where it is proving difficult to meaningfully reduce emissions. It can also help to improve air quality and strengthen energy security.

A wide variety of fuels are able to produce hydrogen, including renewables, nuclear, natural gas, coal and oil. Hydrogen can be transported as a gas by pipelines or in liquid form by ships, much like liquefied natural gas (LNG). It can also be transformed into electricity and methane to power homes and feed industry, and into fuels for cars, trucks, ships and planes.

“Hydrogen is today enjoying unprecedented momentum, driven by governments that both import and export energy, as well as the renewables industry, electricity and gas utilities, automakers, oil and gas companies, major technology firms and big cities,” Dr Birol said. “The world should not miss this unique chance to make hydrogen an important part of our clean and secure energy future.”

To build on this momentum, the IEA report offers seven key recommendations to help governments, companies and other stakeholders to scale up hydrogen projects around the world. These include four areas where actions today can help to lay the foundations for the growth of a global clean hydrogen

industry in the years ahead:

1. Making industrial ports the nerve centres for scaling up the use of clean hydrogen;
2. Building on existing infrastructure, such as natural gas pipelines;
3. Expanding the use of hydrogen in transport by using it to power cars, trucks and buses that run on key routes;
4. Launching the hydrogen trade's first international shipping routes.

The report notes that hydrogen still faces significant challenges. Producing hydrogen from low-carbon energy is costly at the moment, the development of hydrogen infrastructure is slow and holding back widespread adoption, and some regulations currently limit the development of a clean hydrogen industry.

Today, hydrogen is already being used on an industrial scale, but it is almost entirely supplied from natural gas and coal. Its production, mainly for the chemicals and refining industries, is responsible for 830 million tonnes of CO<sub>2</sub> emissions per year. That's the equivalent of the annual carbon emissions of the United Kingdom and Indonesia combined.

Reducing emissions from existing hydrogen production is a challenge but also represents an opportunity to increase the scale of clean hydrogen worldwide. One approach is to capture and store or utilise the CO<sub>2</sub> from hydrogen production from fossil fuels. There are currently several industrial facilities around the world that use this process, and more are in the pipeline, but a much greater number is required to make a significant impact.

Another approach is for industries to secure greater supplies of hydrogen from clean electricity. In the past two decades, more than 200 projects have started operation to convert electricity and water into hydrogen to reduce emissions – from

transport, natural gas use and industrial sectors – or to support the integration of renewables into the energy system.

Expanding the use of clean hydrogen in other sectors – such as cars, trucks, steel and heating buildings – is another important challenge. There are currently around 11,200 hydrogen-powered cars on the road worldwide. Existing government targets call for that number to increase dramatically to 2.5 million by 2030.

Policy makers need to make sure market conditions are well adapted for reaching such ambitious goals. The recent successes of solar PV, wind, batteries and electric vehicles have shown that policy and technology innovation have the power to build global clean energy industries.

As the world's leading energy authority covering all fuels and all technologies, the IEA is ideally placed to help to shape global policy on hydrogen.

“We are very proud to have been able to use the breadth and depth of the IEA's energy expertise to carry out the rigorous analysis for this study in collaboration with governments, industry and academic researchers,” said Dr Birol. “We are grateful to Japan, through its presidency of the G20, for requesting that we carry out this report, which recommends immediate, pragmatic steps to foster hydrogen's development.”

Beyond this report, the IEA will remain focused on hydrogen, further expanding our expertise in order to monitor progress and provide guidance on technologies, policies and market design. The IEA will continue to work closely with governments and all other stakeholders to support efforts to make the most out of hydrogen's great potential.

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# Egypt's electricity deal with Cyprus, Greece brightens energy outlook



Egypt has signed an electricity interconnection framework agreement with Cyprus and Greece to establish a subsea cable called the EuroAfrica Interconnector linking the three countries.

The agreement was signed on May 22 by EuroAfrica Interconnector Limited CEO Nasos Ktorides and chairman of the Egyptian Electricity Transmission Company Sabah Mohamed Mashal.

According to the project developer, EuroAfrica Interconnector Limited, the 2,000-megawatt cable will be connected from Egypt to continental Europe via Cyprus, making Egypt an energy hub for Africa and link it to the European continent.

The cable will run from Egypt to Cyprus, from Cyprus to Crete and from Crete to Attica in Greece.

Ioannis Kasoulides, chairman of the Strategic Council of the EuroAfrica Interconnector, said in a statement following the signing ceremony, "With the historic signing agreement between EuroAfrica Interconnector and the Egyptian authorities, the first major electricity interconnection project linking Africa with Europe has been realized."

"Cyprus now becomes a major hub for the transmission of electricity from Africa to Europe, and Egypt establishes itself as a regional energy hub for the transmission of electricity from Africa to the Arabian peninsula," Kasoulides stated, adding that with the signing of this agreement, Egypt's national grid will be connected to Europe's electricity system.

"This historic project is of great importance to Egypt's strategic plan for economic development and energy security, and the EuroAfrica Interconnector is connecting Egypt to the European electricity network through Cyprus. Egypt will be an important electricity and energy partner for the European Union," Egyptian Minister of Electricity Mohamed Shaker told a press conference following the signing of the deal.

Energy experts have praised the signing of this agreement, which will serve Egypt's strategy to turn into a major energy hub, but they also point to challenges ahead.

Tharwat Ragheb, professor of petroleum and energy engineering at the British University in Cairo, said that the agreement serves Egypt's plan to become a hub for trade of energy in the Middle East.

"Egypt has also signed electricity interconnection deals with Saudi Arabia, Sudan, Libya and Jordan. Such access to power grid projects will make Egypt a pivotal energy carrier in the Middle East, from the east with Jordan and Saudi Arabia, from the west with Libya, from the south with Sudan, or from the north with Cyprus and Greece," Ragheb told Al-Monitor.

However, he added that sea operations, as in the case of Cyprus and Greece, are more difficult. "Transporting electricity via sea will need a lot financial resources and high technology. It will also take some time," Ragheb said.

Hani Farouk, a member of the non-governmental organization of the Egyptian Experts Association for Development who specializes in planning and managing oil and gas projects, said that the Egyptian government needs to work on developing the electricity infrastructure in order to be qualified to connect to the European electricity system.

He added that with the signing of such electricity interconnection agreements with African, European and Asian countries, electricity will become a source of national income for Egypt.

"This is a real game-changer for Egypt, which has been relying on energy imports for years," Farouk told Al-Monitor.

Farouk said that Turkey has missed its chance to become an energy hub in the Middle East. "Turkey was trying to take Egypt's position, but it failed when Egypt signed an agreement with Cyprus last year to establish a direct sub-sea gas pipeline that would transport gas from Cyprus' Aphrodite gas field to Egyptian liquefaction stations for re-export to European countries. What Turkey is now doing is just nonsense threats over territorial waters," he added. "Now Egypt will become the top gas exporter to Europe."

Since 2014, Egypt has been ramping up its efforts to address energy shortages and become an oil and gas exporter once again for the first time since the January 25 Revolution.

In January this year, seven eastern Mediterranean countries met in Cairo and agreed to establish the Eastern Mediterranean Gas Forum based in the Egyptian capital. The meeting was attended by ministers of energy from Egypt, Jordan, Palestine, Israel, Cyprus, Greece and Italy, the Egyptian Oil Ministry

said in a press release. Turkey was not represented at the meeting.

The establishment of the forum, which seeks to offer competitive prices and build a regional gas market, comes as Egypt seeks to transform itself into a regional energy hub.

“Deciding to have the headquarters of this forum in Cairo boosts Egypt’s plan to become an energy hub in the Middle East region and the top energy exporter to Europe,” Farouk said.

Found in:ENERGY, EGYPTIAN-TURKISH RELATIONS, GREECE, CYPRUS, EGYPTIAN ECONOMY, ELECTRICITY



Menna A. Farouk, a journalist and an editor at The Egyptian Gazette, writes about social, political and cultural issues, including press freedom, immigration and religious reforms among other topics. On Twitter: @MennaFarouk91

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**Total mulls expanding exploration in Mediterranean and Red Seas**

# **Enterprise**

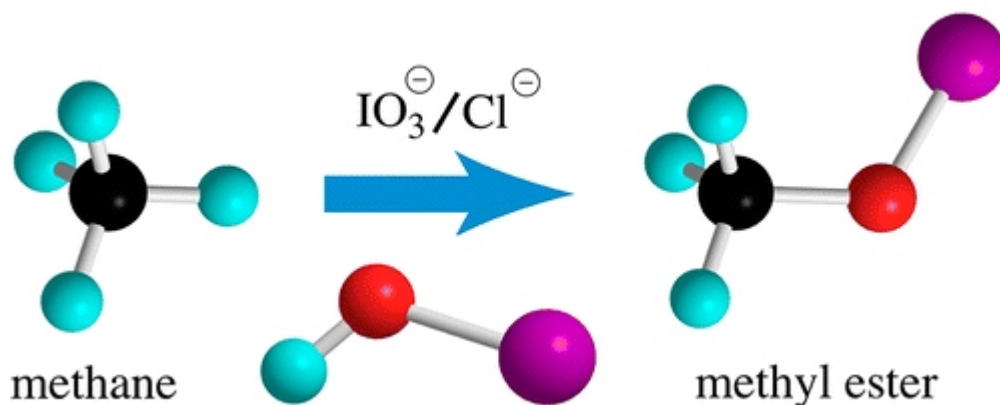
THE STATE OF THE NATION

French energy giant Total is considering bidding for new oil and gas exploration concessions in Egypt's Mediterranean and Red Sea territories, chairman and CEO Patrick Pouyanne told Oil Minister Tarek El Molla in a meeting yesterday, Al Shorouk reports. The company is also looking at increasing investments in expanding fuel stations and fuel transportation.

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**New gas-to-methanol technology OxE could end oil well "flaring"**





***Oil wells also release natural gas. But it's burnt off on site whenever the economics of collecting and piping it don't add up (gas can't use the existing petroleum infrastructure). What if it could be converted into methanol, says Nichole Liebov at the University of Virginia. She describes a new process called oxyesterification (OxE) that converts methane (the main constituent of natural gas) into methanol cost effectively at low temperatures and pressures. More work is being done to optimise the process and make it scalable. But without such a solution we will continue to "flare" the gas, adding 300m tons of CO<sub>2</sub> to the world's atmosphere annually.***

**Natural gas, which consists primarily of methane, accounts for nearly one quarter of global energy production. Although the shale gas boom significantly increased the supply of natural gas, natural gas cannot be transported to processing plants using existing infrastructure for petroleum.**

Consequently, remote sources of natural gas are in effect "stranded." Methods to use this "stranded" natural gas productively would be highly beneficial and would reduce unproductive flaring.

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# Egypt allows Eni, BP to export gas through Idku LNG liquefaction plant



The ministry of petroleum has allowed Eni and British Petroleum (BP) to export gas from Zohr and North Alexandria fields through Idku liquefaction factory in accordance with the development agreements of these projects.

A source from the petroleum sector told Daily News Egypt that the government has allowed Eni and BP to export gas after meeting the needs of the local market and achieving production surplus.

He added that Eni and BP's agreements to develop Zohr and North Alexandria stipulate that the foreign partners can export gas to international markets after obtaining the approval of the ministry of petroleum.

The source explained that the ministry's decision came after it ensured that the foreign partners will adhere to the development plan of the gas fields.

Foreign companies are keen to export part of their share in concession areas to make bigger profits because the liquefied gas shipments are sold according to international prices.

Italian Eni owns around 26% of the Damietta liquefaction plant after buying 50% of Union Fenosa's share, which makes it a shareholder of the liquefaction factory.

He explained that Eni increased the production of Zohr gradually to 2.3bn cubic feet of gas per day (scf/day) in March.

The source said that developing the second stage of Zohr field will take place in July, taking total production of gas from 2.7bn scf/day, as estimated in the development plan, to 2.95bn scf/day.

The source said that the price of the partner's share ranges between \$4.2 and \$5.88, and is connected to the price of a petroleum barrel in international markets.

The ministry of petroleum is seeking to accelerate production of the next stages in the giant Zohr field upon the instructions of President Abdel Fattah Al-Sisi to speed up connecting the project production to the national grid. Eni increased the field's production to 2.1bn scf/day with the start of this year.

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# U.S. Sees State Actor Behind Oil Tanker Attacks in Gulf Region



An attack on two oil tankers near the entrance to the Persian Gulf was likely done by a state actor, according to a U.S. official, heightening tensions over a potential military confrontation between the U.S. and Iran. Oil prices surged.

The incidents on Thursday, including an assault on a Japanese-operated vessel, were the second in a month to hit ships near the Strait of Hormuz chokepoint, through which about 40% of the world's seaborne oil travels. They come as Japanese Prime Minister Shinzo Abe, a rare ally of both Donald Trump and Iranian leaders, visits Tehran in an effort to ease tensions.

A U.S. official said the government is confident it knows which country is responsible but declined to give more details. U.S. and Saudi officials have suggested they think Iran was behind a previous attack last month on ships in the region.

“Even in the absence of ironclad evidence, the U.S. and its allies will point the finger at Iran,” said Fawaz A. Gerges, professor of Middle Eastern politics at the London School of Economics. “These incidents are a bad omen because they point to a calculated escalation that tells us both sides are hunkering down.”



The Front Altair vessel.

Source: AP Photo

The Trump administration said it was evaluating reports of an attack on ships in the Gulf of Oman and will “continue to assess the situation,” White House Press Secretary Sarah Sanders said in an email.

The prospects of a conflict have spiked since the Trump administration tightened its sanctions on Iranian oil exports in early May. Trump last year abandoned the 2015 deal that was meant to prevent Iran from developing a nuclear bomb and reimposed sanctions in a bid to force the Islamic Republic to rein in its military program and proxy militias.

Facing economic catastrophe, Iran has threatened to retreat from the accord itself unless European parties throw it a lifeline. Its supreme leader, Ali Khamenei, told Abe on Thursday that his country would not repeat the “bitter experience” of talks with the U.S.

# High-Stakes Diplomacy

The Bahrain-based Fifth Fleet said it received two separate distress signals at 6:12 a.m. and about 7:00 a.m. local time. "U.S. Navy ships are in the area and are rendering assistance," Commander Josh Frey, a spokesman, said. He couldn't confirm reports that one of the vessels was struck by a torpedo. Iran said it has rescued 44 sailors.

The manager of one tanker, the Norwegian-owned Front Altair, said it was sailing in international waters when it was damaged by an explosion, and that the incident is being treated as a "hostile attack." The ship had loaded a cargo of naphtha in Abu Dhabi and was bound for Taiwan, a company official said.

2 tankers have been damaged in a suspected attack near the Persian Gulf.

The area is a waterway for about 35% of the world's oil transport

A distress call over VHF radio from the Front Altair said the ship was "under attack and on fire," said Donald MacLeod, a navigation officer on a vessel about 45 miles away on the Oman Sea. "They had to abandon ship."

Kokuka Sangyo, the Japanese operator of the other ship, said it was attacked twice, three hours apart, forcing the crew to evacuate. The tanker was carrying 25,000 tons of methanol from Saudi Arabia to Asia. Japanese public broadcaster NHK, citing Kokuka Sangyo's chief executive officer, said the ship was hit by a shell.

Brent oil crude soared as much as 4.5% and was trading at \$61.77 a barrel at 3:32 p.m. in London. Stocks in Saudi Arabia and Dubai were down.

The incidents come a day after Iran-backed rebels in Yemen

fired a missile at a Saudi airport, wounding 26 people. The projectile crashed into the arrivals hall, damaging ceilings and windows and causing a fire, though the airport was able to keep functioning with only two flights canceled. Houthi rebels last month hit oil infrastructure hundreds of kilometers inside Saudi Arabia, forcing it to temporarily close an oil pipeline.

Iran distanced itself from any attack.

“Iran is concerned by the suspicious events around commercial tankers related to Japan,” Foreign Ministry spokesman Abbas Mousavi, was quoted as saying on Fars news agency. “We see this as going against efforts from within the region and beyond to reduce tensions.”

Oil tankers last became a target in the Persian Gulf and Arabian Sea during the so-called “Tanker War” in the 1980s – a sideshow of the Iran-Iraq conflict. Between 1981 and 1988, a total of 451 ships suffered some sort of attack in the region from Iraqi or Iranian forces, according to a report from the U.S. Naval Institute.

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**Norway's \$1tn fund set to get  
green light for oil  
divestment**



Norway's \$1 trillion sovereign wealth fund is about to get the green-light to dump more than \$13 billion in stocks linked to fossil fuels as well as a broad range of emerging-market bonds.

With broad support, parliament will late on Wednesday approve a spate of changes, including a watered down plan to dump oil explorers and producers that spares the biggest global petroleum companies such as Royal Dutch Shell Plc and Exxon Mobil Corp.

It's nonetheless a milestone for western Europe's biggest oil-producing country and the global investment community. The decision has also been seized on by climate activists eager to choke off capital to fossil fuel producers.

But Norway has been adamant that the move is only a matter of reducing overall exposure to crude prices. The final divestment list will be worked out between the Finance Ministry and the central bank after the legislation has passed, but initial estimates put about \$7.5 billion in oil



and gas stocks on the selling block.

“We’ll need to come back to the timing of implementation, which will depend among others on the bank’s advice,” said Therese Riiser Walen, spokeswoman at the Finance Ministry, which oversees the fund.

## Coal Stocks

The impact of tighter restrictions on the fund’s coal investments is more transparent. In addition to an existing ban on companies that base more than 30% of their activity or income on thermal coal, the fund will observe an absolute limit of 20 million tons for miners and 10,000 megawatts for utilities.

Two climate groups, Urgewald and Future in our hands Norway, estimate 8 coal companies will be divested, equaling \$5.8 billion in stocks and bonds. They also urged to the fund to divest a further 18 companies linked to new power plants.

Among the companies affected could be Anglo American Plc, Glencore Plc and RWE AG, according to Urgewald.

The fund will be cleared to invest in unlisted infrastructure for renewable energy, though the government has proposed a cap of 2% of the fund within its so-called environment-related mandates, whose upper limit will be doubled to 120 billion kroner (\$14 billion).

Parliament is set to let the fund cut government and corporate bonds from emerging markets. That decision also falls short of the central bank’s initial proposal to narrow bond holdings to just euros, dollars and pounds, and the fund will still be able to invest as much as 5% of its fixed-income portfolio in emerging markets.