ENVIRONMENT NOVEMBER 29, 2018 / 1:45 AM / UPDATED 6 HOURS AGO

Pressure mounts to bury carbon emissions, but who will pay?

Barbara Lewis, Nina Chestney

8 MIN READ

LONDON (Reuters) - When countries gather on Sunday to hammer out how they will enact pledges to cut carbon emissions, a Norwegian-led oil consortium will offer a solution: pump some of your excess carbon dioxide to us and we could store it for you.

Smoke and steam billows from Belchatow Power Station, Europe's largest coal-fired power plant operated by PGE Group, near Belchatow, Poland November 28, 2018. REUTERS/Kacper Pempel

Environmentalists worry the costly technology, known as carbon capture and storage (CCS), will perpetuate the fossil fuel status quo when rapid and deep cuts energy use are needed to limit global warming.

But proponents of CCS will be lobbying hard at the two-week climate conference in Katowice, Poland, for the extensive investment and regulatory change required to employ it at scale, citing U.N. assessments that it could play a role.

"The expectation is that Katowice will be important," said Stephen Bull, a senior vice president at Norwegian state-controlled oil company Equinor (EQNR.OL), which is involved in developing a CCS project called Northern Lights.

"CCS is the only way to go," he said, arguing that countries need the technology to help fulfil the pledges they made around the time of the breakthrough Paris climate change agreement in 2015.

A United Nations report warned on Tuesday that nations would have to triple their current efforts to keep global temperature rises within boundaries scientists say are needed to avoid devastating floods, storms and drought.

Along with the United States, Norway is one of the countries at the forefront of drive for CCS, building on 20 years of diverting carbon dioxide from its vast gas output and using some to push out hard-to-reach oil from aging fields.

Oslo plans what it says will be the first viable project to use CCS to limit industrial emissions by taking carbon dioxide from industrial plants at home and abroad and storing it permanently in empty oil reservoirs under the seabed.

The relatively small scale of the project, along with the unsolved problem of who will pay for it, highlight the obstacles to getting CCS technology off the ground.

NECESSARY EVIL?

Organizers of the estimated 1.6 billion euros ($1.8 billion) Northern Lights project say it could store around 5 million tonnes per year of emissions from a Norwegian waste-to energy plant, a cement plant as well as emissions from other countries.

This is a tiny fraction of the 6 billion tonnes per year that would need to be stored by 2050 according to the International Energy Agency, which coordinates industrialized nations' energy policies.

The project still needs the Norwegian government to take a final investment decision, something which Trude Sundset, CEO of Gasnova, the Norwegian state's CCS enterprise, said was scheduled for 2020 or 2021.

That would depend on how the project developed, she said, adding it was also necessary to bring industry and other countries on board.

"It is not easy to find a good business model in the short, medium term," she said. "It's naive to think one country can pay; it has to be a collaboration between industry and government."

A European Union climate strategy published on Wednesday said rapid deployment of renewables meant the potential of CCS to be a major decarbonization option appeared lower than before. But it said CCS would be needed, especially if the bloc wanted to reach a goal of net-zero greenhouse gas emissions by 2050.

"For sure, we have to improve carbon capture and storage and we have to invest," EU climate chief Miguel Arias Canete told Reuters.

Earlier attempts to fund CCS in Europe have largely failed. An EU program in 2012 did not go on to fund a single CCS project and a British support scheme was canceled in 2015.

Britain's government now plans to help develop the country's first commercial project which will capture carbon dioxide to be used in industrial applications by the mid-2020s.

Europe's Green party prioritizes energy efficiency, recycling, tree-planting and renewable energy, but says there could be a role for CCS in offsetting emissions from processes like steelmaking.

"We need to experiment with it. There is an industrial application — think steel," Bas Eickhout, Dutch Green MEP and climate spokesman for the Greens, told Reuters.

“The problem is that the longer we wait, the more it (CCS) becomes a necessary evil.”

Graphic: Carbon capture technology - tmsnrt.rs/2RfMgR3

COAL DEBATE

FILE PHOTO - A pipe for transporting carbon ...

Eighteen large-scale CCS plants are in operation around the world, according to the Global CCS Institute, which says 2,500 CCS facilities, each able to store 1.5 million tonnes a year, would be needed by 2040 to keep global warming within a 2C rise.

Countries as far afield as Algeria and Japan are working with CCS but only two of the world’s CCS operations are on power plants. The CCS industry sees potential for many more.

While Europe focuses on renewables and replacing emissions-heavy coal with gas, developing countries say they cannot move so fast and U.S. President Donald Trump, who pulled his country out of the U.N.’s Paris climate change accord, promotes coal.

But the U.S. Institute for Energy Economics and Financial Analysis (IEEFA) think tank said this month that coal plants are having a difficult time competing with wind and solar resources which have come down rapidly in price even without CCS.

“Economics is a serious issue. And to do CCS on a wide scale you need to build a whole new infrastructure: new pipelines, find repositories which would work, inspection equipment and then monitoring,” said IEEFA’S David Schlissel.

IEEFA estimates putting CCS on an average U.S. coal plant would cost nearly $100/megawatt hour (MWh). This compares to average power purchase agreement prices for wind and solar of around $20-$40/MWh or less since 2017.

The CCS Institute, which represents companies involved in developing the technology, said on Wednesday a feasibility study on fitting CSS to a second coal-fired power station in Saskatchewan, Canada, had shown it could be done more cheaply.

It cited a cost of capture at $45 per ton of CO2, saying the study showed coal could be competitive with natural gas.

Major mining companies are also counting on CCS.

BHP BLT.L (BHP.AX), the world’s biggest listed miner and biggest producer of coking coal, used in steel-making, has set a goal for its own operations to be net zero by the

second half of the century, in line with the Paris Agreement on Climate Change.

BHP has spun off many emissions-heavy operations into another company, South 32 (S32.AX), but the indirect emissions from the products it sells remain very high because of the use of its iron ore and coking coal to make steel.

It has also said it hopes to expand its oil production.

"If you're not serious about CCS, you're not serious about achieving 2 degrees (Celsius warming), let alone 1.5," Fiona Wild, vice president, climate change and sustainability at BHP, said, referring to limits the U.N. says are needed to avoid a dramatic increase in heat waves, floods and droughts.

BHP has given money toward CCS research in China, but says the technology needs investment and regulatory support from countries around the world, including a global carbon tax rather than locals ones — something which remains a long way off.

Poland, which depends heavily on coal, mostly mined in Silesia where the December climate talks will take place, has been an advocate for CCS but now emphasizes the role of its forests, calling for them to count as carbon sinks.

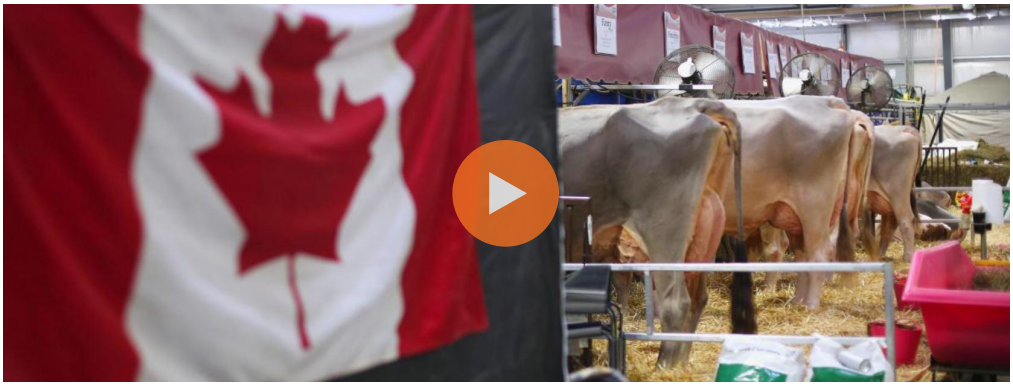
Professor Stuart Haszeldine from Edinburgh University's school of Geosciences, acknowledges the role of trees but says CCS is the only way to reach the U.N. goal of net zero emissions by the middle of the century.

"Trees can mop up CO2 – but one tree takes 2 kilograms of CO2 every year. Each one of us would need three Wembley stadium football pitches to soak up our emissions," he said.

($1 = 0.8825 euros)

Additional reporting by Alissa de Carbonnel in BRUSSELS; editing by Philippa Fletcher

TOP ARTICLES 1/5



Dairy issue nags as U.S., Canada prepare to sign trade pact: sources

READ MORE »