Developer of UK carbon capture project eyes South-east Asia

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GLASGOW - One of the world's largest carbon removal projects could be up and running in Scotland from 2025, and its developer is looking to develop similar facilities in South-east Asia.

Dr Nick Cooper, chief executive of Storegga, a company that develops projects for carbon reduction and removal, told The Straits Times on the sidelines of the COP26 climate summit in Glasgow that his firm was very keen to establish carbon capture and storage facilities in the region, and that the project in Scotland could be a good model for it.

"We've got teams looking to try and replicate this template as quickly as possible to get to net-zero (carbon emissions) around the world," he said during an interview on Friday (Nov 5).

Climate scientists have said that the amount of carbon emissions produced by countries must reach net-zero by 2050 if the world was to stand a better chance of avoiding catastrophic climate impact that could upend economies and societies.

Reaching net-zero essentially means not putting any more greenhouse gases in the atmosphere.

This can be done by reducing the amount of emissions produced through energy-efficiency efforts and by switching to renewables, and taking in unavoidable emissions by safeguarding forests, planting more trees and deploying carbon capture technology.

More than 130 countries, including Britain, have pledged, in the lead-up to COP26, to reach this net-zero target by 2050, reported the BBC.

Singapore's target is to reach net-zero emissions as soon as viable in the second half of the century, with the Government citing constraints such as its lack of access to renewable energy sources other than solar.

But the Republic is doing research into emerging technologies that can help it reach net-zero emissions sooner, with the Government funding studies on the use of hydrogen as a fuel and the development of carbon capture technology.

Hydrogen is considered a clean fuel. Unlike fossil fuels, it does not produce planet-warming carbon dioxide (CO_2) when burned.

Carbon capture and storage technology entails the capturing of CO_2 and storing it underground. This prevents CO_2 from accumulating in the atmosphere, where it acts like a blanket, trapping heat and driving climate change.

Storegga's project in Aberdeenshire on Scotland's north-eastern coast does both.

The firm is the lead developer of Britain’s Acorn programme.

The first phase of the programme will capture and store CO_2 from nine different sources in depleted oil and gas fields about 100km offshore from the existing St Fergus gas terminal in Aberdeenshire.

This ability to store CO_2 will enable three activities, said Dr Cooper. They include the capture of CO_2 from emissions from power and industrial companies’ chimneys, the capture of CO_2 directly from the air, and the production of hydrogen by reforming natural gas.

Dr Cooper said the carbon capture and storage from industrial emissions and directly from the air are expected to start in late-2025, and hydrogen production in 2026.

There are now fewer than 30 carbon capture and storage facilities in operation worldwide, sequestering about 40 million tonnes of CO2 every year.

But the International Energy Agency said the world needs to capture and store much more - some six gigatonnes of CO2 a year, more than 160 times the current rate - by 2050, for a better chance of limiting global warming to 1.5 deg C above pre-industrial levels.

Dr Cooper said the Acorn project - which channels the captured CO2 to the offshore storage site via existing gas pipelines - could sequester up to 23 million tonnes of CO2 a year in its initial phase.

"If we choose to build more pipelines, we can probably add tens of millions of tonnes to that... that's nothing when we need to be storing five to six gigatonnes, but I think it's fair to say this will be a globally important project in the next decade," he added.

Other countries could benefit from the project as well, Dr Cooper said.

"If you're in Japan or Singapore or Australia, you've got two options - you can either do your own fiddling around, take your own voyage of discovery, or you can find out from the UK's successes and failures and then do your own local adaptation," he said.

The Straits Times reported last month that Nanyang Technological University researchers are doing studies to assess if Singapore's rock formations could be suitable for storing CO2.

Asked about the economic viability of carbon capture efforts, Dr Cooper said this hinges on the carbon price in the jurisdiction.

"It depends on what your cost of not doing it is," he said.

In Singapore, large emitters have to pay a carbon tax for every tonne of greenhouse gas emissions they produce.

The Republic's current carbon tax rate is $5 per tonne of emissions - a rate that critics have panned as being way too low.

But a revised carbon tax rate for 2024 will be announced in next year's Budget.