

# NEW ENERGY STORAGE PROJECT IN OSLO

## HYDROGEN ENERGY STORAGE



How much CO<sub>2</sub> will Stockholm exergi store? The news comes following a signed commercial agreement with Stockholm Exergi to transport and store 900,000 tonnes/year(tpy) of biogenic CO<sub>2</sub> for 15 years. The Northern Lights project comprises transportation, receipt, and permanent storage of CO<sub>2</sub> in a reservoir in the northern North Sea.



Will Norway's Northern Lights project help grow a new industry? Norway's Northern Lights project, when completed in its first phase, will store 1.5 million tonnes of CO<sub>2</sub> per year, making it one of the largest carbon capture and storage projects globally [could encourage the growth of a new industry in Greater Bergen].



Will Zeg power build a hydrogen plant at CCB Energy Park? ZEG Power plans to build its first industrial hydrogen production plant at CCB Energy Park, having recently raised more than NOK 130 million (roughly \$12 million) for this purpose. Longer term, the Norwegian company intends to sell and deliver further hydrogen plants both at Kollsnes and at locations across the world.



Can Kollsnes be used to produce hydrogen? Kollsnes could be used to produce hydrogen in future. The area is home to a natural gas processing plant, and Øygarden municipality, along with CCB Energy Holding, is the owner of the location in Øygarden at Kollsnes. Photo (C) CCB EH.



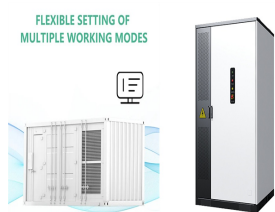
Could the Northern Lights project encourage a new industry in Bergen? The Northern Lights project could lead to the growth of a new industry in Bergen. Through the Northern Lights Project (consisting of Equinor, Shell and Total), Norway is planning to capture, transport and store large volumes of carbon dioxide (CO<sub>2</sub>) subsea, under the Norwegian Continental Shelf.

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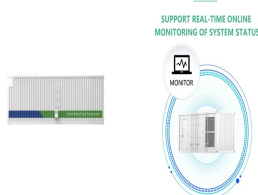
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These startups develop new energy storage technologies such as advanced lithium-ion batteries, gravity storage, compressed air energy storage (CAES), hydrogen storage, Menu BY SOURCE BY TECHNOLOGY BY ???



The second sub-project is a waste-to-energy plant located in the capital Oslo, the Hafslund Oslo Celsio (formerly named the Fortum Oslo Varme). The sub-project aims to match its sister's capture rate at 400,000 tonnes of ???



Norwegian Hydrogen has firmly established itself as a leading producer of green hydrogen, with operational facilities in Norway and Denmark serving a diverse range of industrial customers across the Nordics. The company is actively ???



Despite all the challenges that 2020 has brought, a staggering 50GW of green-hydrogen electrolysis projects have been announced this year, out of a current global total of 80GW, as more and more countries announce ???



The project also includes Fortum Oslo Varme, a waste-to-energy power plant that provides Oslo with district heating services. This facility is also aiming to capture 400,000 tonnes of carbon dioxide each year.

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The HPC Krummh?rn project combines security of supply and decarbonisation Trial operation begins with a gas tightness test on 24 September 2024 and the planned first gas fillingWith the pilot cavern, the full use of a salt cavern ???



The International Energy Agency (IEA) says that 306 million tonnes of green hydrogen needs to be produced annually by 2050 to meet net zero targets.. It says significant strides must be made to make hydrogen ??? a ???



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ZEG Power, a company delivering innovative technology and equipment for hydrogen production from gas with integrated CO2 capture, has partnered with CCB on a new initiative to deliver clean, cost efficient hydrogen ???



Delivered by Invinity Energy Systems plc (AIM:IES), a leading global manufacturer of utility-grade energy storage, in partnership with Pivot Power, has been awarded over ?700,000 funding for a feasibility study into ???

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However, if the EU is to get enough clean hydrogen for its energy system, it also needs to use hydrogen extracted from natural gas. Norway can contribute to this by splitting our natural gas into hydrogen and CO<sub>2</sub>. We can ???



Sval, Storegga and Neptune apply for a CO<sub>2</sub> storage license in the Norwegian North Sea. The project, called Trudvang, has the potential to store up to 225 million tonnes of CO<sub>2</sub>. The application comes after the Norwegian ???



Furthermore, together with NorSea Group, Willhelmsen will develop a new and flexible distribution concept for liquid hydrogen, including zero-emission ships and terminals, at NorSea's bases ???



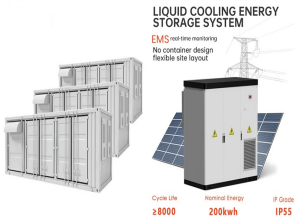
The Longship project involves industrial partners Heidelberg Materials, Hafslund Celsio, and the Northern Lights consortium. The plan is for CO<sub>2</sub> from the capture facilities of Heidelberg Materials and Hafslund Celsio to ???



Northern Lights: Europe's First Large-Scale Carbon Capture & Storage Project Key Points: TotalEnergies, Equinor, and Shell are partnering on Northern Lights, Europe's major ???

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As a result, the system volumetric hydrogen storage densities will take similar (though still high) values for the different materials (last row in Table 1), and for stationary ???



In Norway, there is large potential to produce clean Hydrogen from natural gas with carbon capture and storage technology to remove the emissions. Producing Hydrogen from renewable energy such as surplus wind power is a ???