Developing Longship – Key Lessons Learned

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GASSNOVA

‘Longship’ for carbon capture and storage launched in Norway

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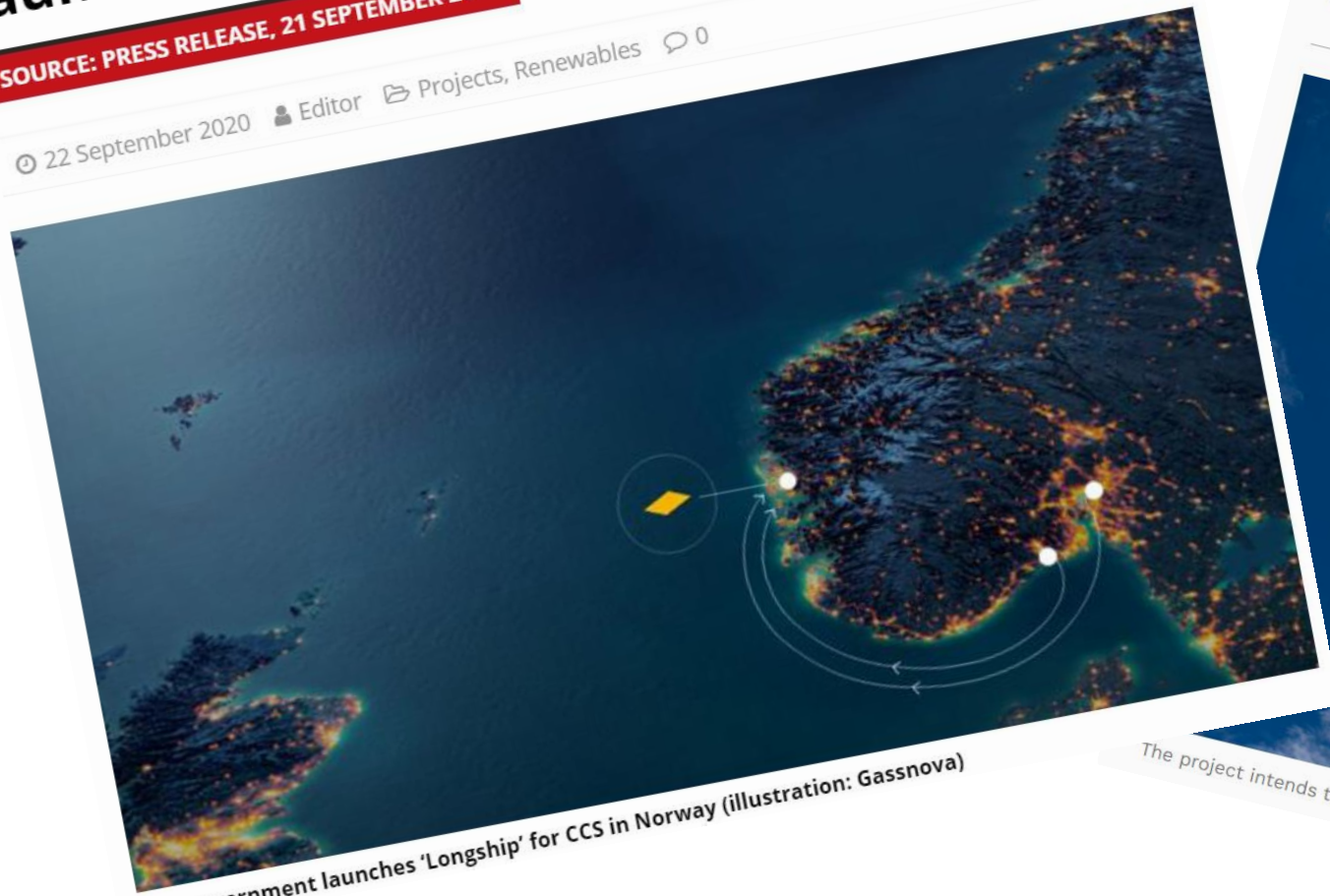

The Government launches ‘Longship’ for CCS in Norway (illustration: Gassnova)

Norway To Build $3 Billion ‘Longship’ Carbon Dioxide Capture Project

Nils Rokke Contributor

Energy

I write about the global energy transition and net-zero emissions.

The project intends to suck carbon dioxide out of the air. AFP VIA GETTY IMAGES

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Longship - First-of-its-kind

Longship is a first-of-its-kind project when it comes to:

- Demonstration of a complete and flexible CCS-chain with capture from cement production and potentially a waste-to-energy plant, ship transport and offshore geological storage
- Application of European and Norwegian CCS regulations on a CCS-chain with different industrial parties
- Scalable transport and storage infrastructure ready to be used by other emission sources
- A commercial framework supporting further development of CCS in Europe

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Key Lessons Learned

- Developing a CCS chain with CO_2 capture, transport by ship and geological storage is technically feasible and safe, but commercially challenging
- No regulatory showstoppers have been identified so far
- Limited use of new technology, and only for the amine technologies used to capture of CO_2 there are no fallback solutions
- Although there are few comparable CCS chains world-wide, experienced and competent contractors and suppliers can be mobilized and the technical know-how is readily available

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Key Lessons Learned (continued)

- Net cost per tonne for capture, transport and storage is high;
  - For 800,000 tonnes per year the cost is around €120
  - Full utilization of the transport and storage facilities will decrease cost per tonne with
- Estimated time to perform detailed engineering and construction:
  - Transport and storage facilities: ~36 months
  - Capture plant: ~ 42 months
- Reflecting the balance between risks and opportunities in the agreements for state aid, the state will carry most of the costs:
  - Transport and storage by Northern Lights: ~73%
  - Capture at Norcem: ~84%
  - Capture at Fortum Oslo Varme: ~40%

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