BERLEVÅG - VARANGER PENINSULA -FINNMARK - NORWAY





Berlevåg is longer east then Istanbul



Municipality of Berlevåg Hydrogen in the wind



The power supply to Eastern-Finnmark

There is a lack of capacity in the national grid to Eastern Finnmark

Eastern Finnmark is on the end of the national grid and there is no ring connection or no redundancy to this part of grid

There is a cross-border connection to Finland, but the capacity is limited



The National grid in Finnmark

- Hydrogen in the wind Regional grid and electricity production in Eastern Finnmark

Regional grid is based on 132KV powerlines, and it has capacity for the wind concessions that has been given in the region.

Electricity production in the region: Windfarms:

• 149MW, 600GWh

Total of wind concession given is 320MW

Hydroelectric powerplants:

• 95MW, 430GWh

Total regional production \sim 1030GWh annually





Outline one innovation that your organization has brought to the energy sector that is exciting and explain how that came about:

HYDROGEN PRODUCTION FROM STRANDED WIND!

A green opportunity in the Arctic



A green opportunity in the Arctic

Stable and very good wind conditions can provide great opportunities for industrial development. End products such as hydrogen and ammonia can become very important in the energy systems of the future. It will be business opportunities based on spin-off effects from large-scale hydrogen and ammonia production. Berlevåg industrial park will be based on circular economic principles.



MUNICIPALITY OF BERLEVÅG

- Hydrogen in the wind

A green opportunity in the Arctic

The municipality's preparations to utilize stranded wind power.

- Lack of grid capacity has resulted in our focus on stranded wind and how to benefit on it.
- Since 2010 the Berlevåg Municipality has worked to realize a new, green industrial adventure based on electric power from the Raggovidda Wind Farm.
- Pre-study: Hydrogen production based on wind power from Raggovidda wind park. (SINTEF 2015)
- Feasibility study: Hydrogen Production at Raggovidda and Hamnefjell Wind Parks (SINTEF 2017)
- Haeolus was an EU financed project (under the Horizon 2020 program) that proposes a new-generation electrolyzer integrated within a state-of-the-art wind farm in a remote area with access to a weak power grid.
 (2019-2023) www.haeolus.eu

Municipal roadmap for the development of Berlevåg

Focusing on:



- Fishery and Green industry
- Sustainability Circular economy



Competence

- Education
- Research, Development and Innovation

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Community

- Population development
- Community attractiveness



Municipality of Berlevåg Hydrogen in the wind



Varanger Kraft Hydrogen AS

A hydrogen factory producing green hydrogen in Berlevåg today!

Electrolyser capacity is 2,5 MW.

The factory produce 1-ton green H2 and 8-ton O2 every day.

Located in the industrial park close to the harbour of Berlevåg







Electricity from Arctic wind as a source for green hydrogen and ammonia production in the region



Green Ammonia Berlevåg AS



Municipality of Berlevåg - Hydrogen in the wind



Raggovidda windfarm



A green industrial park in the Arctic



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