

H2 Value Chain Conference: Hydrogen in Statkraft

ULF ERIKSEN, VP HYDROGEN, 16TH NOVEMBER 2022

Background: A fundamentally changed energy situation in Europe





We aspire to become a leading developer of green hydrogen

- Become a leading green hydrogen player in Norway and Sweden, and establish an industrial position in selected other Statkraft markets – *focus* on early mover markets in Europe
- Take a role as **producer and seller** of green hydrogen and hydrogenbased fuel, **developing**, **owning**, **and operating** green hydrogen assets
- Act as a **market integrator** within hydrogen, and leverage green hydrogen as a **route-to-market** for wind and solar *relevant in all Statkraft markets*

• **Develop 2 GW** green hydrogen cumulated by 2030



Statkraft's hydrogen strategy – key elements

- Renewable power main driver
- Role: Producer and market integrator
- Combination of industry and transport
 - Hubs are important
- Projects in Scandinavia, UK and Germany
 - Also started up in other countries
 - Connection across geographies
- Cooperation with others key to succeed



Hydrogen Hub Mo Green steel and hydrogen hub







40 MW Initial capacity



- High-temperature heat for reinforcement steel
- Hub with industry, maritime and land transport
- Current work on technical and commercial workstreams

Q4-2024 Planned start

Statkraft

Hitra Maritime Hub Maritim hydrogen hub





10-20 MW Capacity in the beginning

 H_2

- Awarded Enova-grant one of five maritime hubs
- Technical development of the project ongoing
- Parallel work on building customer basis

2025 Planned start

Hydrogen Hub Hardanger

Green steel and hydrogen hub







- H2 CECHIPFIC 02 H2 H2 H2 EDLIDEN C
 - High-temperature heat first, then reduction
 - Sub-sea storage
 - Transport maritime and on land

2024-30 Planned start

Hardanger

Hydrogen Hub

Relative energy costs important for competitiveness of hydrogen

• Substantial price increase for MGO and power – power important for green hydrogen





Source: Montel.



Still challenging to compete with MGO

Example:

- MGO 800 EUR/ton
- Hydrogen 50 NOK/kg, needs CO2-price of 300 EUR/ton
- Hydrogen 30 NOK/kg, needs CO2-price of 80 EUR/ton
- Gap could be bridged by CFD
 - Either on hydrogen or CO2
 - Gap can have many causes, not only CO2



Ex: MGO price 800 €/t, Pure energy cost, not taking into account improved efficiency of hydrogen



Cooperation between companies, industry and authorities is the key to success







