

Giving Norwegian industries a green competitive edge

Per Christian Eriksen, Hydro Havrand

16. november 2022

Green hydrogen

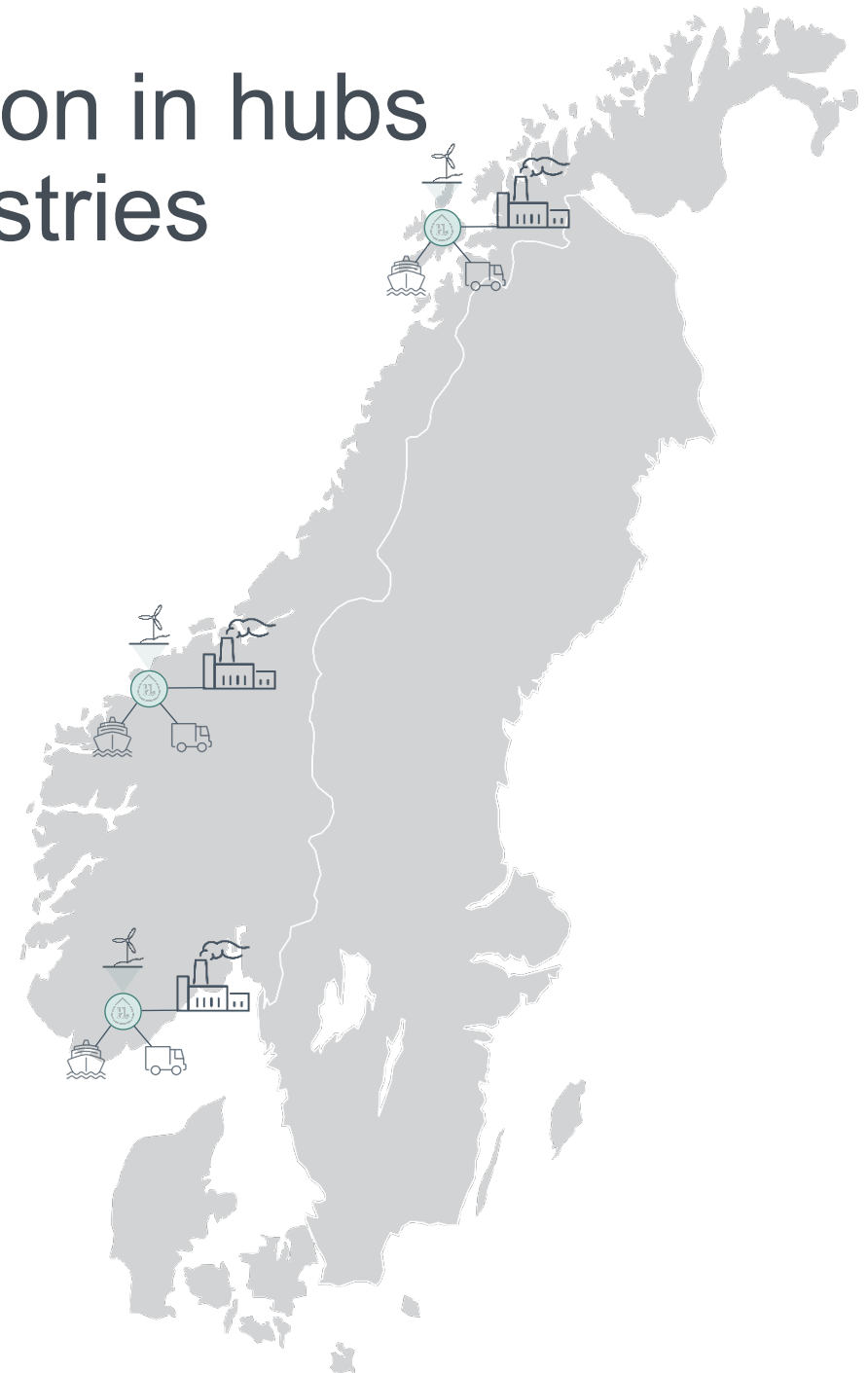
A two-step potential



Step 1 Green hydrogen production in hubs to decarbonize Norwegian industries



Step 1 Green hydrogen production in hubs to decarbonize Norwegian industries

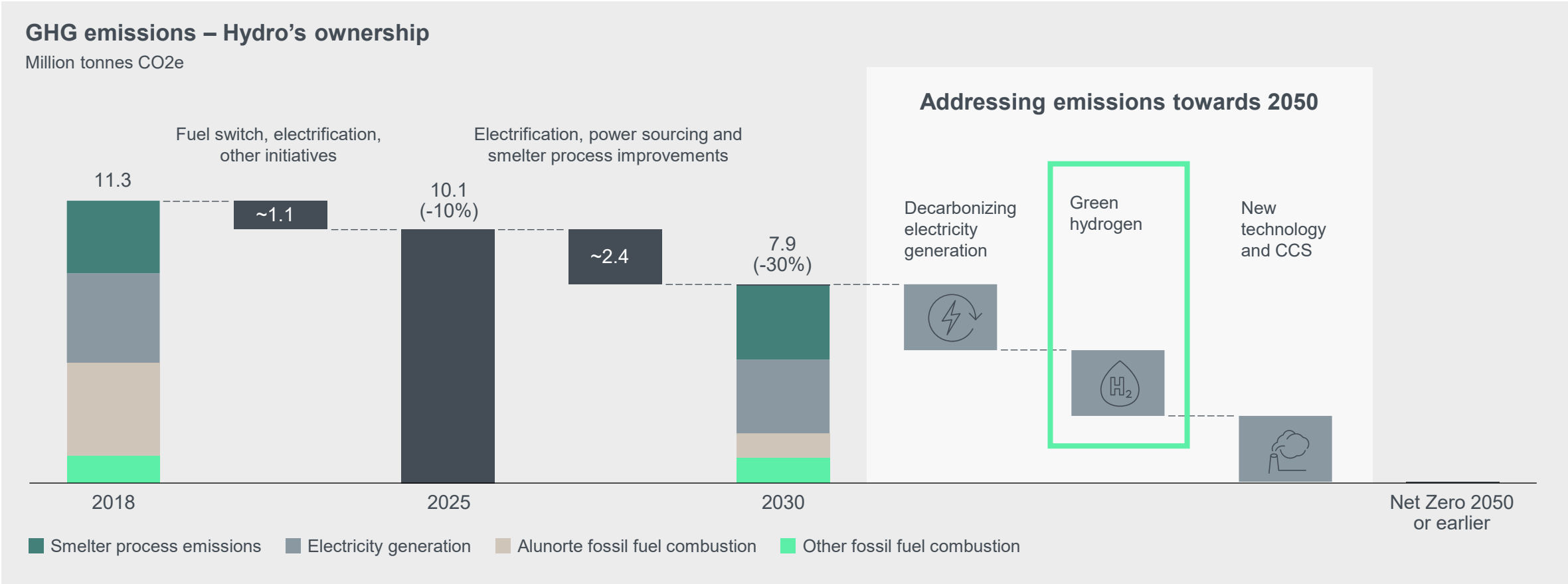


Step 2: Green hydrogen to balance renewable energy system and to export



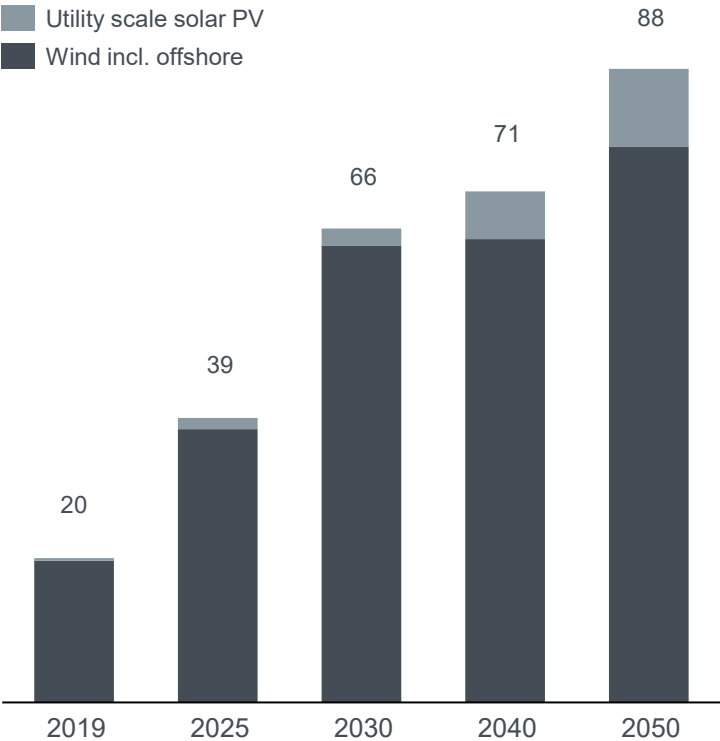
Every step matters on the path to zero

Hydro aims to be a net zero company by 2050

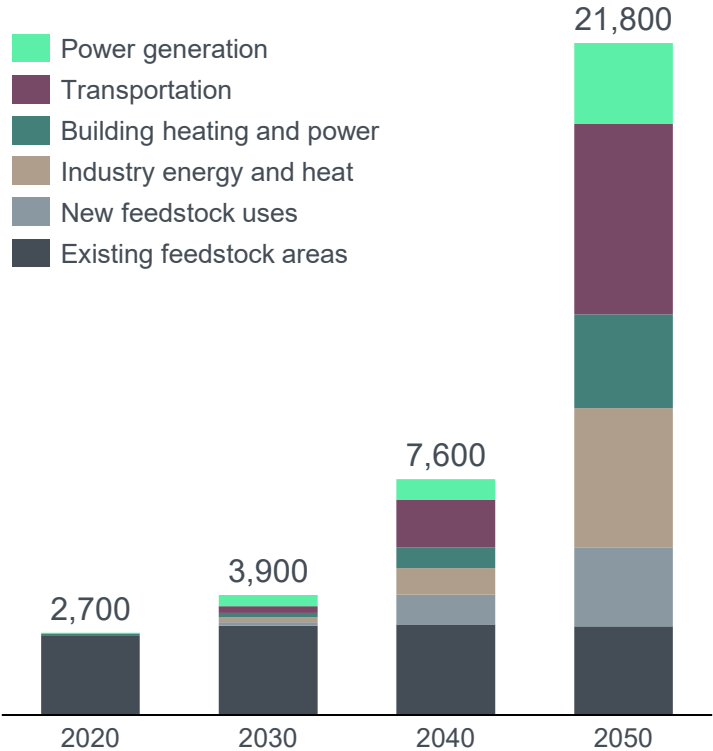


Zero emission targets is a business opportunity for Norway

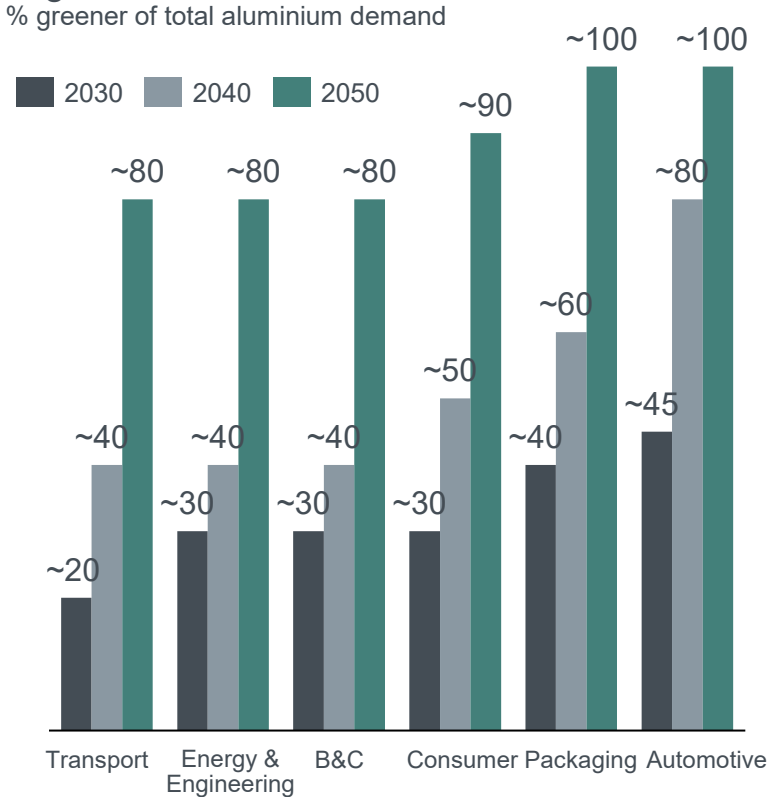
Northern Europe¹⁾ renewable capacity forecast
GW



Global hydrogen demand
TWh



Share of greener¹⁾ aluminium demand per
segment



¹⁾ Northern Europe includes Norway, Denmark, Sweden, Finland, Estonia, Lithuania and Latvia
Source: BloombergNEF, IRENA – Corporate sourcing of renewables: Market and Industry Trends, Statnett, Rystad Energy 1,6 scenario IPCC for batteries

Decarbonizing hard-to-abate sectors

Leveraging green hydrogen potential in the aluminium value chain

Upstream: Bauxite & Alumina

- Calcination Process
- Mining Trucks

Example: Hydro Alunorte

Primary: Aluminium Metal

- Melting Furnace
- Homogenizing Furnace
- Anode Baking Furnace

Example: Hydro Høyanger

Downstream: Rolling, Extrusion & Recycling

- Remelting Furnace
- Holding Furnace
- Homogenizing Furnace

Example: Hydro Vetlanda

Our scalable approach

1 Testing and on-site hydrogen production at Hydro locations

2 Partnerships to produce hydrogen for Hydro and partner offtake

3 Developing independent projects globally

Maturing projects globally

Enabling decarbonization of steel with H2 Green Steel



Decarbonization of Hydro Sweden's aluminium extrusions



The road to
hydrogen value chains
goes through
**industry anchor
demand**



HAVRAND | 
Hydro