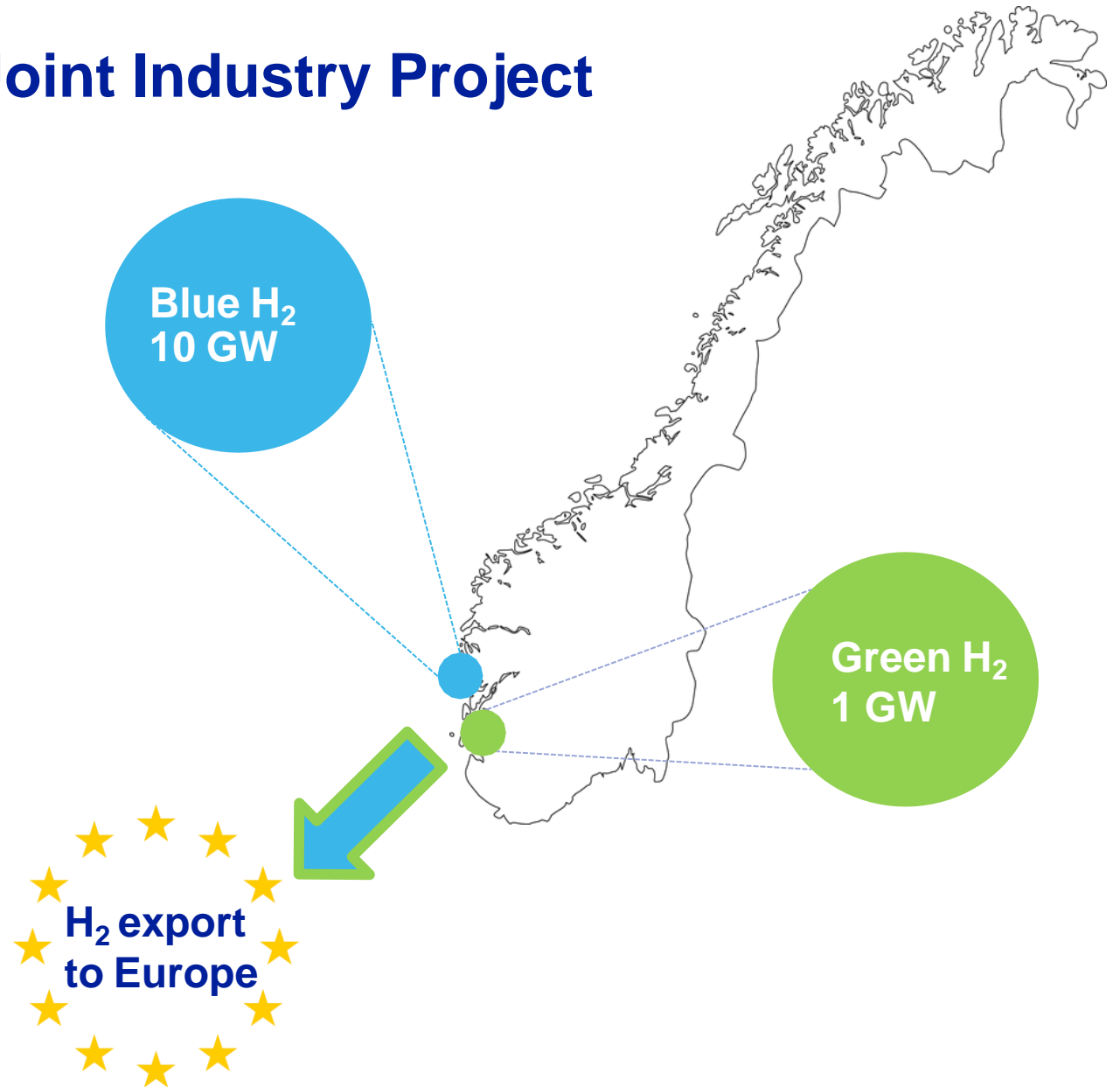


Low Carbon Energy Hub

GERG conference 03.12.2021 – Svein-Erik Losnegård, Gassco AS

Low Carbon Energy HUB – A Joint Industry Project

- Project duration: Q2 2021 – mid 2022
- **Catalogue of 10-12 large scale low-carbon value chain projects**
 - 10-12 GW blue hydrogen plant
 - 1 GW green hydrogen plant
 - Hydrogen pipeline to Europe – Gassco
 - Market study
 - Other projects to be included
 - Domestic hydrogen production
 - Hydrogen import to Germany



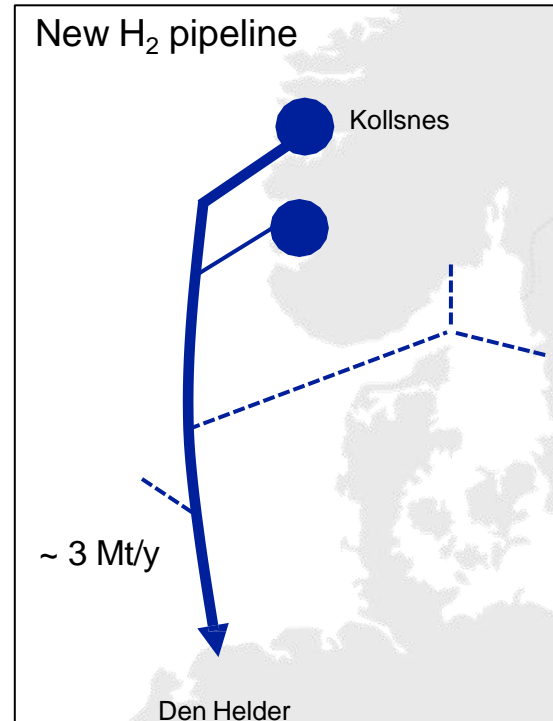
Transport options – new pipeline vs existing pipelines

New Pipeline

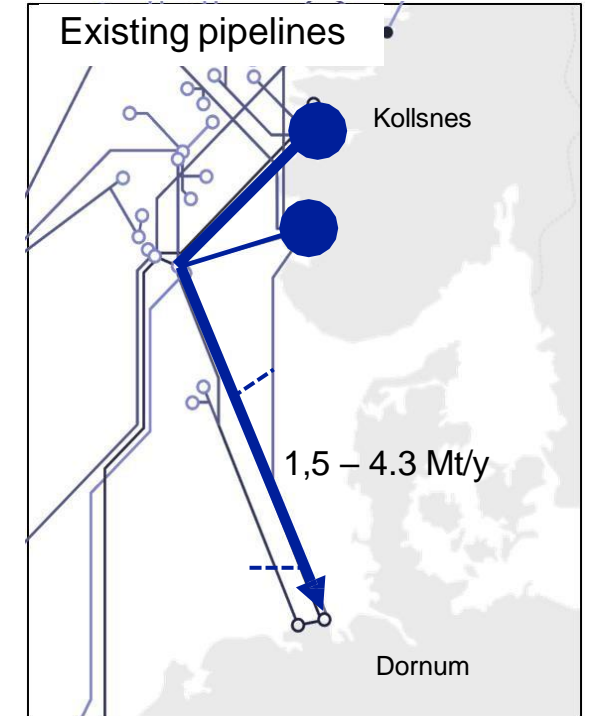
- Volume: ~3 Mt/year
- Outlet pressure: 50 barg
- Diameter: 40 inches
- Inlet pressure: 120 - 150 barg
- Potential other inlets/offtakes
 - Grenland / Sweden
 - Downstream windfarms

Existing Pipeline

- Zeepipe IIB and Europipe – 40"
- Statpipe – 28"
- Reduced pressure
- potential to be increased due to R&D activities
- 1.5 – 4.3 Mt/y
- Exit in Emden
- Potential for blending



CAPEX, ~16 BNOK
(main pipeline only from Kollsnes to Den Helder)



CAPEX, 1 – 2 BNOK
(bypass Draupner platform, subsea facilities etc.)

Next steps

- Compression study for pure hydrogen
 - Identify potential technical solutions
 - Size and number of units
 - Power requirement
 - Plot space
 - Unclassified cost
 - Step changes in technology and cost with increasing volumes and pressure
 - R&D potential
- Hydrogen blending with natural gas
 - Blending limits for existing equipment
 - Valves
 - Compressors
 - Metering
 - Deblending technologies