



HYDS

Hydrogen Solutions

**Green Hydrogen
– For a Sustainable Tomorrow**

HYDS is a H₂ developer, operator and producer, supplemented by a vertically integrated EPC business

HYDS values

SAFE



SUSTAINABLE



TRUST



DRIVE



2021
established



29
full time employees



85 MW
for 8 near term projects



15% +
estimated Group IRR



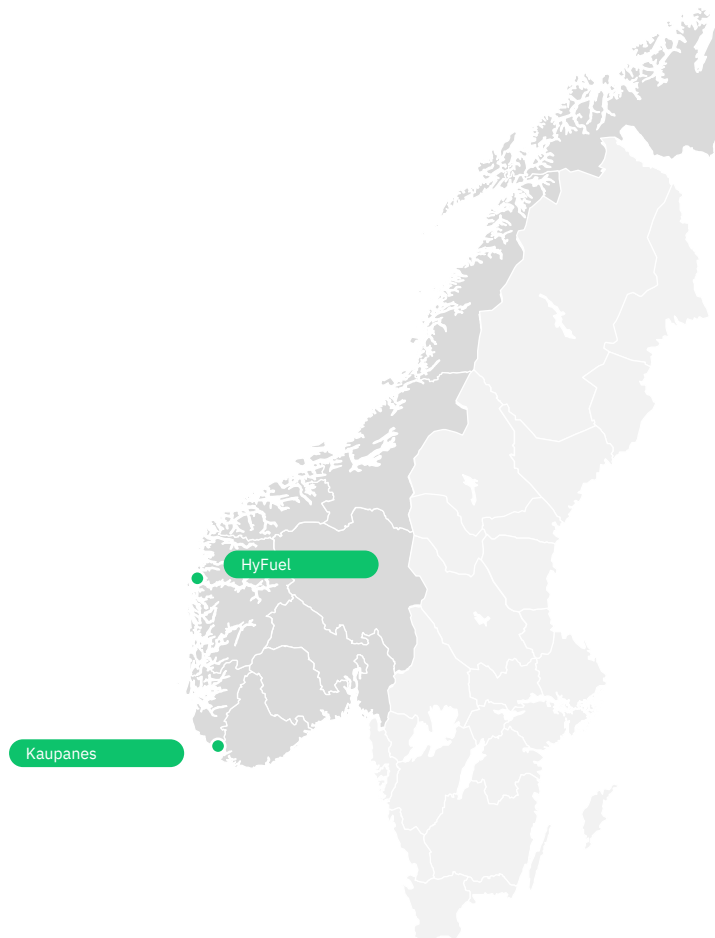
>300 MW
target for 2030



24 plants
target for 2030



HYDS recieved soft funding support from ENOVA – Confirming NOK 206m for Kaupanes and NOK 180m for HyFuel



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HYDS realizes a green energy transition at sea

NOVEMBER 5, 2024 11:28

The award from ENOVA paves the way for the green shift at sea through access to green hydrogen, at prices that make the energy transition possible. With this, HYDS is helping to facilitate zero-emission fuel at important hubs for aquaculture and short sea shipping along the Norwegian coast.

HYDS has today been awarded a total of NOK 386 million (respectively NOK 180 million and NOK 206 million) for the projects *HyFuel* (Florø) and *Kaupanes Expansion Project* (Egersund), through Enova's allocation program sector, *Hydrogen production for maritime transport*.

Enova's support for the two projects applied for by HYDS (Hydrogen Solutions AS), now facing an important upscaling of the production modules.

– I am incredibly proud of the team that has worked hard to be ready for an expansion of Kaupanes' Hydrogen facility. The good cooperation between the owner and HYDS, through the planning, construction and operation, is a great example of how to do it right.
Hagen, CEO of HYDS.



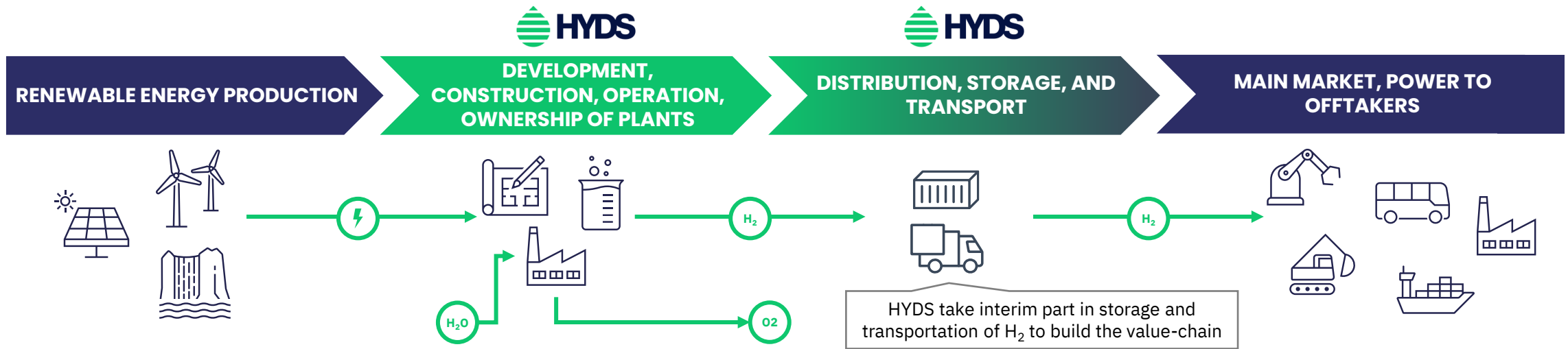
From today's award: Idar Sønstaba (HYDS Board member/ CEO Dalane Energi), Frode Kirkedam (CCO HYDS), Lone Frogner (HYDS Chairman of the board), Sigmund Størset (Enova), Thor Henrik W. Hagen (CEO HYDS), Øyvind Leistad (Director of Social Economics, Enova SF), Jan Erik Ødegård (Commercial manager HYDS).

NOK 386 mill.
granted HYDS from the total amount of NOK 777 mill.

NOK 206 mill.
soft funding to Kaupanes Expansion Project

NOK 180 mill.
soft funding to HyFuel Project at Fjordbase, Florø

HYDS is a developer, operator and owner of hydrogen plants





STORD
HYDROGEN

HYFUEL



KAUPANES
HYDRØGEN



Two plants in operation and robust pipeline established

Overview of project pipeline and project description

#	Name & Location	Maritime	Mobility	Industry	Total capacity	COD ¹ / FID ²	Scale up potential
Operational							
1	Stord pilot		x		1MW	Operating	
2	Kaupanes	x	x		1MW	Operating	
Subtotal					2MW		
Near term projects							
						COD	
3	Kaupanes Exp.	x	x		20MW	2027	
4	Hyfuel	x	x		20MW	2027	✓
5	Meråker		x	x	10MW	2026	✓
6	Karlstad		x	x	20MW	2028	✓
7	Stord LH ₂	x	x	x	5MW	2026	
8	Industrial Project		x	x	10MW	2027	
Subtotal					85MW		
Selected extended pipeline projects							
						FID	
	Narvik		x	x	50MW	2026	✓
	Sandvikvåg	x	x		60MW	2026	✓
	Tellenes		Large scale		200+MW	2028	✓
	3*Industrial asphalt		x	x	10MW	2026-27	✓
	2*Mobility Sweden		x	x	20+MW	2026-27	✓
	Spanish project		x	x	10MW	2025	✓
	

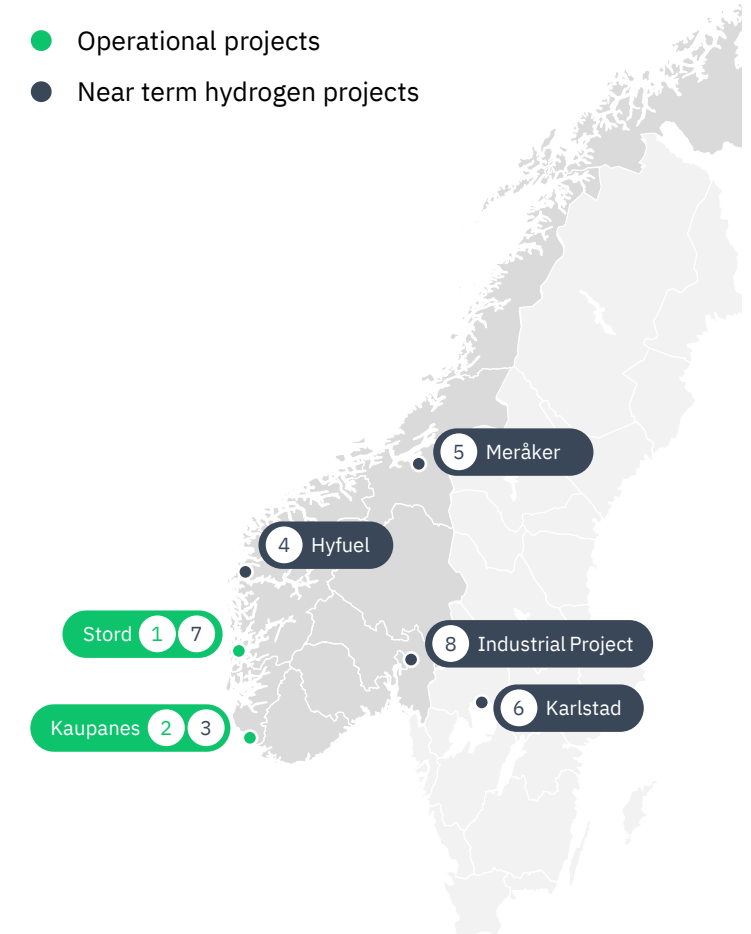
Operational projects with planned extensions in place

Near term projects with estimated COD in the next 2-3 years. Most projects have signed Project Development Agreements with clear path to FID and optional paths to construction and operation

Long-term projects with estimated FID from 2025 and onwards. Projects differ in the planning stage, some with land rights secured

Hydrogen projects

- Operational projects
- Near term hydrogen projects



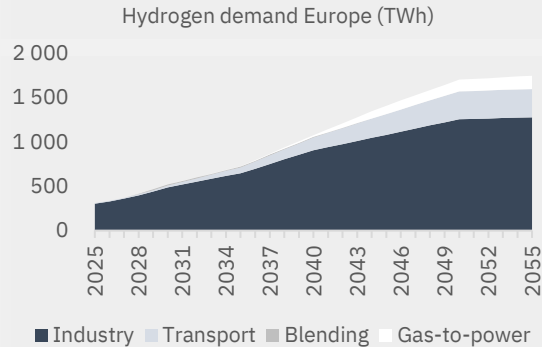
Notes: 1) Commercial Operation Date 2) Final Investment Decision

European demand for green H₂ set to increase rapidly - Norway early market mover, and expected to become a key exporter

1

Demand for green hydrogen expected to rise rapidly

- Market expected to grow to **1750 TWh** by 2050
- Demand is expected to increase significantly as **industries** and **heavy-duty** transport segments decarbonize operations
- For many branches within these sectors, low-emission hydrogen is the only feasible option to decarbonize



2

Supportive regulatory framework

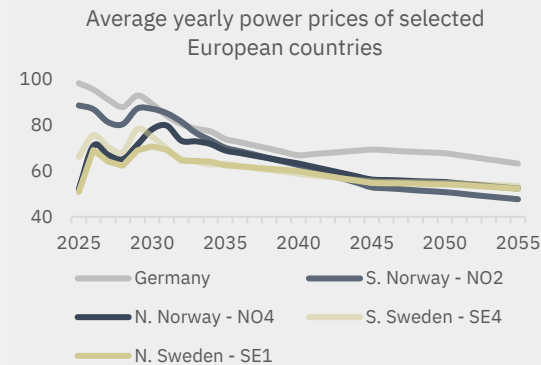
- EU adopts **certification** for renewable hydrogen to meet climate targets (only Norway and Sweden meet criteria)
- **ENOVA** offers support schemes for Norwegian projects
- Norwegian H₂ projects eligible for **CO₂ compensation** to prevent carbon leakage
- Green hydrogen producers now eligible for **EU carbon allowances**
- Various support schemes across EU



3

Norway is uniquely positioned to capture demand

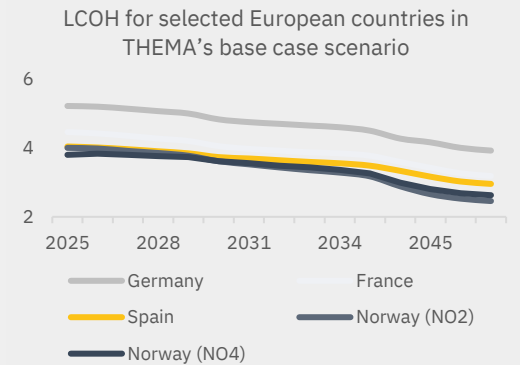
- Power grid that consists of **~100%** renewable power at **low costs** and supportive government **schemes**
- Norway's access to **low-cost green energy** leads to a **cost advantage compared to most European countries**
- Norwegian power prices are expected to stay **below** continental prices



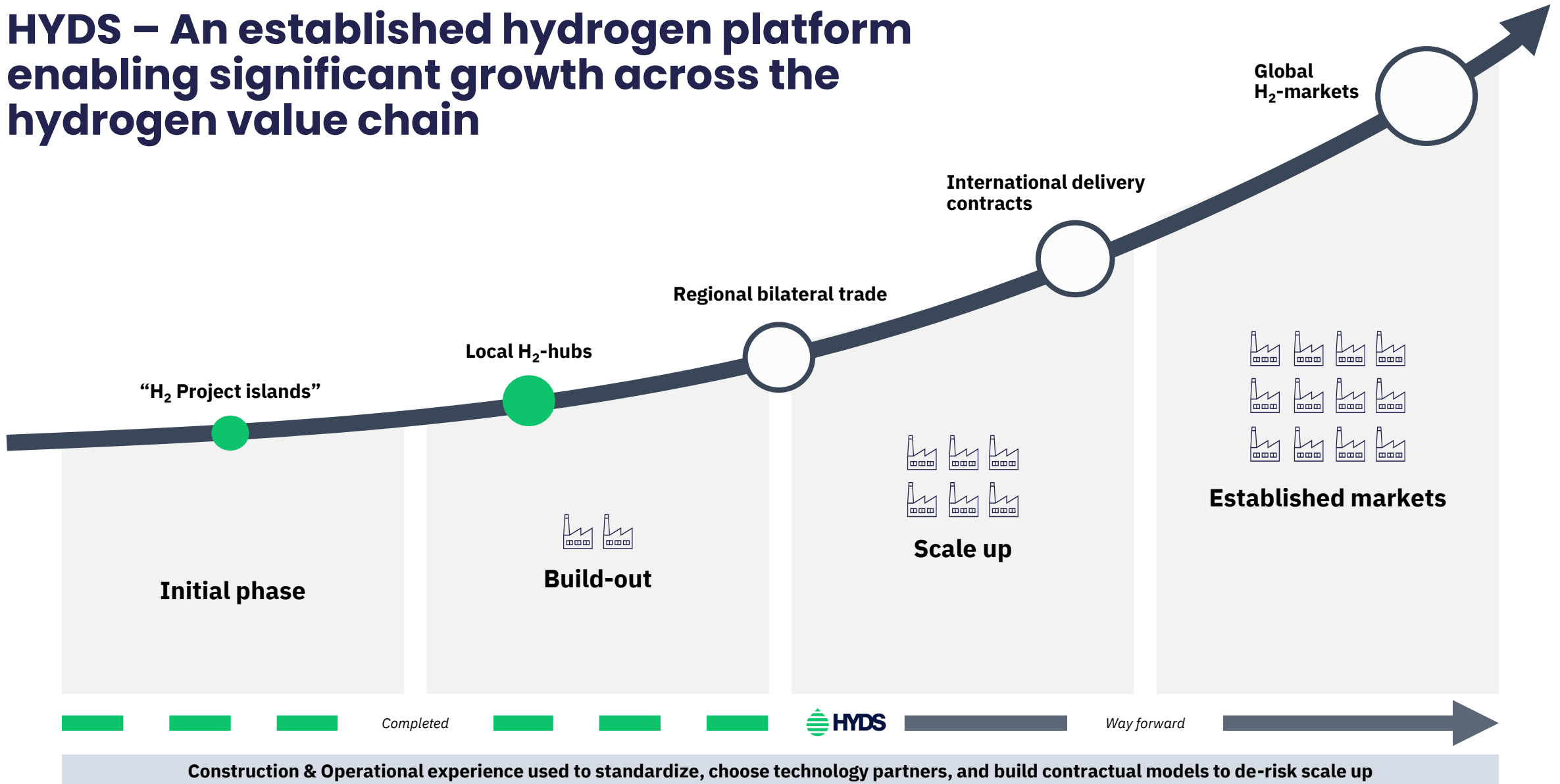
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Green hydrogen rapidly becoming cost-competitive

- Hydrogen price expected to follow **Levelized Cost of Hydrogen (LCOH)** developments, which in addition to the power prices are influenced by elements such as maturing technology and lower transport cost
- THEMA expects LCOH for Norwegian hydrogen to **decline after 2028**



HYDS – An established hydrogen platform enabling significant growth across the hydrogen value chain



Hydrogen platform with high-potential pipeline and proven execution capabilities



European Hydrogen demand is expected to surge to >1750 TWh by 2050 – Norway uniquely positioned

- Demand growth is driven by decarbonization in industries and heavy-duty transport, where low-emission hydrogen is a key solution
- European regulatory frameworks support the increased demand for green hydrogen
- Norway is uniquely positioned to capitalize on this demand with a nearly 100% renewable electricity grid, low power costs and supportive government incentives



HYDS team has a proven ability to develop, construct, and operate successful projects – modular technology enables low-risk scaling for future growth

- Two plants already in operation, a pilot plant at Stord serving a ground-breaking test-center for future fuels and the first commercial plant at Kaupanes planned to scale up to 20 MW. The first two hydrogen plants are remotely operated with 24/7 surveillance
- HYDS budgets a positive EBIT for 2025 through the business plan of developing, building and operating
- HYDS continues to add profitable projects to the pipeline, leveraging modular and scalable technology
- Established a solid value-driven organization based on core values: Safe, Sustainable, Trust, and Drive



Developing, constructing, owning and operating hydrogen plants allows for near term cash flows

- Leveraging experience from the first two plants, and standardizing scalable “Balance of Plant” solutions for new projects
- Solid value proposition and business plan where HYDS manages and controls the development, construction, and operation of hydrogen projects, with flexibility to take ownership positions
- Development, construction, and operations generate significant revenue streams, supporting strong near-term cash flow as the market matures
- HYDS has established strong partnerships with long-term collaboration, framework, and delivery agreements, ensuring solid near-term offtake opportunities



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