

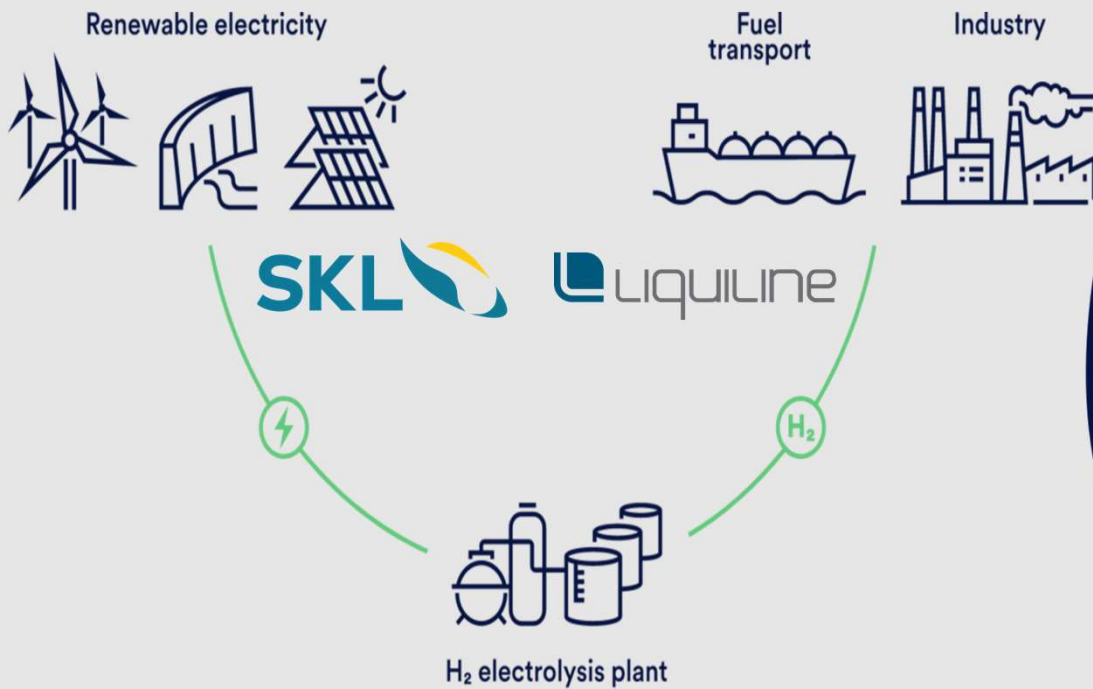


HYDS

Hydrogen Solutions

Scalable, locally produced, **green** hydrogen!

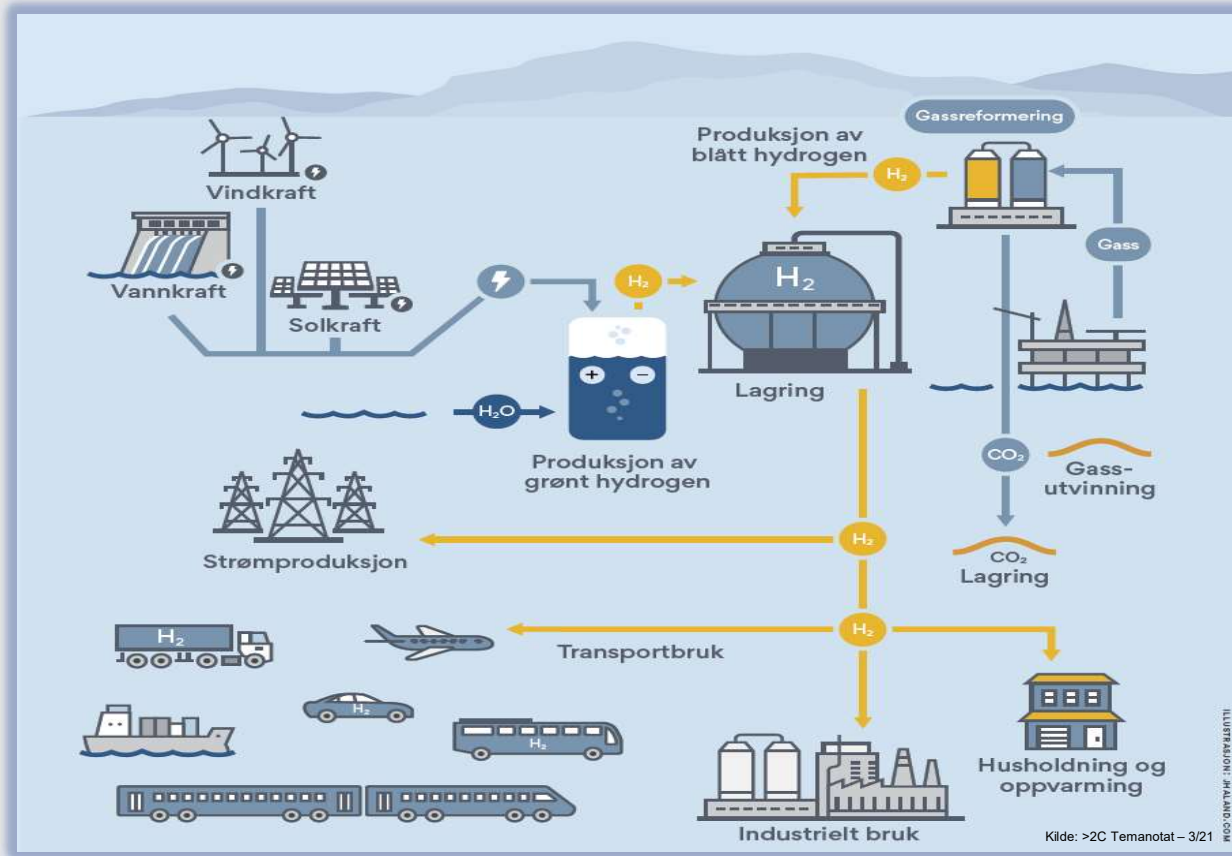
About us and our ambitions



- Provider of Hydrogen Solutions – maritime focus
- Safe, feasible and cost-effective solutions
- Scalable and locally produced green hydrogen – proven technology
- Projects in pipeline and under development



Hydrogen – introduction



Hydrogen in many colors

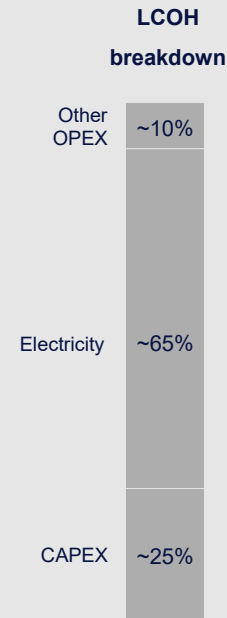
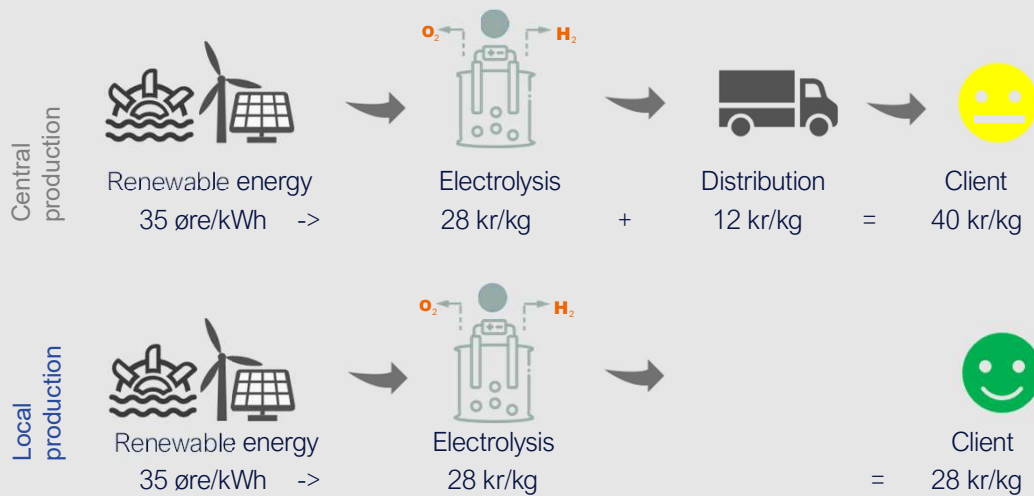
- Green, blue, grey...

Storage- and usage

- Compressed – short range
- Liquid – medium range
- Chemical (Ammonia, LOHC..) – longrange



Scalable and locally produced green hydrogen



- Reduced end user cost
- Reduced transportation and logistical challenges
- Reduced risk
- Cost benefits with production and bunkering/filling in same site
- Creating values locally



Project: Stord Hydrogen - Energy House test facility

- Production of ~142 tonn compressed hydrogen a year, storage and distribution from facility. Interconnection with test facility for energy optimalization.
- Long-term contract with test facility and possibility for commercial distribution
- SIVA investment support up to 50 %
- Potential for regional distribution and sale of hydrogen





Project: Egersund havn

- Production of ~165 tonn compressed hydrogen a year, storage and bunkering from terminal. Distribution of excess compressed hydrogen with trucks to fueling station.
- Location secured, project in planning phase, estimated production from Q4 2022.
- Enova support secured “preliminary project hydrogen for maritime transport” - Possibility for further government grants for parts of the project
- Large expansion potential within the region for sale and distribution of hydrogen and oxygen. Potential for usage of hydrogen in EU project Robinson.



Elektrolysetechnologi - GHS

HyProvide™ A-Series

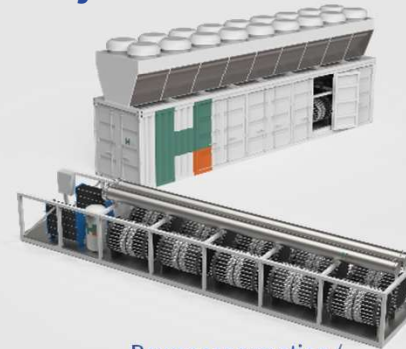


Power consumption / production

140 kW	280 kW	430 kW	
30 Nm3/h	60 Nm3/h	90 Nm3/h	20 ft or 40 ft
65 kg/day	130 kg/day	195 kg/day	

- The HyProvide™ A-Series is a unique range of complete pressurised alkaline electrolysis units available in standardised, modular configurations that provide maximum flexibility and scalability.
- Each unit comes with it's own dryer and deoxer so the hydrogen is delivered at DEW -70, 99,998% pure, directly at 35 bar.
- Complete container system efficiency up to 63,9% LHV (75,4% HHV) from electricity and tap water in – to hydrogen out. Stack efficiency up to 85% HHV.
- Designed for renewable energy solution with rapid RampUp from zero to 100% in 5 seconds and RampDown to zero in 0,1 second
- Stack lifetime of 100.000+ hours

HyProvide™ X-Series



Power consumption / production

6,0 MW
1200 Nm3/h
2600 kg/day

- Next generation Alkaline electrolyser with capacity of 1200 Nm3/h module, based on existing well proven technology.
- Factory floor installations or container solutions. 40 ft = 6 MW
- 35 bar output
- HV AC or direct DC connection
- Optional dryer and deoxer
- Optional higher output pressure
- Optional Off-shore version





HYDS
Hydrogen Solutions



Owners



- Large Norwegian producer of hydropower
- Established in 1946
- Financial solidity
- Ambitious with growth within renewable energy
- Hydrogen focus since 2013 – downstream storage



- Innovative Norwegian gas technology company
- Established in 2005
- Turn-key solutions
- Focus shifted from LNG to Hydrogen from 2018
- Partnership with Green Hydrogen Systems



Our ambitions



Provider of Hydrogen Solution – maritime focus

HYDS mission is development, building, operate and own facilities for production of green hydrogen and deliver distribution and bunkering facilities when needed.

HYDS will become a serious player within hydrogen- production, -storage and – bunkering with a maritime specialty, but also focus on industry and other users.



Safe, feasible and cost-effective solutions

HYDS has a financial solidity and represent the value chain from renewable power production and electrolyzes to dispensing, operations and maintenance.

Health and Safety is essential and in the core of our work and projects.



Scalable and locally produced green hydrogen – proven technology

HYDS deliver a flexible and modular production facility for production of green hydrogen based on technological solutions operations today.

Partner with serious suppliers with own technology, tested and fully operational today. Work together with partners to further develop technology trough our projects.



Projects in pipeline and under development

HYDS will have its first site for hydrogen production up and running within early 2022 and can in cooperation with our partners display several reference projects.

HYDS has secured multiple production sites and is actively participating in several tenders and project possibilities within hydrogen and hydrogen derivatives.

