

**POWERING  
INNOVATION.  
ENERGIZING  
TOMORROW.**

Q4 2024 Presentation

25 February 2025

HydrogenPro

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# Agenda

- › Quarterly highlights
- › Financials

Q&A



# Highlights

1

Revenues of NOK 70 million in Q4 2024, with 41% gross margin

2

ANDRITZ and MHI invested NOK 70 million, plus NOK70 million by LONGi (pending approval) @ 22% premium

3

New manufacturing line of advanced electrodes in Denmark to start up

4

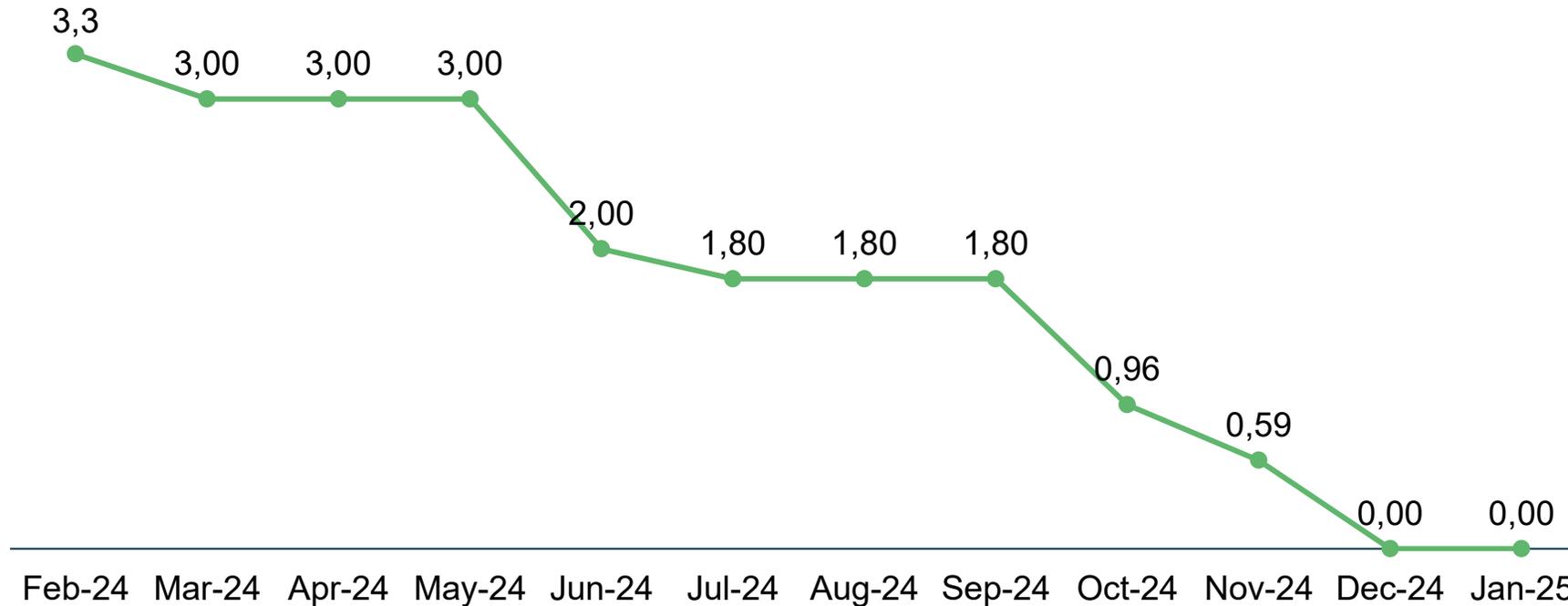
Full-scale validation electrolyser in start-up

5

Main components delivered on SALCOS project. Electrodes to be delivered in 2025

# Implementation of a solid HSE culture gives results

Lost Time Injuries Frequency - Last Twelve Months



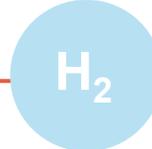
# Serving industrial applications and hard-to-abate sectors



Renewables



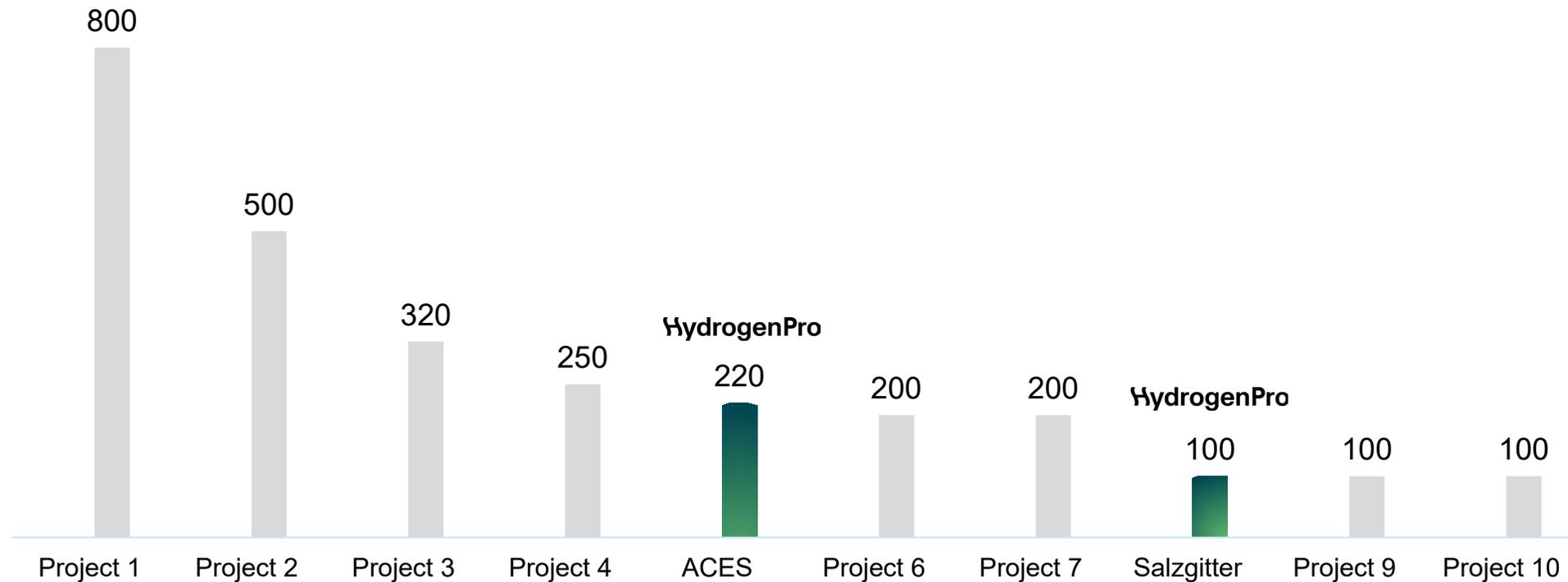
Water



- Power-To-Gas
- Refinery/Decarbonization
- Synthetic fuel
- Balancing the grid
- Fertilizer/ammonia
- Steel Production

# HydrogenPro delivers 2 of the 10 largest projects (excl. China) estimated to come online in 2025

(Electrolyser capacity MW p.a.)



Source: IEA "Hydrogen production projects" database

# Leading industry position validated by strong partners

			
<b>2023 revenues<sup>1</sup></b>	NOK 100 bn	NOK 350 bn	NOK 130 bn
<b># of employees</b>	29,717	77,778	75,066
<b>Ownership<sup>2</sup></b>	16.7%	12.3%	13.3%
<b>Projects</b>	SALCOS (100 MW) + one 5.5 MW project	ACES (220 MW) + two 5.5MW projects	N/A
<b>Main focus region(s)</b>	Europe	North America and Asia	Asia

1) CNYNOK=1.50, EURNOK=11.43, JPYNOK= 0.05728

2) Ownership in HydrogenPro. After completion of LONGi transaction. Provided no other new share capital is issued

# A cooperation with LONGi enables global leadership

**LONGi**

**LONGi** ⊕ **HydrogenPro**

1 *World's leading supplier of PV solutions*

› *Enable large-scale green hydrogen plants with competitive LCOH*

2 *Large footprint in green hydrogen's largest market*

› *Access to ~2/3 of global demand for electrolysers*

3 *Advanced technology and manufacturing facilities*

› *Consolidate manufacturing in China*

4 *Global supply chain network*

› *Optimized delivery model to key regions globally, including Europe and North America*

5 *Robust capital structure*

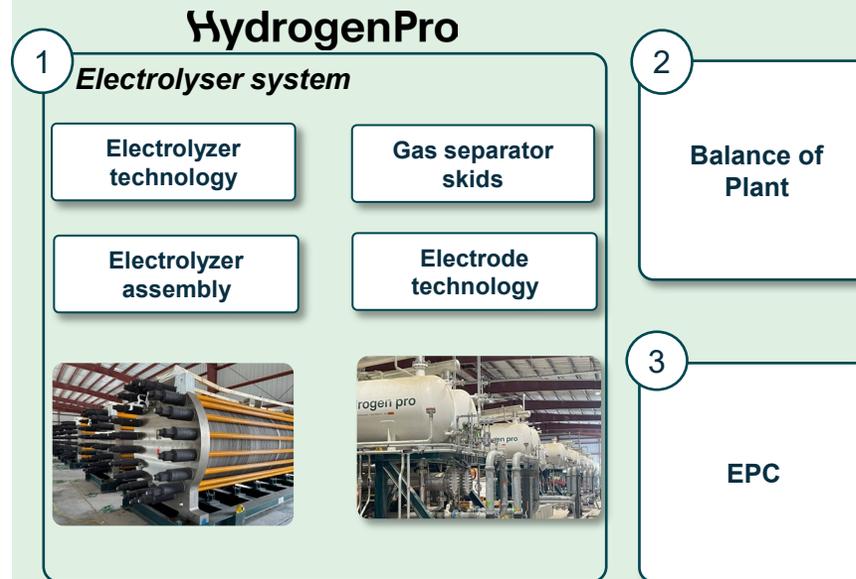
› *Enables financial capacity to deliver to the large-scale green hydrogen hubs*

# Solid partnerships enable delivery power on large-scale projects globally

## Target customers

- › Well-known developers of large renewable energy hubs to produce, store and deliver green hydrogen
- › Customers usually have a global presence, delivering to end-sectors such as green steel production, ammonia production, and grid operators

## Green hydrogen project – key components



## Customers key selection criteria

- › Technology
- › Cost
- › Track record
- › Bankability
- › Quality assurance
- › Local content
- › ESG

## Scope delivered with global partners



**ANDRITZ**

**LONGI**

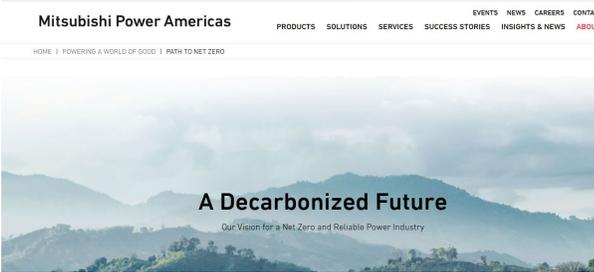


# Our partners provide HydrogenPro with a global reach

Committed to energy transition and Hydrogen as a key enabler



Mitsubishi Power is creating a future that works for people and the planet by developing innovative power generation technology and solutions to enable the decarbonization of energy and deliver reliable power everywhere.



In our chosen markets, we are global leaders with a passion for innovative engineering solutions. As a technology and quality leader, we create sustainable value for our customers and shareholders, thus ensuring the continuation of our long-term profitable growth.



Founded in 2000, LONGI Green Energy Technology Co., Ltd. (LONGI) is committed to being the most valuable solar technology company in the world. Under the mission of "To make the best of solar energy to build a green world" with a brand positioning of "The most trusted, reliable solar company that blazes the trail for green technology," LONGI is developing solutions for large-scale power plants, for different industries and households with its innovation-focused development. Eventually, we will also supply "Green Power + Green Hydrogen" solutions for global zero-carbon development.



At Mitsubishi Heavy Industries Group, we channel big thinking into solutions that MOVE THE WORLD FORWARD – advancing the lives of everyone who shares our planet. Find out how we bring people and businesses around the globe together to pave the way to a future of shared success.



# Geopolitical tensions increases risk of delayed energy transition ...



# ... but HydrogenPro has made several proactive measures to maneuver in today's market conditions

## Market backdrop

- Market is slower than expected, leading to oversupply of electrolyser capacity
- Increased competition from Chinese OEMs
- Increased focus on track record, safe, reliable and documented technology

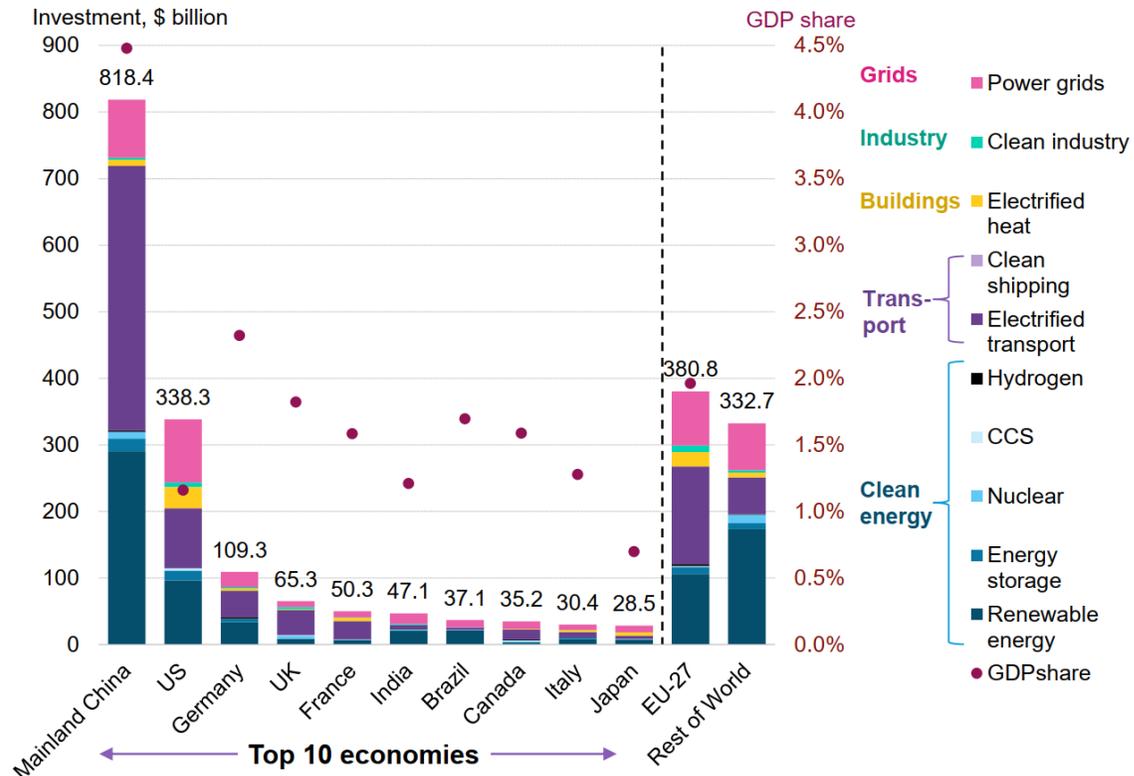
## HydrogenPro positioning

- ✓ Headquartered in Norway combined with cost-leading supply chain position on a global scale
- ✓ Raised capital from strategic partners, at a premium
- ✓ Strict capital discipline with postponed US expansion plan
- ✓ Entered into partnership with ANDRITZ
- ✓ Entering into partnership with LONGi to strengthen competitiveness further
- ✓ Delivering two of the 10 largest projects globally (ex. China)
- ✓ Offering well-documented high-pressure alkaline with advanced electrodes

# China continues as the driving force in the renewable era

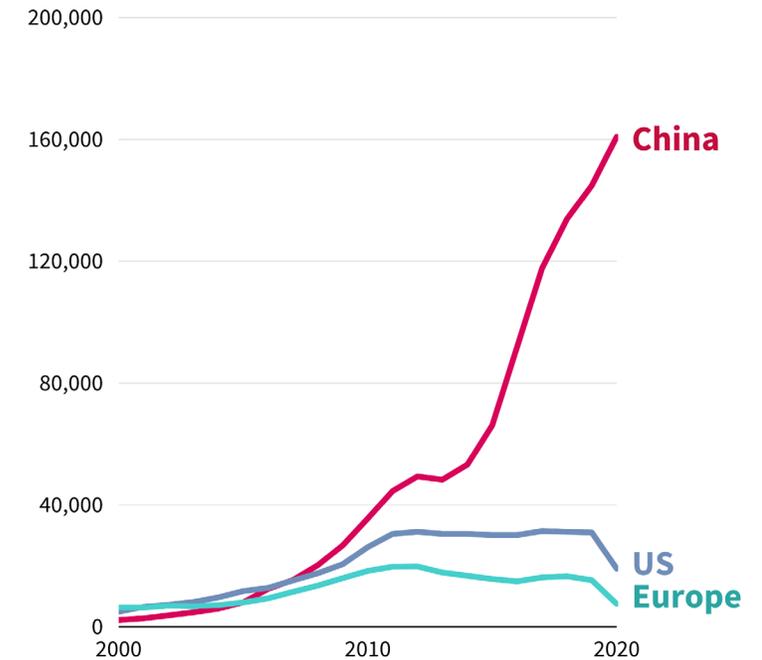
*In 2024, mainland China invested more in the energy transition than US, EU and UK combined*

## Energy transition investment and GDP share in 2024



Source: BloombergNEF. Note: EU-27 bar also includes the EU member states shown. 'Rest of world' is global investment excluding the EU and individual economies in the chart. CCS refers to carbon capture and storage.

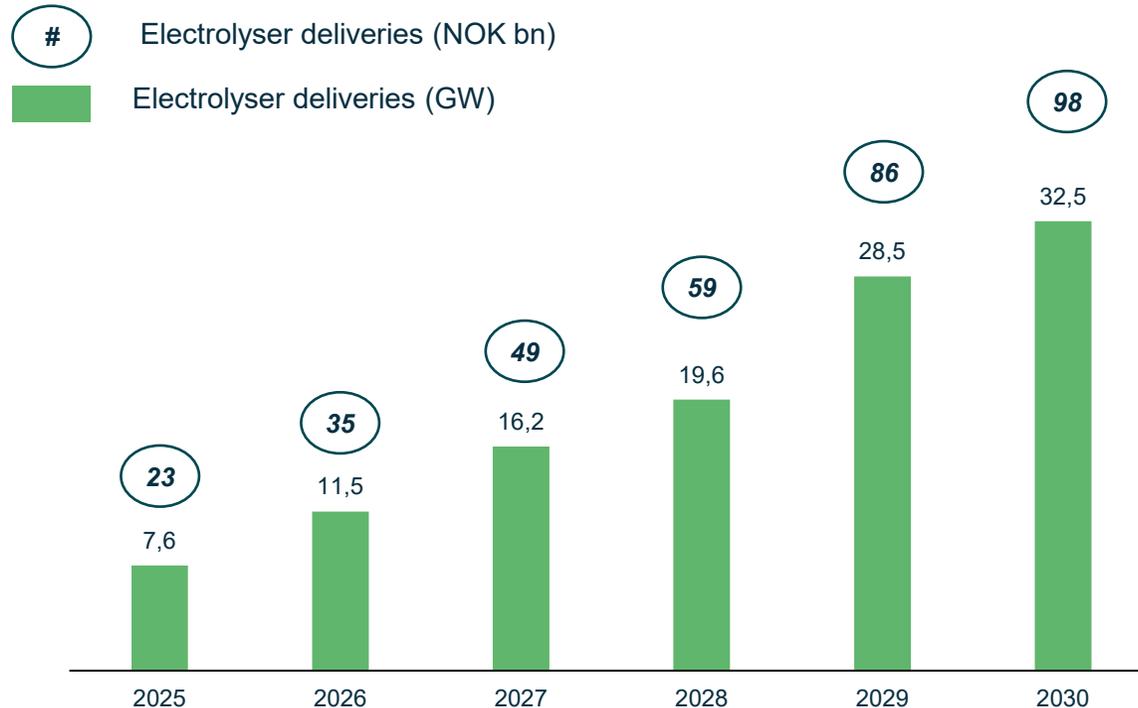
## Clean energy patents per year



Source: IRENA, BNEF.

# Underlying alkaline electrolyser deliveries in 2025 and 2026 estimated to exceed NOK 50bn

## Alkaline market forecast



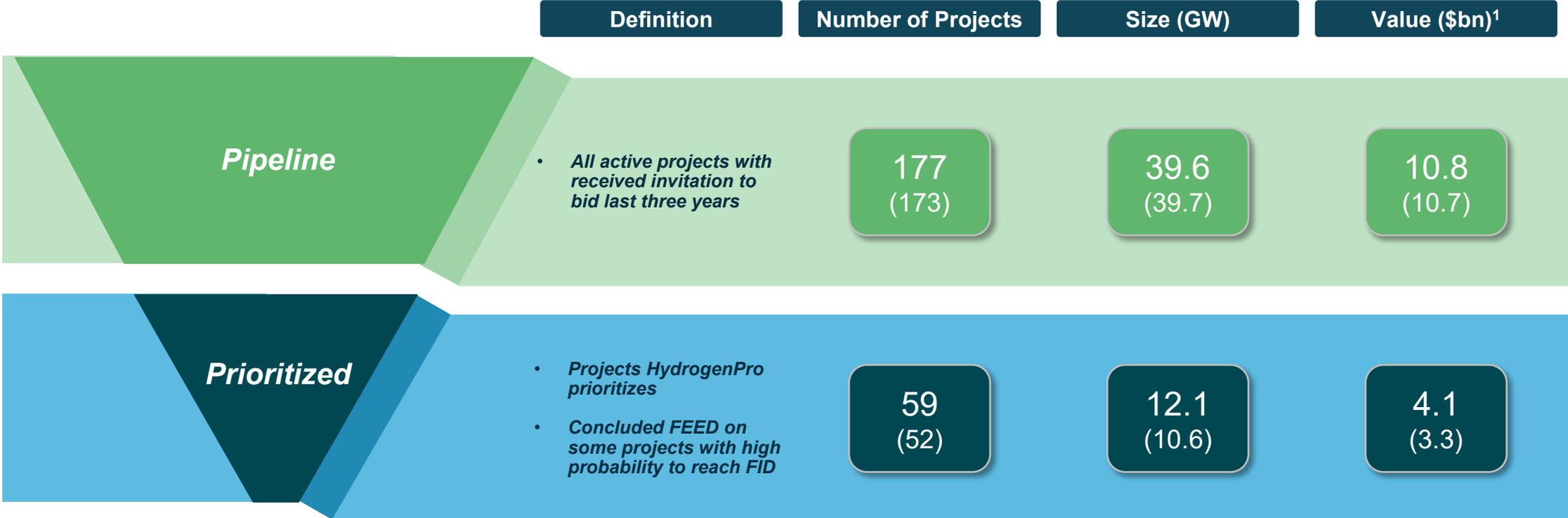
- › Estimates have come down lately
- › Estimated 19GW to be delivered of electrolysers in 2025 and 2026 combined, corresponds to NOK 58 billion
- › Majority of global demand in China
- › Demand in Europe outpacing US

Sources:

1) Electrolyser deliveries (GW): S&P Global Commodity Insights Update (28 August 2024).

2) Electrolyser deliveries (NOK bn): Company analysis based on S&P's GW deliveries and assumed price of NOK 3 million per MW

# Despite several project cancellations in the market, HydrogenPro's pipeline remains strong



Note: All numbers exclude DG Fuels  
 1. Value is equivalent to €9.9bn and €3.7bn. Numbers in brackets: data as of previous quarter

# HydrogenPro will meet the new requirements from the European Hydrogen Bank



- › On 27 September 2024, the European Hydrogen Bank introduced new terms where prospective projects will not be allowed to **source more than 25% of electrolyser stacks** — covering surface treatment, cell unit production, and stack assembly—**from China**
- › HydrogenPro fully complies with the European Hydrogen Bank's funding requirements for our European projects. Any necessary adjustments to our supply chain will be minimal.
- › HydrogenPro currently delivers electrolyser systems to one of the largest projects (100MW) in Europe – a project with significant support (€ 700 million in federal funding and € 300 million from the state government)

# Superior positioning vs. other technologies

Continuing R&D and technology development for cost leadership and lower LCOH

	PEM			Alkaline			HydrogenPro 3 <sup>rd</sup> Gen
	High pressure	Atmospheric pressure	High pressure	High pressure	Atmospheric pressure	High pressure	
	Plant efficiency	✗	✓	✓	✓	✓	
Low cooling need	✗	✓	✓	✓	✓	✓	
No noble materials	✗	✓	✓	✓	✓	✓	
Suitable for renewable energy	✓	✗	✓	✓	✗	✓	
High pressure on O <sub>2</sub>	✓	✗	✓	✓	✗	✓	
Suitable for P2X <sup>1</sup> plants	✓	✗	✓	✓	✗	✓	
Proven for large-scale plants	✗	✓	✓	✓	✗	✓	

1. P2X = Power-to-X

Legend: ✓ Best capability    ✓ Average capability    ✗ No/limited capability

# Delivery update on ACES and SALCOS projects

## PROJECT

## SIZE & USE

## SCOPE

## STATUS & NEXT STEPS

**ACES  
(USA)**

- **220MW**
- Renewable fuel for power generation

- Electrolyser stacks + gas separator
- 2<sup>nd</sup> gen technology

- Manufacturing completed
- Installation and commissioning in 2025

**SALCOS  
(GERMANY)**

- **100 MW**
- Green steel production

- Electrolyser stacks
- **Partly 3<sup>rd</sup> generation technology**

- Main components manufactured, electrodes to be delivered in 2025
- Installation and commissioning in 2025/2026

# SALCOS project groundbreaking ceremony

Press release 20 February 2025:



## Further SALCOS® building block: Cornerstone laid for one of Europe's largest plants for the production of green hydrogen

2025/02/20

- 100 MW electrolysis plant for the production of green hydrogen for low-carbon steel production
- A further significant building block in the green hydrogen economy is rising in Salzgitter

**ANDRITZ**



From left: Andrea Prevedello (Global Director Project Management Green Hydrogen, ANDRITZ), Walther Hartl (Project Manager Electrolysis, ANDRITZ), Sami Pelkonen (Executive Vice President Green Hydrogen, ANDRITZ), Gerd Baresch (Managing Director Technical division SZFG), Thorsten Hinrichs (Head of Pipeline Infrastructure SZFG)

# 350 MW manufacturing capacity of 3<sup>rd</sup> generation technology to start up in Aarhus, Denmark

- › Delivered on time and below budget (NOK 70 million)
- › Full production later in Q1 2025
- › On-going work for even further capacity expansions



*Pictures from Aarhus, Denmark*

# Joint full-scale validation program with ANDRITZ

## Purpose

- › Validate stack performance and operating conditions for the SALCOS project including new design improvements to reduce shunt currents and 3<sup>rd</sup> gen technology

## Location

- › Herøya, Norway

## Equipment

- › One stack w/ 50% 3<sup>rd</sup> gen technology and gas separator + Coriolis measurement (gas production), continuous cell voltage monitoring, pressure drops, temperatures, pressure sensors etc.

## Status and next steps

- › Stack assembled by ANDRITZ in Erfurt
- › Test in start-up phase
- › 500 hours test during Q1 2025 at Herøya, Norway



From Herøya, Norway

# Agenda

- › Quarterly highlights
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# Key P&L items

NOK million	Q4 2024	Q3 2024	Q4 2023	FY 2024
Revenue from contracts with customers	70	72	127	196
Direct materials	41	53	71	147
Gross profit/(loss)	29	19	56	49
<i>Gross margin</i>	<i>41 %</i>	<i>26 %</i>	<i>44 %</i>	<i>25 %</i>
Personnel expenses	42	40	22	144
Other operating expenses	31	18	22	109
EBITDA	-44	-38	12	-205
Depreciation and amortization expenses	6	6	6	23
EBIT	-50	-44	6	-228
Net financial income and expenses	12	6	-11	27
Profit/(loss) before income tax	-38	-38	-5	-200
Income tax expense	0	0	0	0
Profit/(loss)	-38	-38	-5	-200

- › Q4 revenues mainly related to deliveries on SALCOS project
- › Manufacturing of main components completed.
  - Electrodes to be manufactured in Aarhus, Denmark and delivered during 2025
- › Higher gross margin mainly driven by lower ACES costs in Q4 2024 vs. Q3 2024
- › Opex increase of NOK 13 million in Q4 '24 vs Q3'24 due to i) NOK 6 million provision reversal in Q3, ii) NOK 3 million higher professional services and other costs partly related to capital raise, and iii) NOK 4 million recognized project costs related to SALCOS

# Cash balance, changes in cash and backlog

NOK million	Q4 2024	Q3 2024	Q4 2023	FY 2024
Cash balance start of period	188	247	133	161
EBITDA	-44	-38	12	-205
Changes in NWC & other	58	-3	25	183
Investments	-9	-15	-8	-25
Financing	-1	-3	-1	78
Cash balance end of period	191	188	161	191
Backlog	305	341	423	305

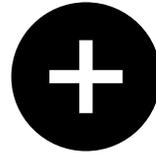
› Investments mainly related to expansion of electrode manufacturing capacity in Aarhus, Denmark. The expansion is completed on time and well within budget in February 2025

› No significant new contracts signed in Q4 2024

# Cost leadership is a key competitive advantage

## *Foundation*

- › *One core technology*
- › *Large-scale solutions*
- › *Lean global organization with strong partnerships*
- › *Cost-competitive supply chain*



## *Key focus areas*

- › *Cost measures to adjust cost base in line with project deliveries*
- › *Very limited committed capital. Expansion in Denmark delivered on time and below budget*
- › *Technology & innovation mostly funded with R&D grants*
- › *Retain a sustainable net working capital*

# Cost reduction measures

- 1 › *Downsizing in Europe*
- 2 › *Reduced use of external consultants*
- 3 › *Reducing Tianjin manufacturing activity*
- 4 › *Shanghai office “dormant”*



**> 40 MNOK  
annual  
savings**

# Agenda

- › Quarterly highlights
- › Financials

Q&A



# Key investment highlights



**Vast TAM and massive growth potential for green H<sub>2</sub> underpinned by secular tailwinds**  
Favorable government policies provide critical support; new end markets unlock a bigger TAM for green H<sub>2</sub>



**HydrogenPro's 3rd-generation technology drives significant LCOH reductions**  
Technology developed for 10+ years with extensive R&D efforts



**Substantial commercial traction with ACES hub and ANDRITZ contracts**  
Manufacturing for 220MW ACES project completed; 100MW ANDRITZ project in progress



**Manufacturing capacity in place to service demand today with plans to expand globally**  
Existing 500MW capacity in China; investing in 350 MW electrode capacity in Denmark



**Scalable business model positioned to grow**  
Recurring revenue and optimized production systems



**World-class leadership team with deep industry knowledge**  
Management team brings valuable insights and execution capabilities in the hydrogen sector



**HydrogenPro**  
Market leading global provider of large-scale green hydrogen technology & systems

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