

# EXECUTIVE SUMMARY

## Energy Transition

2025



**DE NORA**  
Dare. Develop. Deliver.

# DE NORA: three divisions, one soul.

**100 Years of Electrochemistry, to provide Sustainable Techno.**



## Electrode technologies

Anodes, Cathodes, Catalytic Coatings Gas Diffusion Electrodes, Cell Manufacturing

### Markets & Leadership



Chlor-alkali, Electronics, Nickel & Cobalt Electrowinning  
**> 50% market share**



## Energy transition

Electrodes for Alkaline Water Electrolysis (AWE), Electrolysis Cells, and Electrodes for Fuel Cells, Small Scale Electrolyzers

### Markets & Leadership



Green Hydrogen Production  
AWE Technology



## Water technologies

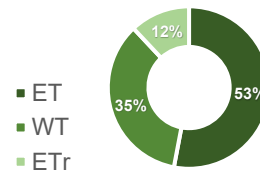
Electrochlorination, Disinfection and Filtration Technologies, Water Treatment Technologies, Electrodes for Pools

### Markets & Leadership

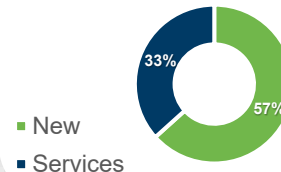


Pools (**> 80% Mkt share**) & Industrial Electrochlorination; Within **the top 5** in municipal disinfection & filtration

FY 2024 Revenues  
By Business Units



FY 2024 Revenues  
New Installations  
vs Services



# Leading the mid-long-term Growth of Green Hydrogen.

## Market Evolution

- Mid-term Growth opportunities, Green H<sub>2</sub> will play a Key role in Global Decarbonization
- AWE preferred large-scale projects, 50% share in 2030
- Growth Drivers:
  - Regulation simplification and certainty
  - Low energy costs
  - Infrastructure development

## Competitive Scenario

### AWE

- Limited suppliers of AWE electrodes
- Chinese and Western competitors offer lower-value solutions
- tk nucera is continuing to be the market leader

## Strategic Guidance

- Technology: focus on performance, costs, and sustainability
- Grow in partnerships with leading industry players
- Develop aftermarket for main contract (NEOM)
- Develop our small-scale electrolyzer (Dragonfly®)

## De Nora's Strengths

- Cutting-edge proprietary technology
- Operational Excellence (legacy in CA)
- Distinctive global manufacturing capacity (3 GW)
- Best in-class R&D activities
- Profitable from the beginning
- Developing strategic partnerships (tk nucera, Asahi Kasei)

## OUR SDGs COMMITMENT



AsahiKASEI





# Technological Leader in the Green Hydrogen Industry & Circularity.

## Application Decarbonization and Circular Economy

### Green Hydrogen Production



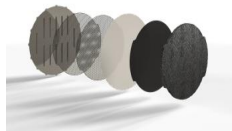
### Hard-to-Abate



### Circular Economy: Lithium Refining and Extraction



## Portfolio



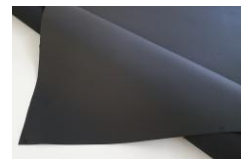
Electrodes for Alkaline Water  
Electrolysis (AWE)



Electrolysis Cells



Stack for AWE



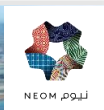
Gas Diffusion Electrodes  
for fuel cells



Small Scale Electrolyzer  
DRAGONFLY®



# Flagship ongoing projects.



## World's largest green H<sub>2</sub> plant

- 600 tons H<sub>2</sub> /Day
- 5m tons/Y CO<sub>2</sub> avoided

### Project Size: 2.2 GW

H<sub>2</sub> to green ammonia

Delivered 2025

- De Nora progress: **completed**
- Total n E-Chem cells: **~33,000 (110 electrolyzers)**

**NEOM,  
SAUDI ARABIA**



Largest **Worldwide** H<sub>2</sub> Project



### Project Size: 700+ MW

H<sub>2</sub> to steel production

Delivery 2025

- De Nora Progress: **>60%**
- Total n E-Chem cells: **~11,000 (37 electrolyzers)**

**STEGRA,  
SWEDEN**



First large-scale **green steel EU**



Lithium from used batteries  
recovery

Delivery 2026

**Hong Kong**

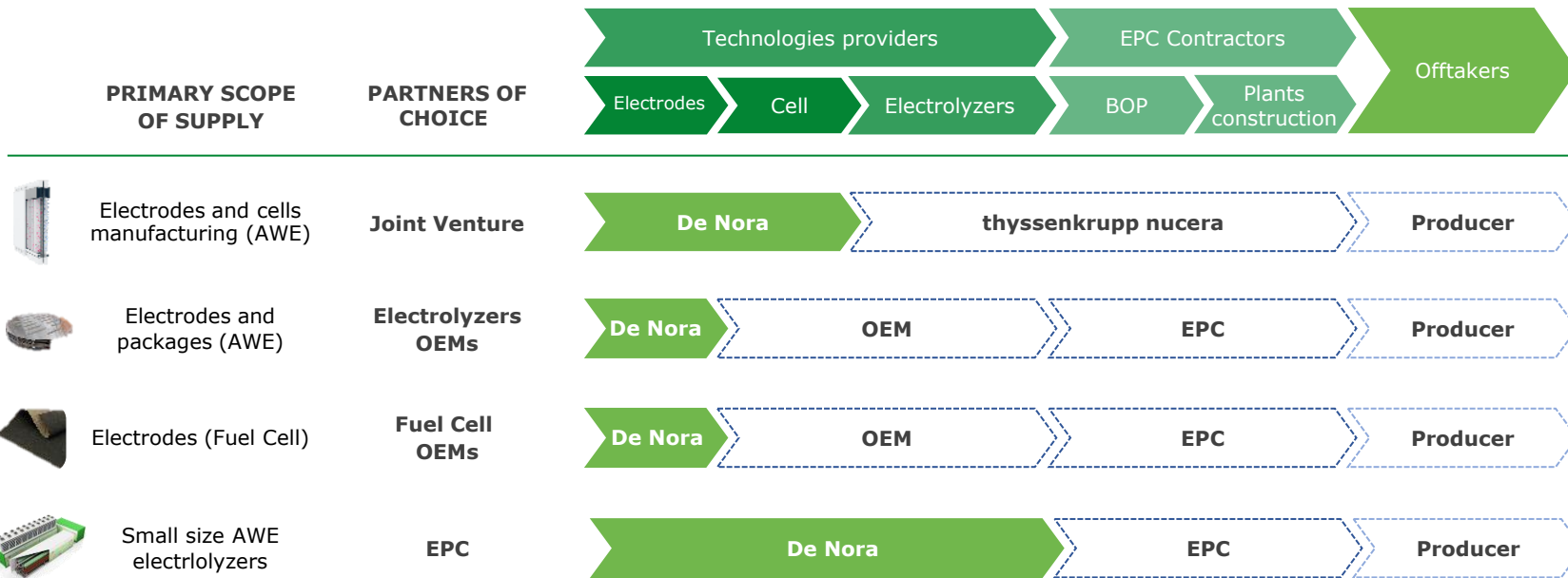


Circular Economy Project



# Multiple Routes-to-market.

Distinctive position in the value chain and strategic partnerships with major market leaders in the hydrogen space.



OEM: Original Equipment Manufacturer; EPC: Engineering, Procurement and Construction.



# Electrodes for AWE.

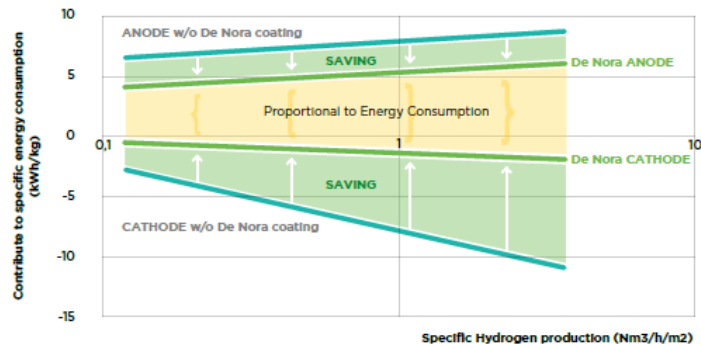
## Commercial Solutions.

De Nora's Electrodes: diversified offer **addressing all AWE technologies** needs

- **Pressurized Awe Electrolyzers**
- **Atmospheric Awe Electrolyzers**
- **Renewable Sources Operation**
- **Continuous Operation**



De Nora's Electrodes: **premium performance to deliver lower Levelized Cost of Hydrogen**



- De Nora's electrodes allow a reduced specific energy consumption (kWh/kg) at any current density.
- De Nora high performing electrodes can be operated at higher current densities than competitive technologies, resulting in a higher H<sub>2</sub> production rate.

# Electrodes & Cells for AWE.

De Nora is thyssenkrupp nucera's partner, coating supplier and cell manufacturer.



## ANODE AND CATHODE COATINGS

- **Proprietary coatings** solutions, ensuring best-in-class technical performance.
- **Dedicated development** with thyssenkrupp nucera



## AWE CELL MANUFACTURING

STEGRA,  
SWEDEN



## ELECTRODES AND CELLS FOR AWE



thyssenkrupp nucera  
design IP





# Dragonfly® small-scale Green H2 Solution.

## Our innovative H2 generation system

- Designed to minimize Total Cost of Ownership (TOC) and Levelized cost of green H<sub>2</sub>
- Plug-n-play system
- Reduced Footprint

**Sizes: 1MW – 7.5MW**



## A versatile solution for decentralized applications:

- Heavy transport and Mobility (train/buses, tracks)
- Light industries' needs
- Ideal for small local uses and Hydrogen Valleys

**Strategic Partnership**

**AsahiKASEI**

## BACKLOG - SMALL SIZE PROJECTS



**HyTecHeat** - Snam/Tenova  
**1MW** H<sub>2</sub> to steel



**CRAVE H<sub>2</sub>** Crete  
**4 MW** - Hydrogen Valley



**Maffei Sarda Silicati** – Sassari (ITA)  
**1 MW** – Hard to Abate



**Duferco**– Sicily  
**1 MW** H<sub>2</sub> to fuel



**Confidential Customer**– EU  
**1 MW** - Mobility



**Confidential Customer**– ITA  
**~1 MW** - Biogas (stack-only)



# R&d initiatives.

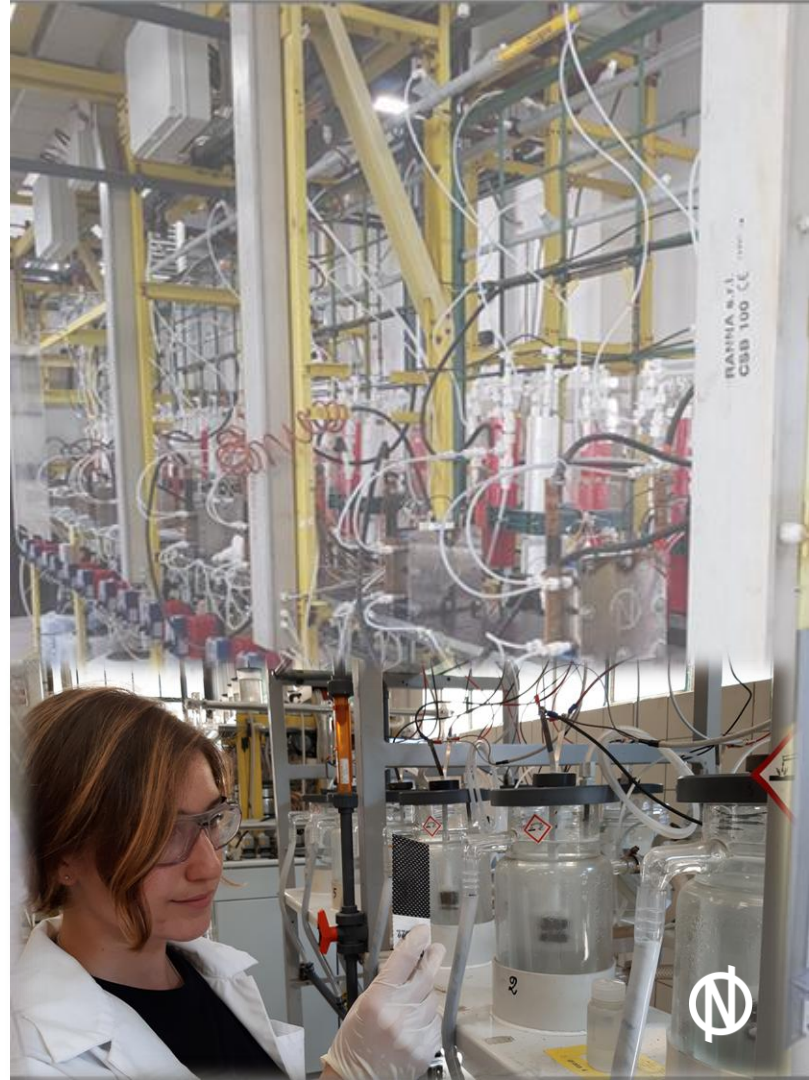
## Solutions under development.

### Strategic ongoing projects:

Continuous improvement of DSA® Electrodes performances

- Current density increase
- Operating temperature increase
- Noble Metals usage optimization
- Sustainable solutions exploitation

Development of cutting-edge technologies in a rapidly evolving environment



# E-chem As A Circular Economy Enabler.

## Launching into Sustainable Lithium Refining.

### An alternative and circular technology for LITHIUM Refining

- We are developing a **E-Chem** technology to produce Lithium from all feedstock: Rocks, Brine, Clay and **Battery Scrap**
- E-Chem vs traditional chemical process provides **lower costs** while **improving ESG** performance - e.g. reduced CO2 emissions and water consumption

### CONTRACTS / PARTNERSHIPS

**H1 -2025** first **Contract** to supply a plant to recover lithium from used batteries, Japanese Customer

2024 **Partnership** with Mangrove Lithium to produce Lithium both from mining and used batteries



# Green Hydrogen Market Perspective.

Uncertain short-term scenario but promising mid-long-term outlook.

## MARKET OUTLOOK

CAGR<sub>24-30</sub> +57%

30 GW installed  
by 2030

- Short-term scenario is uncertain, driven by regulation and electricity costs.
- **Mid Term outlook is positive, 30GW** expected to be installed globally by 2030, in a conservative scenario
- **Small size market** will develop in EU - Italy at about 0.4GW by 2030

## END MARKET

- Hard to Abate (steel, refining, chemicals, and heavy transport).
- Ammonia as a carrier

## GROWTH DRIVERS

.. allowing growth to take shape

- **Regulation simplification and certainty**
- **Low energy costs**
- Push on **clean tech** and **infrastructure**
- Climate change mitigation



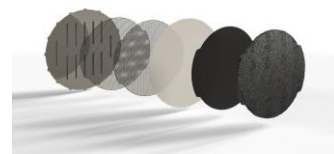
## KEY GEOGRAPHIES

## TECHNOLOGIES

- **Alkaline Water Electrolysis (AWE)** is projected to capture approximately **50%** of the market share by 2030



## AWE Electrodes



2.4GW

~50% Global  
market share

Realised  
2022-2024

## Small-Scale Systems



Launched In 2024





# De Nora Assets To Lead In Green H<sub>2</sub>.



## **Unmatched Technological Expertise**

From catalyst to complete system

Leveraging on 100 yrs+ **chlor-alkali** plant expertise and leadership



## **Ongoing development of successful R&D projects**



## **Guaranteed Performance & Cost Control**

High current density → 3x to 5x more efficient and cost-effective electrolyser

Guaranteed durability & aftermarket → optimized CAPEX/OPEX ratio over time



## **Global Presence & Scalability**

Global manufacturing facilities, with maintenance close to plants

Flexible Production footprint shared with the other Bus



## **Strong & Reliable Partnerships with key players**



**AsahiKASEI**



*memberships*



Hydrogen  
Europe™



# Backlog & Pipeline.

Well-positioned in a promising yet evolving market.

## DE NORA BACKLOG @ 30 Sept. 2025

### BACKLOG

~320 MW  
Green H<sub>2</sub>

€50 m  
Including  
Lithium

Stegra



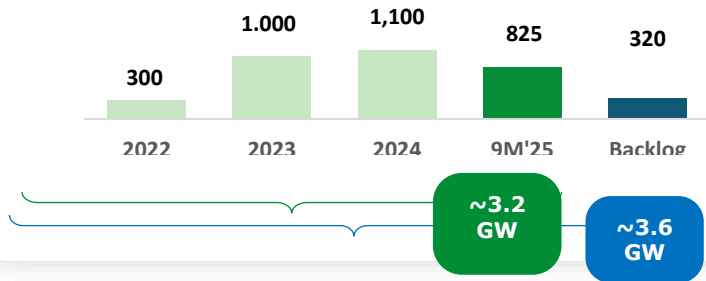
>700 MW  
Progress >60%

Lithium Recovery  
JP customer



Delivery 2026

## TRACK RECORD: ~ 3.2 GW Green H<sub>2</sub> delivered so far



## HYDROGEN COMMERCIAL PIPELINE

### ACTIVELY PURSUED <sup>1</sup>

21 GW

C BN

2.3

~ 3 GW

Projects<sup>2</sup> in which our **ju nucera** has been pre-selected as **preferred technology provider**

300 MW

Moeve

500 MW

Spain

100 MW

Europe

600 MW

Europe

1.4 GW

Australia



# Market Analysis Q3 2025.

Incentives and regulations supporting the green hydrogen market.



## CANADA

**\$400 m** Canadian-German bilateral CfD auction to produce gH<sub>2</sub> and its derivatives

CfD for **\$3 bn** auction to procure gH<sub>2</sub> and its derivatives  
**GERMANY**



**€1.2bn** awarded in state aid to support 9 gH<sub>2</sub> projects  
**POLAND**

## AUSTRIA

**\$320 m** awarded to support four gH<sub>2</sub> project



## MOROCCO/ EGYPT

Low cost of RES leading to low **LCOH**  
Potential external investors (PIF and EU players) in GW scale



## SAUDI ARABIA

**Governmental support** to unlock further 4.4 GW of capacity by 2030



**GLADT** program to support gH<sub>2</sub> development (including production, storage and transportation, end-use (refining, power generation, long-term energy storage))  
**CHINA**

## INDIA

Green ammonia auction run by state entity **SECI** awarded 724000 tpa to 13 developers  
Unlocking **1GW** of capacity



## CHILE

**\$2.8 bn** tax credit to drive gH<sub>2</sub> investment and industrialization by 2030

## AUSTRALIA

**\$1.3 bn** Hydrogen Headstart program to support development of green hydrogen (ammonia, steel, heavy mobility)



# Distinctive Production Footprint.

Capacity in Place first wave of expansion completed, ongoing Gigafactory Project.

## AMS

**PRODUCTION FACILITIES** for Electrodes, Water Technologies and Energy Transition

New Energy Innovation Center inaugurated in 2025

## EMEIA

**PRODUCTION FACILITIES** for Electrodes, Water Technologies and Energy Transition

Enhanced Germany facility in 2024

*Ongoing* Gigafactory (ITA) up 2GW

## ASIA

**PRODUCTION FACILITIES** for Electrodes, Water Technologies and Energy Transition

**Suzhou's** expansion 2023: 3x coating line

**Okayama** expansion 2024



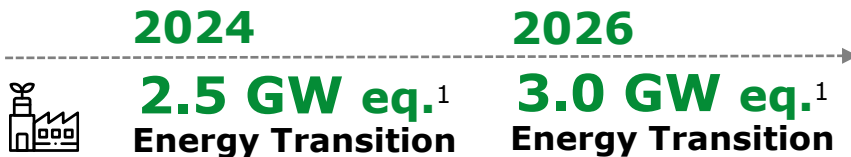
## Italian Gigafactory

**Smart and Sustainable Factory**

Italian **Production Hub** for all the BUS

**IPCEI Funds** (€63m allocated), economic and financial flows, under review in light of evolving H<sub>2</sub> mkt conditions. Interactions with local authorities started.

Set to **start in 2026** with an initial 0.5 GW capacity



1. Elements Equivalents





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