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DE NORA
our research - your future

Industrie De Nora S.p.A. (BIT:DNR)

Sector: Industrial products and service

BUY RECOMMENDATION

current price : 6,89 €

tartget price: 10,30 €

EXECUTIVE SUMMARY

We believe the company presents an attractive investment opportunity with a balanced risk-return profile. However, De Nora will need to contend with future challenges, including scaling its hydrogen-related operations, addressing competitive pressures, and adapting to evolving regulatory and market demands.

Investment Thesis Highlights

Thesis #1: Green Hydrogen: Free Option in the current state

Despite being championed as a cornerstone of the energy transition and enjoying widespread societal and political support, the green hydrogen sector has paradoxically delivered operational results that fall short of expectations-both in terms of scale and timing. This contradiction underscores the tension between its promise and its current performance, highlighting the challenges of translating ambition into tangible outcomes. It is precisely this disconnect that positions green hydrogen as a "free option" within the current landscape: while the potential upside is enormous, the lack of substantial progress and the uncertain timelines limit the perceived downside risk for stakeholders at this stage.

Thesis #2: Technological Leadership in Electrolysis as Key Enabler of the Hydrogen Economy

De Nora's cutting-edge expertise in electrode and electrolysis technology positions it as a pivotal player in the hydrogen value chain. The company's proprietary innovations in electrode materials enhance efficiency and durability in electrolysers, making them a critical supplier for green hydrogen production.

Thesis #3: Resilient Core Business in Electrode Technologies and Water Technologies as a Defensive Anchor

Beyond its hydrogen ambitions, De Nora's well-established electrode business provides a stable and recurring revenue stream. The growing demand for clean water solutions, driven by tightening environmental regulations and global water scarcity, offers a robust growth runway.

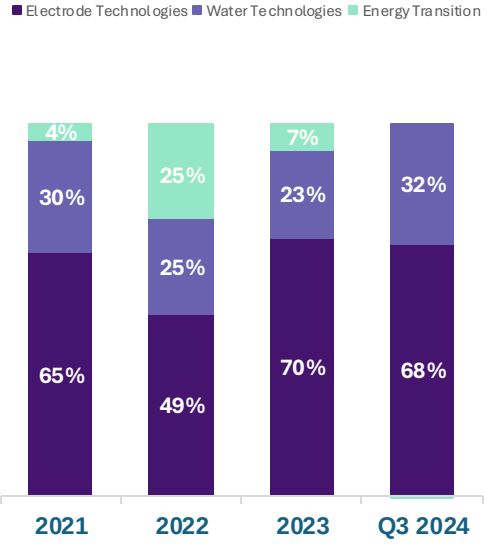
These core segments not only mitigates the risks associated with the nascent hydrogen market but also generates cash flow to fund the company's innovation and expansion efforts in high-growth sectors.

Figure 1: Company's Data

Last close	6.89€
Market cap	1,55B
Shares outstanding	198,7 m
52 week high	16.17 €
52 week low	6,855€
EV/EBITDA	8,5x

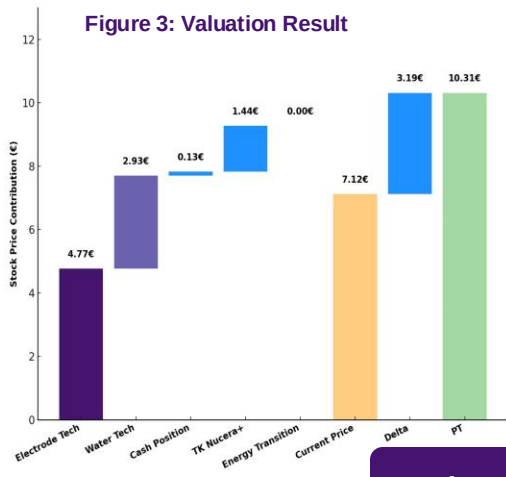
Source: Team 1 Analysis

Figure 2: EBITDA % per Segment



Source: Team 4 Analysis

Figure 3: Valuation Result



Source: Team 4 Analysis

Corporate strategy

De Nora employs a multifaced strategy to sustain its market leadership with: innovation focus continuous **R&D, strategic investment and partnerships, intellectual property (like DSA anodes)** and an exclusive relationship of *loyalty* with their customers.

Key operating segments

1) Electrode Technologies, the oldest and most established segment, specializes in producing electrodes and membranes for electrolytic cells. It boasts a global market share exceeding 50% in key industrial applications, such as chlor-alkali and electronics. The segment also generates consistent aftermarket revenue through recoating and retrofitting services, comprising approximately 54,2% of its revenue.

2) Water Technologies, focused on developing advanced water purification and wastewater treatment systems produces specialized electrolysis cells and electrodes for diverse applications, ensuring compliance with regulatory standards. Recent expansions (75% of the residential pool water treatment market) include solutions for electrochlorination, PFAS removal, and enhanced modular cell systems integrating seamlessly into existing infrastructure, boosting efficiency and sustainability.

3) Energy Transition, the "youngest" business unit**,** DNR is set to benefit greatly from the green hydrogen transition. Indeed, traditional chlor-alkali components are also suitable for AWE (Alkaline Water Electrolysis), the most widely used technology to produce hydrogen from water electrolysis. This division is projected to achieve an 80% market share for large-scale projects by 2030. De Nora's position of strength is supported by its 24% stake in Nucera, a joint venture with Thyssenkrupp which acts like Engineering Procurement & Construction EPC in delivering chlor-alkali and electrolysis plants.

Target industries:

De Nora operates primarily as a B2B company, serving various industries with high-tech solutions. Its main customers include municipal authorities, which rely on its drinking water purification and wastewater treatment systems; chemical producers, leveraging its electrodes for efficiency in chlor-alkali and industrial chemical processes; industrial clients, benefiting from sustainable and energy-efficient solutions in the power and energy sectors; and residential markets, where its advanced water treatment technologies, particularly for swimming pools, are widely used.

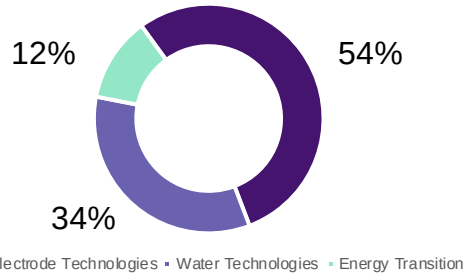
Supply Chain

De Nora's supply chain is optimized for operational excellence, sustainability, and adaptability. It has a global manufacturing footprint and partners with Asahi Kasei for sustainable sourcing. Vertical integration ensures product quality and responsiveness to market fluctuations.

Value Drivers

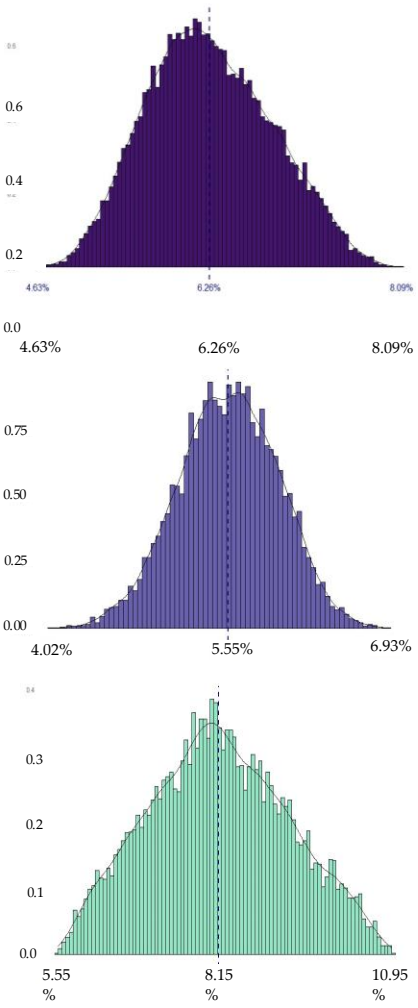
De Nora's value proposition combines technological excellence with strategic market positioning. Proprietary technologies like DSA anodes and advanced AWE systems set industry benchmarks for reliability and efficiency.

Figure 4: Revenue Segment



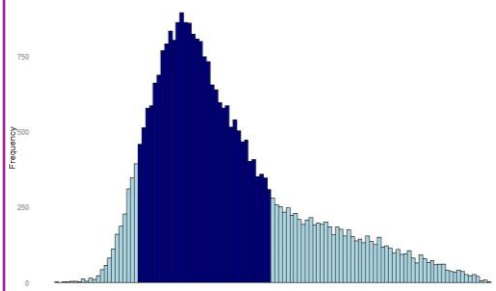
Source: Company data

Figure 4 : Expected CAGR per segment



Source: Market forecast

Figure 5: Company Expected Cagr



Source: Team 1 Analysis

Electrochemical Electrodes

As a core component of De Nora's business and currently a sector in which the company holds a dominant position, the Electrochemical Electrodes market is characterized by a small number of competitors and a high degree of market concentration. This, combined with the significant importance of experience and specialized know-how, makes this market challenging for new entrants.

Demand Drivers

The demand within this sector is primarily driven by the needs of key end-markets, including the chlorine chemical industry (CAGR of 4.8% from FY25-34), the caustic soda market (**CAGR** of **5.5%** from FY25-30), and the printed circuit board (PCB) sector (**CAGR** of **6,5%** from FY25-30). These growth rates are underpinned by the increasing demand for chlorine from the chemical, pharmaceutical, and water treatment industries, growing consumption of caustic soda in alumina production, detergents, and water treatment, and the expanding use of PCBs in various consumer and industrial goods, including, but not limited to, phones, tablets, home appliances, and automation systems.

Water Treatment

The Water Technologies sector is highly fragmented due to its broad range of sub-sectors and the diverse technological solutions employed in water treatment. As a result, market share distribution varies across different geographical regions and market segments. The ongoing technological advancements and the wide array of products and services offered contribute to the sector's competitive dynamics.

Demand Drivers

Within De Nora's focus areas, key demand drivers include growing consumer interest in luxury lifestyles and aquatic recreational and fitness activities, which are expected to stimulate the pools market. Additionally, stricter environmental regulations, increased demand for treated water due to population growth, rapid industrialization, and heightened awareness of waterborne diseases are significant drivers for the electrochlorination and water filtration and disinfection markets.

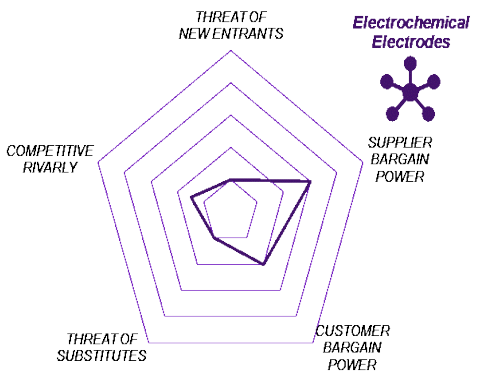
Energy Transition

The energy transition sector is highly competitive, with numerous players of varying sizes, including leading companies such as Nel Hydrogen, ITM Power, and Plug Power for electrolyzer production, as well as Air Liquide, Linde, and Air Products for hydrogen production. The sector is competitive not only due to the large number of participants but also because technological innovation plays a critical role in ensuring long-term viability and growth. As such, companies are heavily invested in research and development to maintain or enhance their competitive positioning.

Demand Drivers

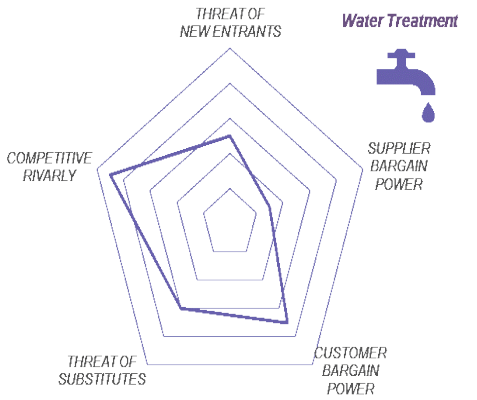
While grey hydrogen, produced through steam reforming of fossil fuels without CO_2 capture, currently accounts for approximately 90% of global hydrogen supply, the demand for green hydrogen—due to its more sustainable production process—is projected to rise as industries adopt decarbonization strategies. Key drivers of this demand include the use of green hydrogen in agriculture (for ammonia production), transportation (via fuel cells), and in hard-to-abate industries such as steel and cement production, as well as other diverse industrial applications

Figure 6: Electrochemical Positioning



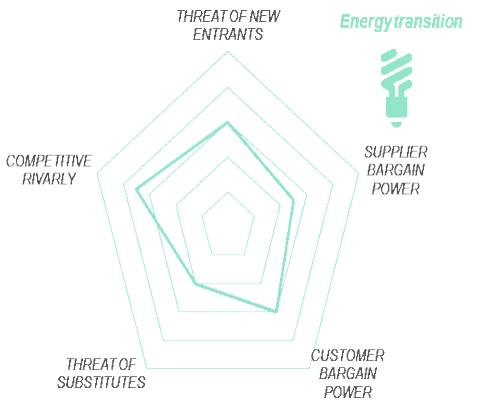
Source: Team 5 Analysis

Figure 7: Water Technologies Positioning



Source: Team 5 Analysis

Figure 8: Energy Transition Positioning



Source: Team 5 Analysis

Competitive positioning

Electrochemical Electrodes

De Nora currently holds more than 50% of the market share across its three main sub-sectors within the Electrochemical Electrodes segment: Chlor-Alkali, Printed Circuit Boards and Electrowinning. This strong market position can be attributed to several factors, including the company's extensive expertise in the sector, built through its long-standing industry presence and supported by continuous research and development (R&D). Furthermore, the strategic location of its manufacturing facilities near key customers has played a significant role in both sustaining and expanding its client base over time. Currently, De Nora faces limited competition in the American and European markets, though it encounters stronger resistance in the Chinese market, despite local players offering less advanced technologies.

Water Treatment

Despite the high general competitiveness within the water treatment sector, De Nora has managed to outperform its competitors in the sub-sectors in which it operates. The company is a clear leader in electrochlorination systems for swimming pools, holding over 80% of the market share, and for industrial processes, where it maintains a strong competitive position. In municipal water disinfection and filtration, De Nora ranks among the top five global players. These strong results can be attributed to the smaller scale of numerous local competitors and the limited focus global players place on electrochlorination treatment technologies in the industrial electrochlorination and municipal water disinfection and filtration segments. In the swimming pool segment, De Nora benefits from minimal competition, which allows its technologies to maintain a dominant position in the market.

Energy Transition

De Nora ranks first in the production of AWE (Alkaline Water Electrolysis) technology for green hydrogen production. This leadership is driven by both the company's distinctive global production capabilities and the relatively nascent nature of the green hydrogen sector. While numerous players are active in the market, only a select few produce AWE technologies, and the solutions offered by these competitors are generally of lower value compared to De Nora's advanced technologies.

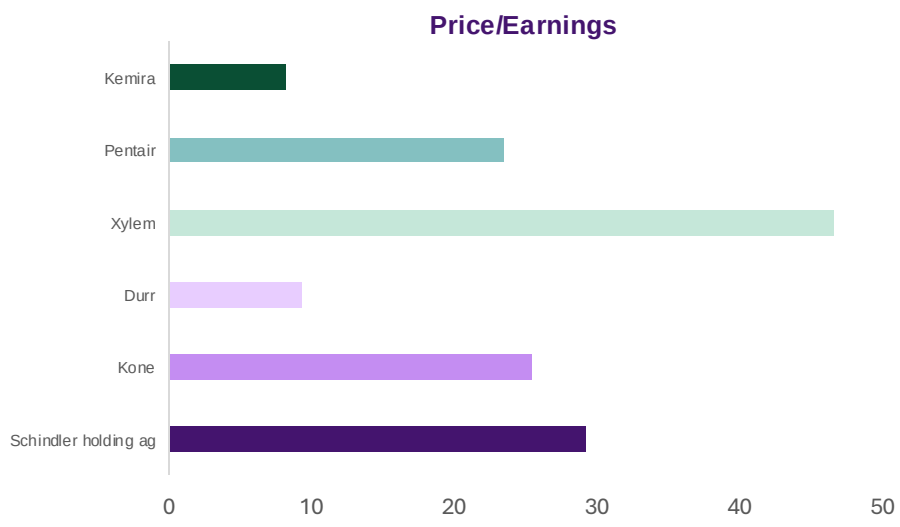
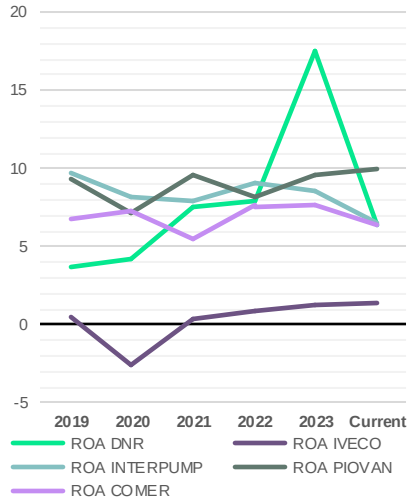
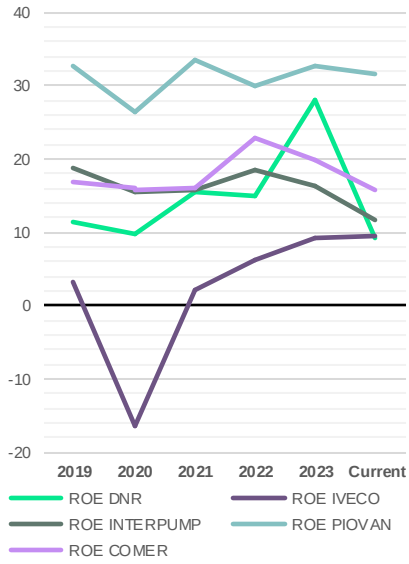


Figure 9 : ROA(%) CHART



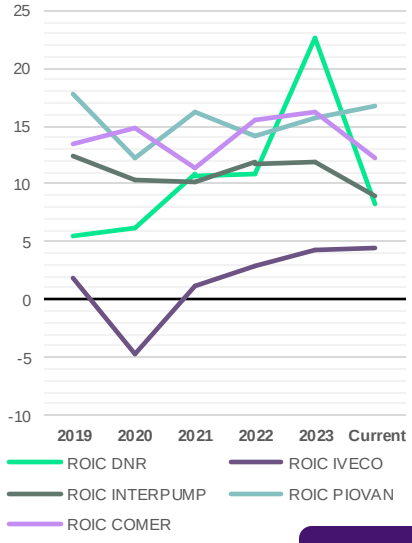
Source: Team 4 Analysis

Figure 10: ROE(%) CHART



Source: Team 4 analysis

Figure 11: ROIC(%) CHART



Source: Team 4 analysis

Challenges and Strategic Focus on De Nora's Energy Transition Journey

Since its first appearance in the capital markets (2022), De Nora has experienced volatility in both market trends and economic performance, with an average **11%** decrease in revenues over the last nine months. The outcome from this performance, particularly in the energy transition segment, where **EBITDA** is approximately zero to date, have led, with others factor, to a **50%** decrease in the share price over the last **52 weeks**. The strategic importance of the **Energy Transition** segment is evident not only in qualitative statements by management but also in increased investment in tangible and intangible assets to support its growth with **48%** expenses in Capex dedicated just for it (Figure x).

Financial overview and key metrics

De Nora's financial performance over the past four years highlights both resilience in its core business and the challenges posed by the Energy Transition segment. The company has experienced a sustained increase in revenues during the **2019-2023** period, with a **CAGR** of **13%**; as shown in **Thesis 3**. While the EBITDA continues to be driven predominantly by **Electrode Technologies** and **Water Technologies** (in a **70%-30%** ratio), the **Energy Transition** segment has yet to contribute positively, with its EBITDA remaining negative as of 2024. The cost structure reflects a similar trend: G&A expenses dominate for the first two segments, whereas the **Energy Transition** segment is characterized by significantly higher R&D expenses, which have doubled since 2022. Additionally, geopolitical tensions from 2021-2022 have led to increased costs that have not returned to pre-pandemic levels. The lack of profitability in the **Energy Transition** segment, combined with tempered market expectations for hydrogen-related technologies, has contributed to significant share price declines. However, **this segment remains central to De Nora's vision**, as evidenced by its inclusion in the company's IPO prospectus and a consistently growing allocation of Capex to **Energy Transition** initiatives. Despite short-term financial pressures, De Nora continues to lead in its core sectors while heavily investing in cutting-edge projects in the **Energy Transition** segment, viewing it as a strategic "**free option**".

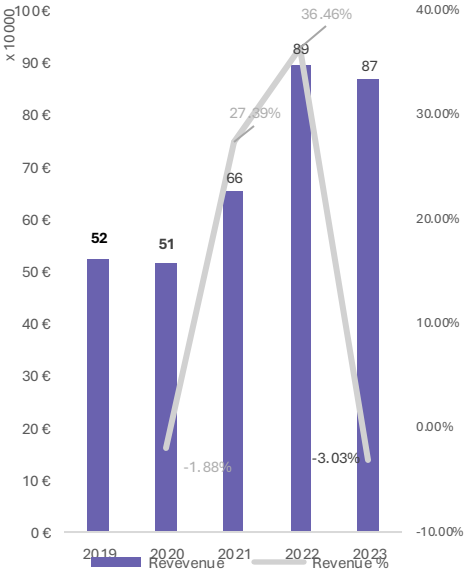
Profitability

From a profitability standpoint, the **gross margin** has remained relatively stable, oscillating between **55%** and **59%**, while **EBITDA margin** has shown a slight improvement, reaching **20%** in 2023. Notably, **net profit margin** has surged from **6%** in 2020 to **27%** in 2023, reflecting operational efficiencies and a more favourable revenue mix. **Asset turnover** has remained relatively flat, suggesting that revenue generation from assets has not significantly changed. However, return on assets (**ROA**) and return on equity (**ROE**) have improved, particularly in 2023, reaching **17%** and **34%**, respectively.

Liquidity and Debt Ratios

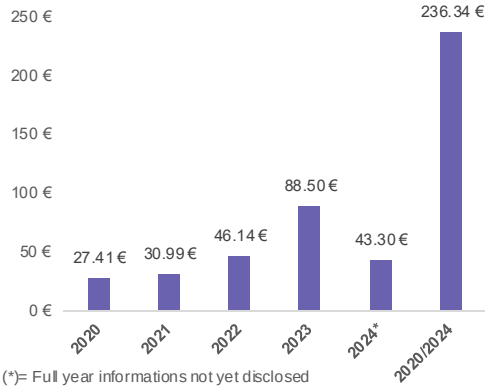
This increase can be partially attributed to a more efficient capital structure, as evidenced by a declining debt-to-equity ratio from **1.2x** in 2021 to **0.5x** in 2023. **Liquidity ratios** indicate a mixed trend. While the **cash ratio** has improved since 2021, reaching **0.8x** in 2023, the **current ratio** has fluctuated, suggesting variations in working capital management. The **interest coverage ratio** has strengthened, increasing to **6.2x** in 2023, demonstrating improved ability to meet debt obligations.

Figure 12: Revenue Growth



Source: Team 5 Analysis

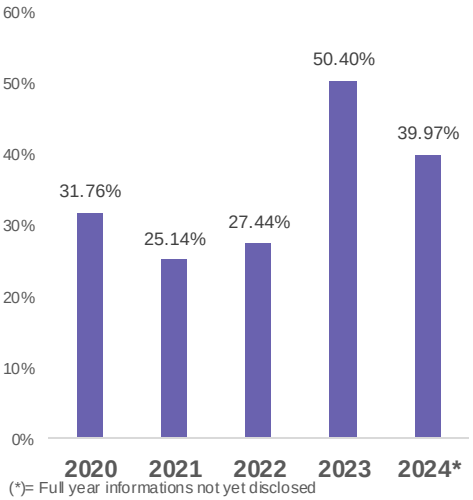
Figure 13 : Capital Expenditure Cost



(*)= Full year informations not yet disclosed

Source: Team 5 Analysis

Figure 14: Gross Margin (%)



(*)= Full year informations not yet disclosed

Source: Team 5 Analysis

Efficiency

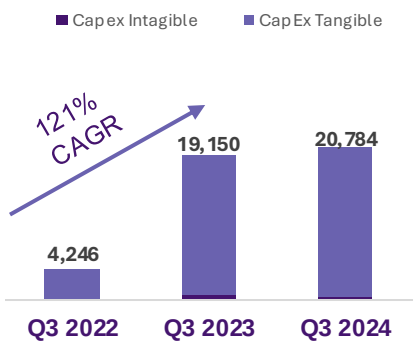
Efficiency metrics reflect some operational challenges. Days Sales Outstanding (**DSO**) increased from **76 days** in **2022** to **93 days** in 2023, indicating a potential slowdown in receivables collection. Meanwhile, **inventory turnover** has remained stable at **1.4x**, suggesting that inventory management has not seen major disruptions despite supply chain uncertainties.

Conclusion

Overall, while De Nora's core business remains solid, the financial data highlights the ongoing impact of its **Energy Transition** investments. The improving profitability and strengthening financial ratios suggest that despite short-term pressures, De Nora is positioning itself for **long-term growth**, leveraging its established businesses while advancing its strategic shift towards sustainability-driven innovation.

Figure 15:

Energy Transition's CAPEX:



Source: Team 3 Analysis

INVESTMENT RISK

Financial Risks

A)**Interest Rate Risk** (LOW): De Nora maintains a positive net financial position of approximately €30 million, with cash reserves exceeding financial debt. An operational cash flow of €80 million in the first half of 2024 and an Adjusted EBITDA of 18.8% demonstrate strong financial resilience, enabling the company to absorb potential increases in debt costs.

B)**Exchange Rate Risk** (LOW): De Nora incurs operating costs in different currencies from its revenues (e.g., costs in euros, revenues in USD and yen). Currency risk is most significant in the APAC region, where local currency devaluation ha negatively impacted results. To mitigate this risk, the company employs forward contracts and options.

C)**Credit Risk** (MEDIUM): This risk arises from clients failing to meet financial obligations. To mitigate it, De Nora continuously monitors client behavior and creditworthiness.

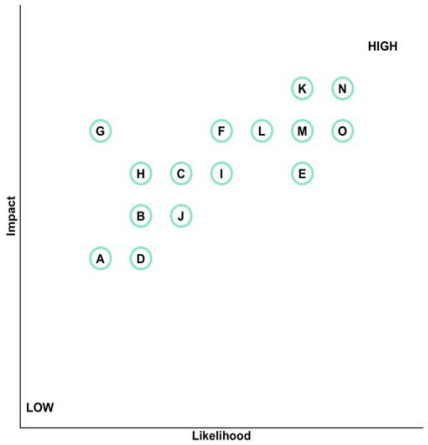
D)**Liquidity Risk** (LOW): With a net financial position of approximately €25 million; De Nora's financial strenght is backed by robust operational cash generation primarily from the Electrode Technologies division. However, in the short term, investments in green hydrogen projects – which face regulatory delays and market uncertainties – may increase this risk. To ensure stability, the company focuses on strategic partnerships and prudent financial management.

Operational Risks

E)**Client Destocking Risk** (MEDIUM): Slowdowns in certain sectors, such as hydrogen, pose a potential risk. However, De Nora's strategic diversification mitigates the impact, as destocking in key markets is offset by new projects and expansion into emerging markets.

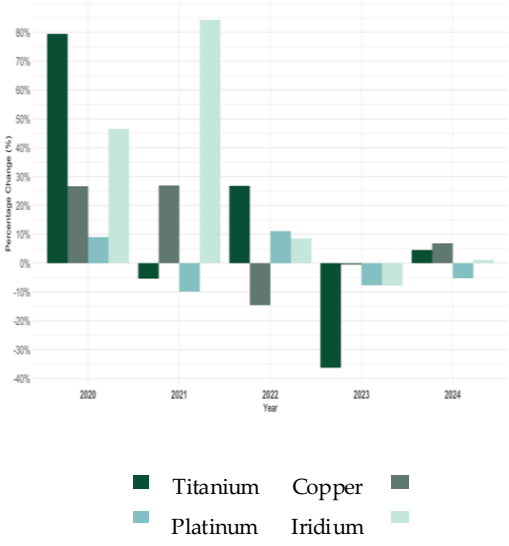
F)**Potential Development of Replacement Technologies** (LOW): Competitors may develop more efficient and sustainable technologies, potentially affecting De Nora's market position. The company invests heavily in R&D to stay ahead of market innovations and enhance revenue margins.

Figure 16: Risk Map



Source: Team 3 Analysis

Figure 17: Annual Change in Raw Materials Prices (2020-2024)



Source: Team 3 Analysis

Market Risks

Raw material prices and supply chain risks are influenced by factors like tariffs, geopolitical tensions, limited suppliers, and regulatory changes.

- G)**Tariffs** (MEDIUM): Protectionist measures - particularly from the U.S. against China, Mexico, and Canada - could drive up raw material costs. However, a potential free trade agreement between the EU and Mercosur could open new supply channels in South America.

- H)**Geopolitical Tensions** (LOW): The Russia-Ukraine conflict creates market uncertainty, but De Nora sources key materials outside Russia and has ceased all business with Russian clients, even those not subject to sanctions.

- I)**Limited Number of Suppliers** (MEDIUM): Due to the specialized materials used, De Nora relies on a limited number of suppliers, reducing its bargaining power. The company mitigates this risk by bulk purchasing raw materials to secure better pricing.

J)**Regulatory Changes** (MEDIUM): Unclear and restrictive regulations in certain energy sectors slow down market development. However, future regulatory shifts in the U.S. and EU – aimed at reducing CO2 emissions and supporting renewable energy – could create significant revenue opportunities in De Nora's Energy Transition segment.

Green Hydrogen

K)**High costs** (HIGH): Green hydrogen prices ranges from $3.74 to $11.70 per kg, largely influenced by volatile renewable energy costs. Even by 2050, costs are projected to remain between $1.60 and $5.09 per kg. De Nora is investing in advanced electrolyzer technologies to improve efficiency, lower production costs, and increase productivity.

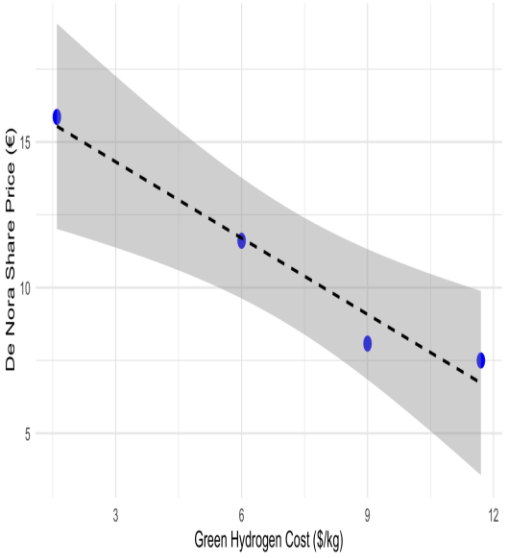
L)**Price Gap with Grey Hydrogen** (HIGH): Grey hydrogen (produced from fossil fuels) costs only $1.11 to $2.35 per kg. Without strong subsidies, demand for green hydrogen may remain limited. To address this, De Nora is expanding into emerging markets like India and China, where green and grey hydrogen price parity may be achieved earlier.

M)**Lack of Infrastructure for Transportation and Storage** (HIGH): Hydrogen transportation and storage are costly, requiring cryogenic colling at -253°C. The lack of infrastructure slows market growth. To mitigate this, De Nora collaborates with companies near hydrogen production sites, reducing transportation and storage costs.

N)**High Cost of Electrolyzers and Lack of Economies of Scale** (HIGH): Electrolyzer costs remain high, and limited economies of scale hinder cost reductions. To accelerate cost efficiency, De Nora is:
- Partnering with industry leaders and governments to share R&D, production, and distribution costs.
- Forming consortia to bulk-purchase electrolyzer components, securing better supplier terms.

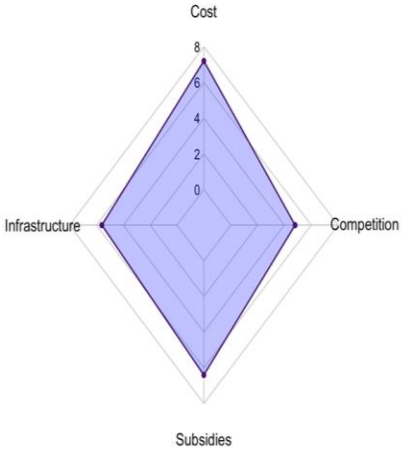
O)**Energy Cost Volatility** (HIGH): Electricity accounts for 80% of green hydrogen production costs. Fluctuating energy prices – exacerbated by the Russia-Ukraine war – impact profitability. To mitigate this, De Nora is developing long-term renewable energy contracts to stabilize costs.

Figure 18: Sensitivity of De Nora's share price to the cost of green hydrogen



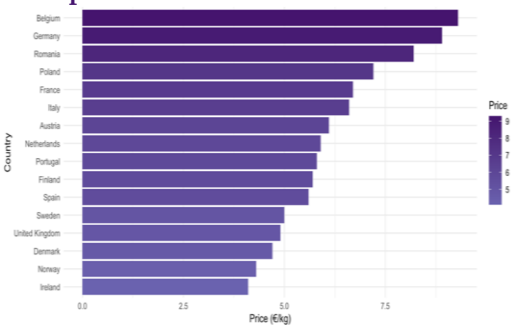
Source: Team 3 Analysis

Figure 19: Risk radar



Source: Team 3 Analysis

Figure 20: Price of Green Hydrogen in Europe



Source: Team 3 Analysis

ESG The integration of the new ESG strategy into the Business Plan confirms that sustainability is a core pillar of DNR's BM.

By focusing on long-term value creation, DNR has made sustainability a key driver for lasting competitive advantage. DNR's goal is clear: align economic and financial objectives with the SDGs, minimizing trade-offs and meeting stakeholder expectations. To this end, its innovative technologies, by improving process efficiency and reducing customers' environmental impact, allow DNR to promote sustainability across the value chain, thereby strengthening its market leadership.

Environmental

DNR promotes circular economy models along its entire value chain, with a focus on critical natural resources, such as water and noble metals, and electrodes, which are a key asset for DNR's business.

Electrodes and Circularity: DNR's DSA electrodes improve energy efficiency in production processes and can be reused through re-coating, representing a UVP for DNR and a source of sustainable competitive advantage.

Noble Metals: DNR reuses noble metals generated during production and recovers residual amounts still present in used electrodes. However, circularity alone is not enough to offset the high energy and emission profile of noble metals extraction and refining, so DNR conducts R&D activities to reduce their use in the electrode coatings by 4% by 2026.

Water and Circularity: DNR's water treatment systems enable the safe and circular use of water in both municipal and industrial sectors, addressing global challenges such as clean water access and climate change.

DNR's primary sustainability efforts focus on reducing energy consumption and carbon emissions.

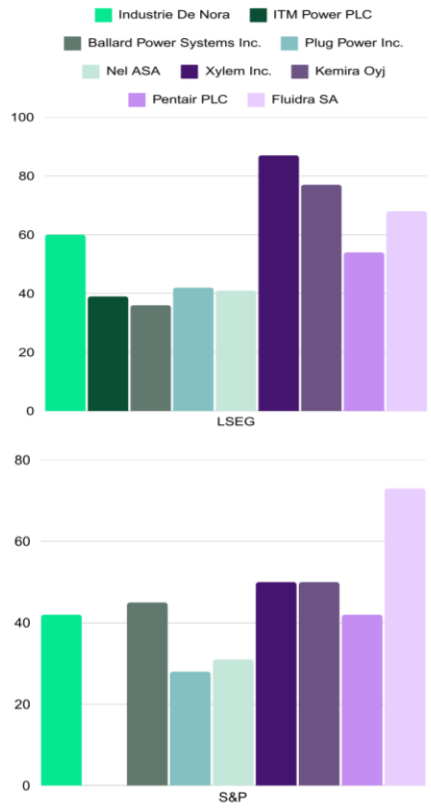
Energy Consumption: in 2023 DNR's total energy consumption reached 401,024 GJ (+2) with this energy mix: 33% natural gas 63% electricity 4% other fuels. With a 1.3% increase in energy consumption per unit of revenue, DNR is expected to intensify its energy efficiency efforts. Several initiatives have already been launched, including photovoltaic panels installations at 3 sites. These, alongside those at the German facility, now cover 25% of the total energy needs of the four plants (out of 14). DNR aims to increase the renewable energy share to 40% by 2026, with a goal of reaching 100% by 2030.

GHG Emissions: The new ESG plan targets a ~50% reduction in Scope 1 and 2 emissions and Scope 3 intensity by 2030. The activation of more than 1850 panels has provided a 3.1 GWh installed capacity, reducing Scope 2 emissions. Additional contributions are expected from planned investments in 2025, which will expand solar energy capacity to 8 GWh, and from the progressive implementation of the 2030 targets.

Social

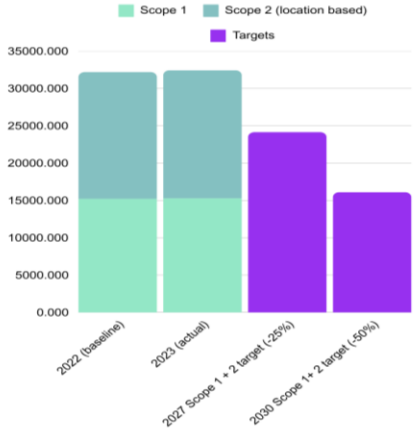
DNR enhances human capital, generating added value, by an organizational design and corporate culture that promote strategic assets such as DE&I. Additionally, DNR safeguard employee well-being by investing in occupational H&S systems, with the goal of certifying all 14 operational sites with ISO 45001.

Figure 21: ESG Scores



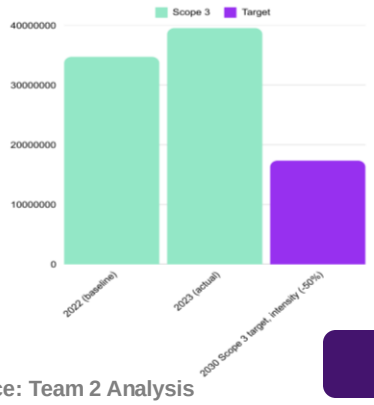
Source: Team 2 Analysis

Figure 22: GHG emissions (Scope 1+Scope 2, in tCO2e)



Source: Team 2 Analysis

Figure 23: GHG emissions (Scope 3, in tCO2e)



Source: Team 2 Analysis

Workforce: In 2023 the 4.2% workforce growth confirms DNR's commitment to job creation, bringing the total number of employees to 2,010. Despite a 9% reduction in AMS personnel, DNR successfully maintained workforce stability through an overall hiring rate of 21% and a decline in voluntary resignations.

Gender Diversity: With women accounting for 20% of DNR's workforce, female representation remains below the industry average of 26.88%. The rise in managerial positions (22%) remains insufficient to close the overall gender gap, given female underrepresentation in executive and industrial technician roles.

Health & Safety: Despite H&S' position in the materiality matrix, DNR's strong commitment has led to positive results through its QEHS policy, based on "EHS review", audit stops, RCA, "Safety Triangle" and EHS training programs. The effectiveness of these measures is reflected in a 12% reduction in workplace injuries in 2023 and the following key indicators:TRIR of 0.7: In line with DNR's competitors in the WT sector and higher than the performance of peers in the ETr sector. LTIR of 0.05: significantly lower than the industry average and that of U.S. companies sharing the same NAICS code as DNR LLC (LTIR = 0.4) and DNR Water Technologies LLC (LTIR = 0.8).

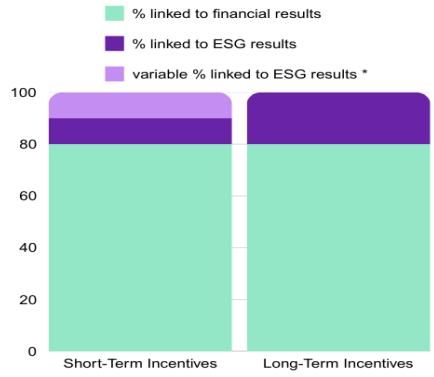
GovernanceDNR's ESG strategy, which also applies to the variable component of the CEO and Key Executives' remuneration (EMBO and PSP), is based on transparent corporate governance policies that, by aligning the interests of management and shareholders, foster the creation of sustainable value

Shareholders Ownership: DNR's share capital consists of 74.6% multiple-voting shares. The De Nora family holds 53% of the capital, representing 71% of total multiple-voting shares, ensuring effective control over strategic decisions and limiting the influence of other shareholders. To mitigate the impact of this concentration, which represents a critical ESG issue, DNR has adopted governance-strengthening measures, such as enhanced transparency, inclusion of minority shareholders, independence verification for board members and appointment of a LID.

Board of Directors: The BoD consists of 12 members, including 6 independent and 2 executive. The De Nora family appoints 9 directors, while the remaining 3 are nominated by Asset Company 10 and Snam, the "investors" holding the remaining multiple voting shares. The BoD is sufficiently diversified in terms of expertise and gender, with 33% female members. However, only 8% of members are between the ages of 30 and 50. All members have ESG expertise, further improved through the induction program. Additionally, as of FY 2024 if minority shareholders submit an alternative slate, they will have the right to appoint one director, removing the last candidate from the joint slate of the De Nora family and «investors».

CCRESG Committee: The BoD has delegated responsibilities for environmental, corporate governance, and sustainability matters to the CCRESG Committee, granting it full budget autonomy to carry out its functions. With 2 (out of 3) independent members, the committee provides to safeguard minority shareholders' interests.

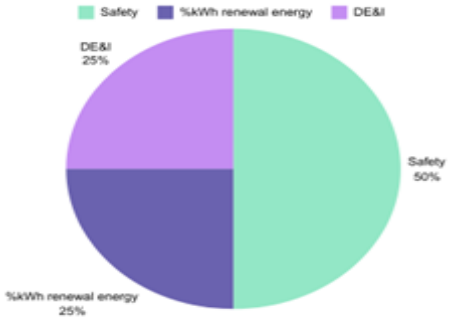
Figure 24: Structure of variable Top Management remuneration



(*) not each manager has 20% ESG compensation

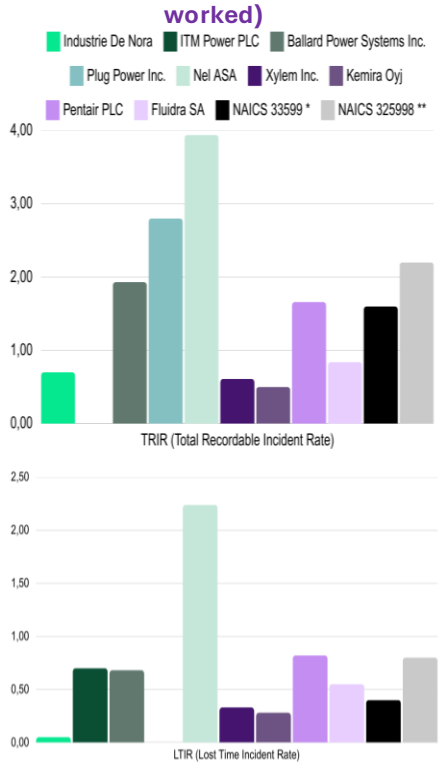
Source: Team 2 Analysis

Figure 25: Structure of ESG tied CEO remuneration



Source: Team 2 Analysis

Figure 26: Incident rates (/200k hours worked)



(*) All other electrical equipment and component manufacturing
(**) All other miscellaneous chemical product and preparation manufacturing

Source: Team 2 Analysis

We conducted both an intrinsic and relative valuation to arrive at a 12-month target price of 10.3 $ per share, a 40% upside from DNR's closing price of 7.12 on 12 January 20205. Our methodology assigns a weighting of 50% on our DCF (perpetually growth method asset side) ad a 50% on our comparable companies' analysis due to uniqueness of DNR's operations and competitive moat.

Scenario Analysis and Price Implications

Our valuation model provides three potential price targets based on different growth and profitability assumptions:

Bear Case (€9.28 per share, 30% return): This scenario assumes 4.29% revenue CAGR and 18.10% EBITDA margin, reflecting lower-than-expected growth in De Nora's core markets, potential regulatory challenges, or macroeconomic headwinds. Despite the lower valuation, the scenario still implies a 30% upside from the current share price, indicating resilience in the company's financial structure.

Base Case (€10.30 per share, 45% return): With a 6.24% revenue CAGR and a 17.90% EBITDA margin, this scenario reflects moderate growth in De Nora's hydrogen and water treatment segments, driven by stable demand and expected efficiency improvements. The implied 45% return suggests that De Nora remains undervalued relative to its fundamental prospects and industry positioning.

Bull Case (€11.40 per share, 60% return): Assuming 8.34% revenue CAGR and 19.30% EBITDA margin, this scenario anticipates a strong expansion in hydrogen-related revenues, accelerated policy support for clean energy, and De Nora's ability to capitalize on technological innovations. A 60% potential return under this scenario highlights the upside potential if De Nora exceeds market expectations and benefits from favorable industry dynamics. These three scenarios provide a risk-adjusted perspective on De Nora's valuation, ensuring investors can assess the company's value based on different macroeconomic and operational conditions.

Terminal Growth and Exit Multiple Approach

For the terminal value, we applied:

- A growth rate of 2%, reflecting long-term industry expectations.
- An EV/EBITDA exit multiple of 9x, derived from comparable companies in De Nora's sector.

Comparable Companies Analysis

De Nora was benchmarked against industry peers, selected based on business model similarities and financial performance. The key peers include Schneider, Xylem, Ballard, ITM Power, Plug Power, and Komira. The average EV/EBITDA multiple was 9x, in line with industry standards. Our valuation estimates De Nora's Total Enterprise Value (TEV) at €1.77 billion, with a per-share implied value of €10.30, supporting the DCF-derived estimate.

Figure 27: WACC

	Unlevered Beta	0.766
	D/E tartget	30%
	Corporate Tax Italy	26%
	Beta Levered	0.936
A	Ke - Cost of Equity	9.19%
	Bank Spread	2%
	Floor (i.e. IRS)	2.284%
B	Kd - Cost of Debt	4.284%
	D/E target	30%
	D/(D+E)	23.1%
	E/(D+E)	76.9%
	Rate Tax Italy	26%
C	WACC	7.803%

Source: Team 5 Analysis

Figure 28: Scenario Analysis

Criteria	Bear	Base	Bull
Revenue CAGR	4.29%	6.24%	8.34%
EBITDA Margins	18.10%	17.90%	19.3%
Price projections	9.28 €	10.30 €	11.40 €
Implied Return	30%	45%	60%

Source: Team 5 Analysis

Figure 29: Results of the valuation

WACC	7.80%
Discount Period	
Discount Factor	
Present Value of Free Cash Flow	
Sum of the PV of FCF	350m
Discount Factor	0.74
Growth Rate g	2.00%
FCF	
Terminal Value	2365m
Present Value of TV	1751m
Total Value	2101m
Current Price	10.30€

Source: Team 5 Analysis

Appendix A : DNR products by segment

1. **Electrode Technologie,** The core business consists primarily of the production and sale of electrodes used in various sectors, particularly in chlor-alkali production processes, and known for their efficiency, electrolytic cells used to produce various chemicals, and catalytic coatings. Their flagship products are DS Anodes and Electrodes (Dimensionally Stable Anodes and Electrodes).

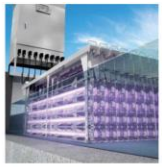
2. **Water Technologies**, which designs and sells fully integrated components and equipment for the purification and filtration of drinking water and for wastewater treatment. In particular, the Group holds a comprehensive portfolio of products for the development, production, and sale of systems and technologies for its **four business lines**: pool disinfection, electro chlorination of seawater and brine for the on-site production of low-concentration sodium hypochlorite, the sanitization and filtration of drinking water and wastewater, and water treatment systems for marine applications. The technologies used are: **NEWTROL®** for pools, **ClorTec®** and **SEACLOR®** for electro chlorination, **Sorb** and **De Nora Tetra Solutions** for water sanitization and treatment. The use of the company's products, such as **DSA®**, also remains fundamental in this segment.

Electrodes for pool chlorinators


ClorTec® On-Site Hypochlorite Generators


Capital Controls® Ozone Generators

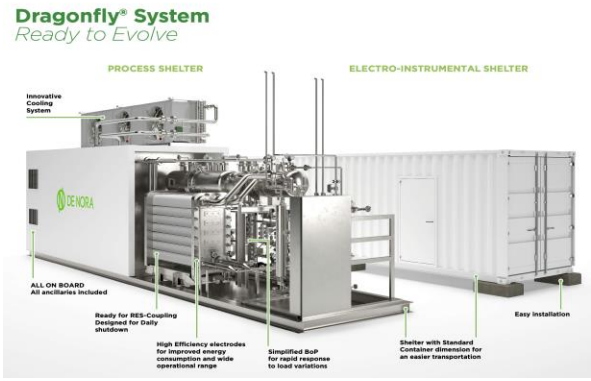

CECHLO® On-Site Generators


Capital Controls® UV Systems


SORB™ Contaminant Removal

3. **Energy Transition**, which generates green hydrogen through water splitting and converts hydrogen into electrical energy. The growth prospects in the green hydrogen market are enormous. The current electrolysis capacity of ~1 GW is expected to skyrocket to ~170 GW, driven both by the replacement of the current carbon-intensive capacity and by the additions needed to power the energy transition. Four main electrolyser technologies are currently used or under development in this unit:

    1) **Alkaline (AWE)** is well-established
    2) **Proton Exchange Membrane (PEMWE)** available
    3) **Solid Oxide (SOWE)** under development
    4) **Anion Exchange Membrane (AEM)** also still under development



DNR Dragonfly® System is their flagship product in Et division , a completely integrated hydrogen generation unit

Appendix B : Strategic investment

Gigafactory

An investment of approximately €100 million is planned for the construction of Italy's first gigafactory dedicated to the production of electrolysers for green hydrogen. The project is promoted by De Nora Italy Hydrogen Technologies, a joint venture between De Nora S.p.A. and Snam S.p.A. A public contribution, funded by the PNRR (Italy's National Recovery and Resilience Plan), is expected, amounting to €32,250,000, which could be increased to €63,206,000 upon meeting certain requirements. The remaining €30 million will be provided by the joint venture. The plant is set to become operational in 2026, with a target production capacity of 2 gigawatt equivalents by 2030.

Saudi Arabia

De Nora has signed a Memorandum of Understanding with ACWA Power, the world's largest water desalination company, listed in Saudi Arabia. The agreement aims to establish a strategic collaboration between the two companies in the fields of green hydrogen production and water desalination, thereby strengthening De Nora's presence in the Arab market.

Appendix C : SWOT analysis

Strengths

Leadership in electrodes: De Nora is the world's largest manufacturer (supplier)

Global presence: 24 operating companies in 10 countries

Large patent portfolio: the group currently has 2,387 patents or utility models already granted in 82 countries

Management team with strong expertise

High quality customers: leading companies in the chemical and energy sectors

Weaknesses

Supply chain disruption

Risk of operational disruption: De Nora faces potential risks of production halts or suspensions caused by equipment malfunctions, accidents, or natural disasters at its manufacturing sites

Geographic concentration risk

Water technologies lower-than-average profitability: compared to De Nora's overall operations (due to high competition)

Opportunities

Expansion in green hydrogen market: green hydrogen is hydrogen produced by electrolysis of water, using renewable energy

Electric vehicles: EVs are driving a significant acceleration in the demand for lithium battery components

Growth in the water treatment market: the water treatment market presents expansive growth opportunities, driven by increasing global water scarcity

Threats

Foreign exchange volatility: the group is exposed to risks stemming from fluctuations in foreign currency exchange rates due to its significant international operations

Regulatory and compliance risks: the group operates in heavily regulated sectors like water treatment, energy, and environment

Energy cost volatility: De Nora's manufacturing processes are energy-intensive

Cybersecurities threats

Appendix D :Pestel Analysis

P

Inauguration of Donald Trump as president of the United States:
The declared policies favoring fossil fuels will likely have a significant impact on the renewable energy sector and its pricing in the short to medium term.

Wars in the Middle East/Russia-Ukraine and the trend toward deglobalization:
Both ongoing conflicts contribute to the uncertainty of the geopolitical landscap, presenting tangible risks of escalation with potentially massive impacts on global markets. Many companies are strategically opting for vertical integration of certain internationalized segments of their supply chains to reduce dependence on third-party countries.

E

Tariffs and U.S. protectionist policies:
It is highly likely that, during Trump's administration, tariffs will be imposed on China, the EU, Mexico, and Canada, which could heavily impact the cost of raw materials and U.S. inflation.

Interest rates:
The restrictive monetary policies of the FED and ECB have shifted trends, and interest rates are expected to decline in the coming months, more rapidly in the EU than in the U.S. (where the trend could be influenced by the consequences of trade tariff policies), thereby encouraging investments across various sectors.

Government incentives for green energy and hydrogen:
Numerous governments have planned substantial funding aimed at promoting the green economy. Examples include the implementation of the PNRR in Italy (€2.9 billion for six different hydrogen supply chains) and initiatives such as the European "Five Supply Hydrogen Corridors".

S

Green awareness:
Consumers, financial institutions, and institutional investors are increasingly focusing on environmental sustainability issues.

Skepticism toward hydrogen technologies:
As with all emerging technologies, the widespread adoption of hydrogen may depend on consumer perception of its safety. Hydrogen, with the highest energy density of any fuel, poses potential risks such as jet fires, flash fires, explosions, and asphyxiation due to storage issues and tank leaks.

T

Various methods of hydrogen production:
"Brown" hydrogen production alternatives (black, grey, and blue hydrogen) remain more cost-competitive than green hydrogen production, primarily due to the high cost of renewable energy. For green hydrogen, in addition to water electrolysis, production can also occur through technologies such as the trigeneration platform (which utilizes renewable biogas to produce hydrogen, electricity, and water) or the solar-thermal method. In the future, technologies for producing pink hydrogen (nuclear energy) and turquoise hydrogen (methane pyrolysis) may also gain prominence.

Different water treatment methods:
Water purification processes can involve physical (aeration, sedimentation, filtration), biological (anaerobic digestion, biological oxidation), or chemical methods.

E

The central role of water in emerging macro-trends:
Industries such as artificial intelligence, big data, data centers, and blockchain technology consume vast amounts of potable water, which is already becoming an increasingly scarce resource.

Intermittency of Green Energy Technologies as Alternatives to Hydrogen:
The non-linear nature of green electricity production, influenced by weather conditions (solar, wind, etc.), can lead to fluctuations in energy output. In extreme cases, an excess of electricity production relative to demand can occur, potentially resulting in negative pricing phenomena. These trends could positively impact green hydrogen producers relying on third-party energy sources but negatively affect those producing green energy in-house, as they may face inefficiencies and additional costs related to energy storage (BESS) or curtailment.

L

Strategic implementation of plans for hydrogen and renewable energy supply chains worldwide:
Regulations and significant investments, such as those outlined in the Inflation Reduction Act (IRA), "Fit for 55%," and RePowerEU, are expected to drive the growth and scaling up of the sector while reducing reliance on fossil fuels.

Strict european and american regulations on PFAS industrial production:

- TSCA (Toxic Substances Control Act, Section 8(a)(7) on PFAS)
- REACH Regulation (EC) 1907/2006 (Registration,

Evaluation, Authorisation, and Restriction of Chemicals)

- RoHS 3 Directive (EU) 2015/863
- POPs Regulation (EU) 2019/1021
- Stockholm Convention, POPs Regulation

These regulations aim to limit and ban toxic substances across various industrial sectors to mitigate water pollution risks.

Appendix E

Share buyback

De Nora started a buyback program on November 9, 2023, authorized by the Shareholders' Meeting on April 28, 2023.
The program's primary objective is to implement the company's remuneration policies, specifically addressing the fulfillment of obligations tied to compensation plans based on financial instruments.
The buyback program concluded on April 12, 2024.

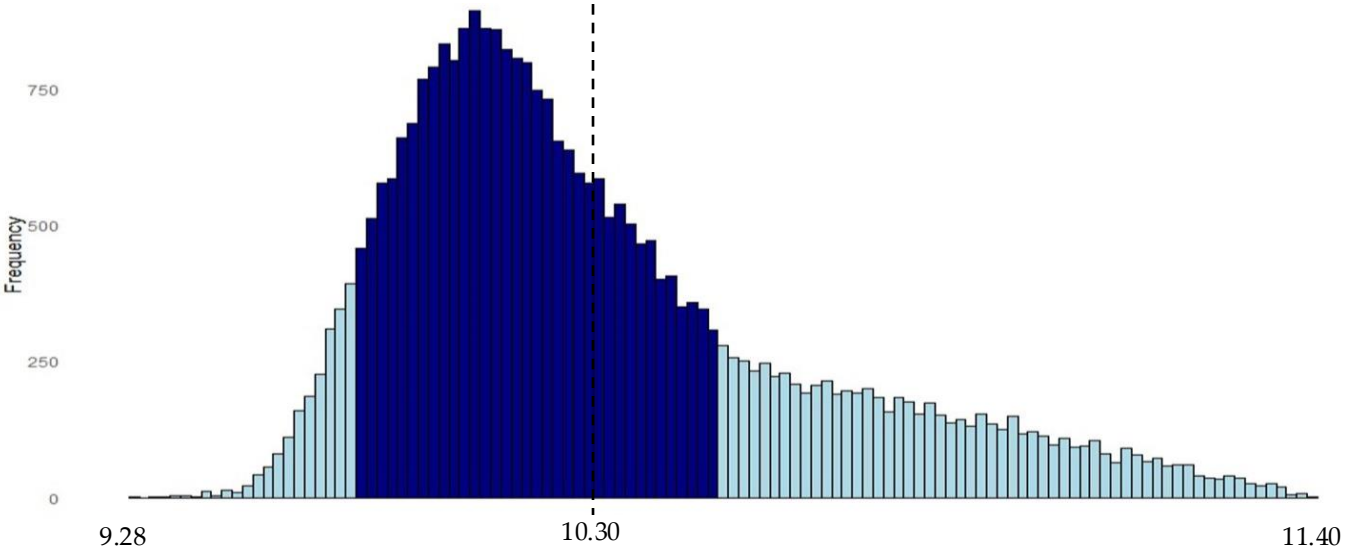
- Total of treasury shares purchased: **1,841,495**
- Percentage of the company's share capital: **0,91%**.

Of these, 13,760 treasury shares were already used to fulfill the obligations of the existing incentive plans.

Appendix F

Income Statemant (m)	12/21	12/22	12/23	12/24E	12/25E	12/26E
ew	358.2	473.4	464.2	493.3	524.17	557.01
wt	257.7	336.7	290.0	306.8	324.33	342.87
et	0 €m	43 €m	102 €m	69 €m	**74.68**	**80.84**
	616.0	**853.0**	**856.0**	**869.1**	**923.2**	**980.7**
tot Revenues	**616 €m**	**853 €m**	**856 €m**	**869 €m**	**923 €m**	**981 €m**
Gross profit	231 €m	308 €m	306 €m	304 €m	320 €m	328 €m
EBITDA	**134 €m**	**191 €m**	**171 €m**	**152 €m**	**166 €m**	**173 €m**
D&A	-26 €m	-28 €m	-31 €m	-32 €m	-43 €m	-48 €m
EBIT	**107 €m**	**163 €m**	**140 €m**	**120 €m**	**123 €m**	**126 €m**
Associates & investment income	-13 €m	-37 €m	-4 €m	1 €m	-1 €m	-48
Other non-operating income	9 €m	-1 €m	138 €m	-4 €m	9 €m	10 €m
Net interest	-3 €m	-4 €m	-10 €m	-8 €m	-7 €m	-8 €m
Pre-tax profit	100 €m	121 €m	264 €m	109 €m	124 €m	80 €m
tax	26	31.46	34	34	37	0
Profit after tax	74 €m	90 €m	230 €m	75 €m	87 €m	80 €m
Net earnings	**74 €m**	**90 €m**	**230 €m**	**75 €m**	**87 €m**	**80 €m**

Appendix G : Montecarlo Analysis



Summary Statistic		Percentile	Outpt price
Minimum	9.28 €	5%	9.30 €
Maximum	11.40 €	10%	9.31 €
Mean	10.30 €	15%	9.42 €
Std Deviaton	1.22	20%	9.52 €
Variance	1.488	25%	9.63 €
Skewness	0.31	30%	9.73 €
Kurtosis	3.45	35%	9.84 €
Errors	0	40%	9.94 €
Mode	10.4	45%	10.05 €
Trials	10000	50%	10.25 €
		55%	10.46 €
		60%	10.66 €
		65%	10.87 €
		70%	10.96 €
		75%	11.05 €
		80%	11.14 €
		85%	11.23 €
		90%	11.32 €
		95%	11.41 €

Event	Probablity
Cagr Revenues < 5.43%	10.0%
5.43% < Cagr Revenues < 7.53%	65.0%
Cagr Revenues >7.53%	25.0%

This Monte Carlo analysis simulates 10,000 trials to estimate the distribution of output prices, with a mean of €10.30 and a standard deviation of 1.22. The probability distribution highlights the likelihood of different price outcomes, with 65% of cases falling within the CAGR revenue range of 5.43% to 7.53%. The analysis considers different scenarios, where there is a 10% probability of CAGR revenues falling below 5.43%, indicating a bearish outlook, while 25% of cases exceed 7.53%, representing a more optimistic scenario. The results help assess risk and potential price fluctuations under various growth assumptions.

Appendix H : Additional risks

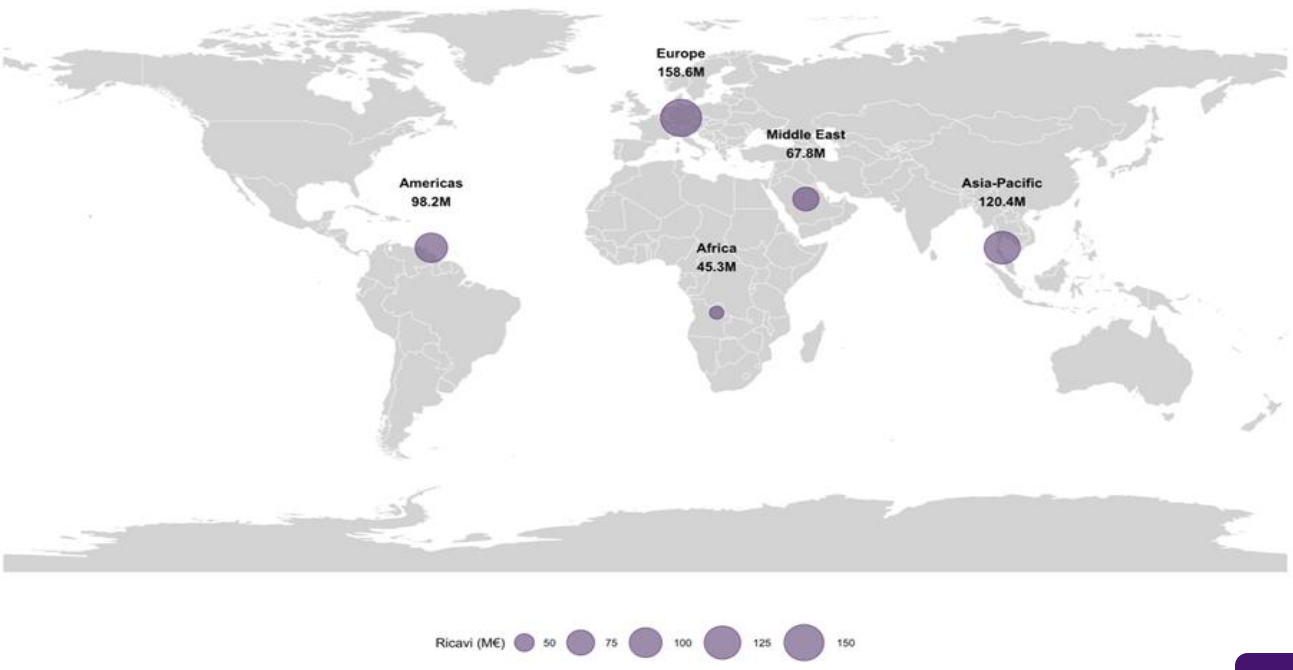
Asset Depreciation Risk (LOW): If certain technologies or facilities become obsolete due to technological advancements or regulatory changes, De Nora may need to write down significant assets. Investing in flexible and scalable technologies can help adapt to potential market shifts.
Shortage of Skilled Workforce (MEDIUM): The difficulty in finding highly qualified professionals in key sectors such as electrochemistry and energy transition could slow down growth. Implementing internal training programs, establishing partnerships with universities, and offering competitive packages can help attract top talent.
Reputational Risk (MEDIUM): Any environmental, social, or governance (ESG) controversy could harm the company's reputation and investor confidence. Strengthening ESG policies, ensuring transparency, and effectively communicating sustainability initiatives can help mitigate this risk.
Risk of Low Demand (HIGH): If the adoption of green hydrogen does not grow as expected, excess production capacity and low short-term profitability could result. Diversifying hydrogen applications across multiple sectors, such as industry, transportation and energy storage could help.
Risk of Faster Technological Innovation by Competitors (HIGH): If other companies develop more efficient and cost-effective hydrogen production technologies, De Nora could lose its competitive advantage. Increasing investments in research and development and continuously monitoring industry innovations can help maintain market leadership.

Appendix I : Geographycal risk

Europe is the largest contributor to total revenue, reflecting the company's strong market presence. This is likely driven by the region's advanced industrial base, demand for sustainable technologies, and supportive regulatory frameworks for green energy.
The Asia-Pacific region follows closely, underscoring the growing adoption of De Nora's technologies in high-growth economies such as China, Japan, and South Korea. This trend aligns with increasing industrialization and government incentives for clean technologies.
The Americas contribute significantly, with stable revenue streams from the U.S. and Latin American markets. Investments in clean energy and industrial applications likely support this performance.
Africa and the Middle East currently generate lower revenues but offer potential for expansion. Growing investments in desalination, water treatment, and hydrogen projects could drive future growth.

Strategic Implications:

- The company's strong positioning in Europe and Asia-Pacific ensures a balanced revenue mix, reducing dependence on any single market.
- The relatively smaller revenues in Africa and the Middle East highlight opportunities for growth, particularly in water technologies and energy transition projects.
- A diversified global presence mitigates risks associated with economic fluctuations in individual markets, enhancing long-term stability.



Appendix L : Comparison Between different Hydrogen

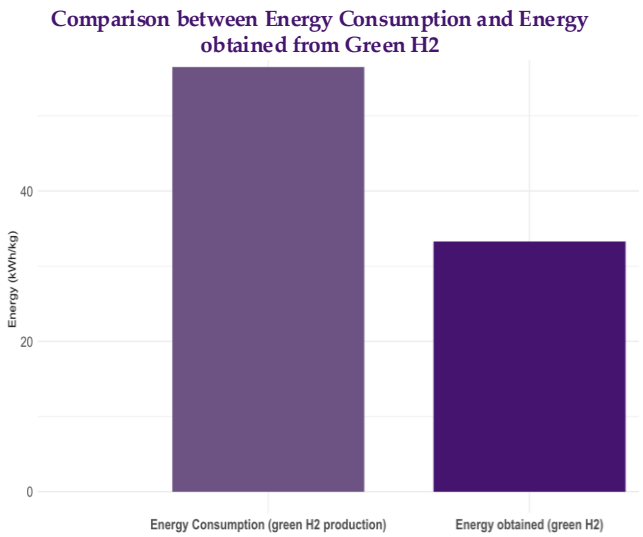
Green hydrogen production is an **energy-intensive process**. With current technologies, producing 1 kg of green hydrogen via electrolysis requires approximately 55-58 kWh, while hydrogen's lower heating value (LHV) is about 33.3 kWh/kg. This means that **more energy is consumed in production than can be extracted**.

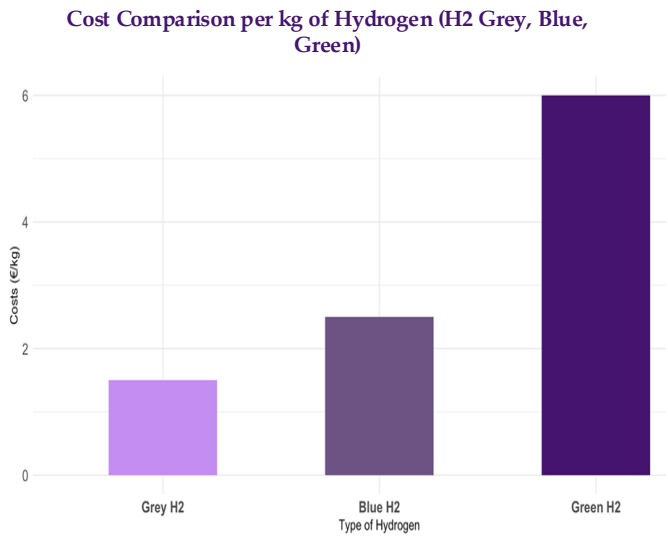
In contrast, blue hydrogen serves as an important transition technology toward green hydrogen. It is a short-to-medium-term solution that significantly reduces carbon emissions and helps prepare the energy market for a gradual shift toward hydrogen adoption.

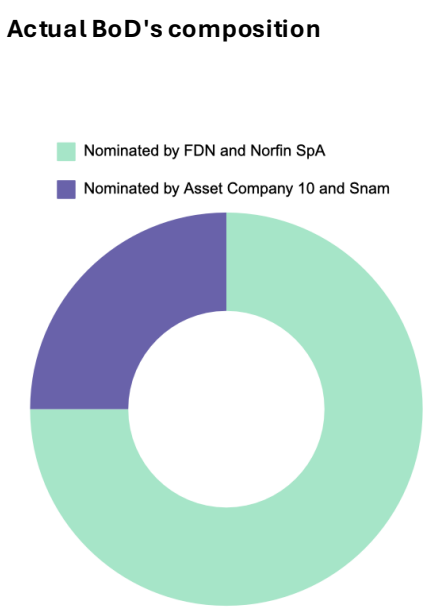
The price of blue hydrogen is determined by the production cost of grey hydrogen, plus the costs of CO_2 capture, currently ranging between €2-3/kg. Although this is higher than grey hydrogen, it offers key short-term advantages:

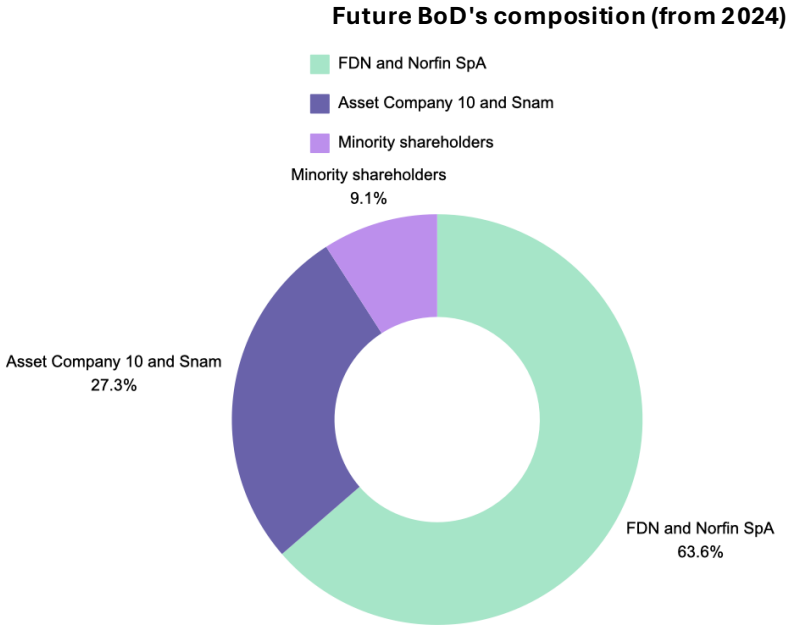
- Utilization of existing infrastructure
- Lower cost compared to green hydrogen
- Reduced environmental impact
- Potential cost reduction if natural gas prices decline

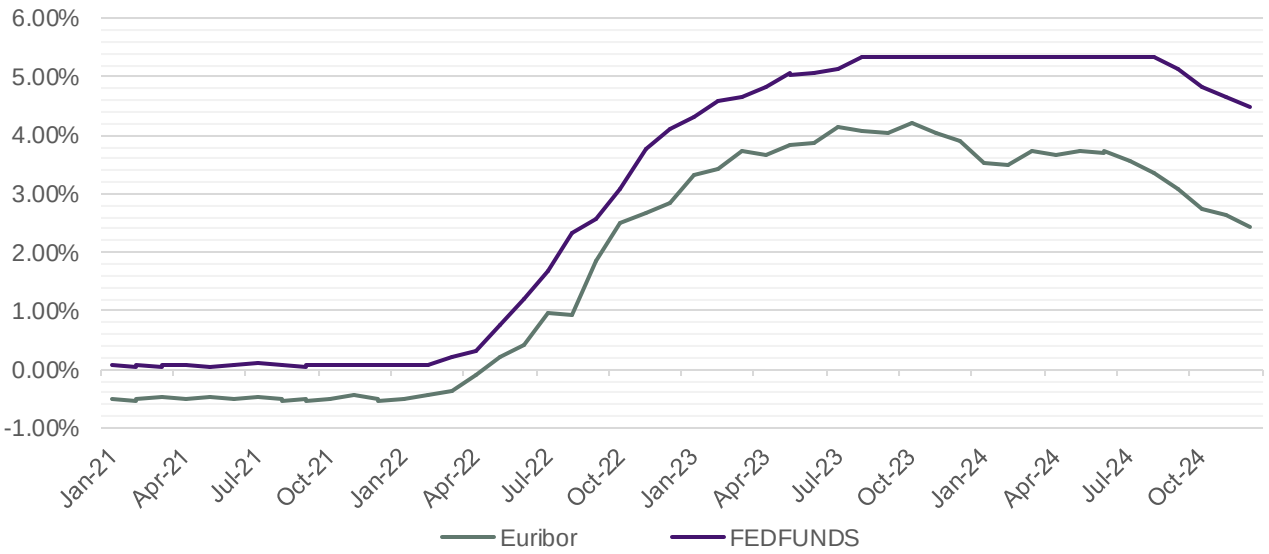
For these reasons, blue hydrogen represents an excellent **intermediate solution** while infrastructure and production efficiency in the green hydrogen sector continue to improve. However, in the long term, according to BloombergNEF (BNEF), it remains a suboptimal choice, as green hydrogen is expected to become the most cost-effective and sustainable option.



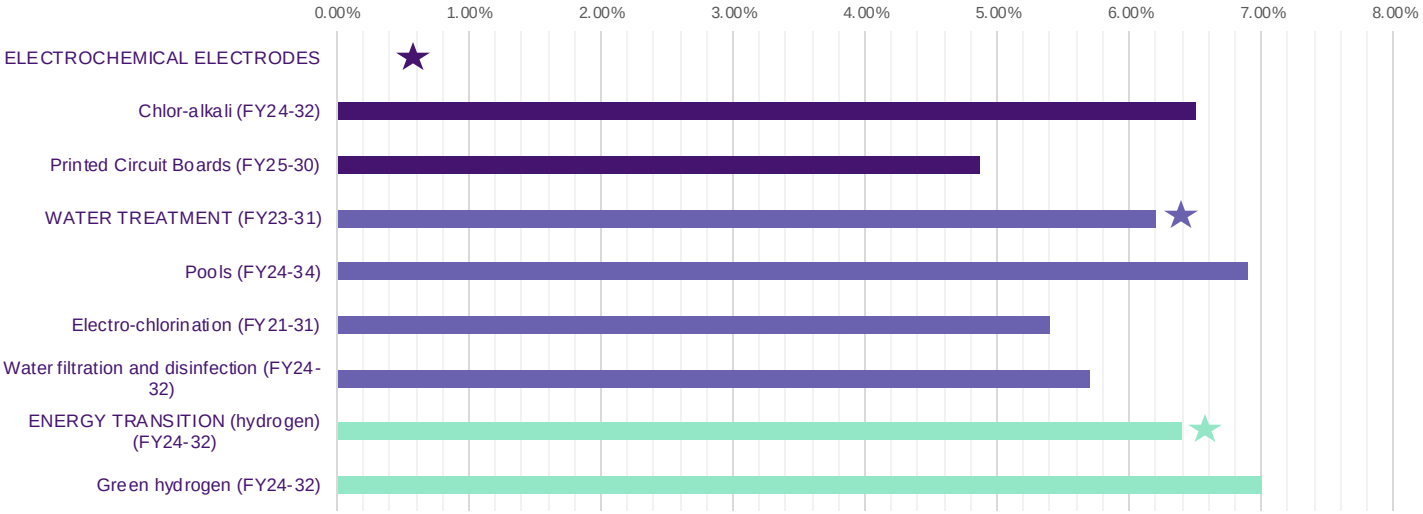








Appendix: Sectors' and De Nora's afferent Sub-Sectors' CAGR



2025 (m) In million	sales	EBITDA	EBITDA margin	EV/EBITDA	Implied EV	per share	average multiple of Peers
Electrode Technologies (ET)	524.15	106.98	20%	9	962.83	4.77	Schindler, Kone,Durr ;Plug Powe
Water Technologies (WT)	324.63	65.57	20%	9	590.12	2.93	Ballard, Itm Power Xylem, Pentair Fluidra
Water & Electrode technologies (E&W T)	848.78	172.55	20%	9	**1553.0**	**7.70**	Kemira
				EV/Sales			
Energy Transition	74.68	3.734	5%	3	224.0	1.30	
Total Enterprise Value	923.46	176.284			1777.0		
less : net (debt) & financtial asset					27	0.1	
TK Nucera JV					291.2	1.4	Based on DNR owning 26% after IPO
Less : pension (post tax)					-15	-0.1	
Total market cap					2080.2		
No. Of shares (milion)					201.7		
Target price /share					**10.31**		

Tabella 1: Scenario Analysis						Base		
	2020	2021	2022	2023	CAGR	2024E	2025E	2026E
Sales ET	290	358	473	464		493	524	557
Sales WT	209	258	337	290		307	324	343
Sales ETr			43	102		111	120	130
Sales	499	616	853	856		910	968	1029
Non operating revenues	15	39	41	11		28	30	32
Total revenues	**514m**	**655m**	**894m**	**867m**	19%	**939m**	**998m**	**1061m**
COGS	214	290	400	358		381	405	430
Gross Profit	300	366	494	509		558	594	631
% margin								
SG&A	214	242	326	333		354	377	401
EBITDA	86	123	168	176	27%	204	217	230
% margin								
D&A	31	36	42	39		41	44	46
EBIT	56	88	126	137	35%	163	173	184
% margin								
NOPAT	**48m**	**76m**	**110m**	**119m**	35%	**142m**	**151m**	**160m**
D&A	31m	36m	42m	39m		41m	44m	46m
Gross Cash Flow	79m	112m	152m	158m		183m	194m	207m
Capex	27m	31m	38m	57m		61m	65m	69m
Change in NWC		112m	185m	78m		-32m	14m	4m
NWC	124m	236m	421m	263m		231m	244m	248m
FCFF						**154m**	**116m**	**134m**

PEERS COMPARISON

Company	Market Cap (Mln, EUR)	Net Sales (2023) (Mln, EUR)	Business Areas	# Employees
Industrie De Nora S.p.A.	€1.622,00	€867,00		1.929
Electrode Technologies (comparables)				
Schindler	€28.400,00	€12.335,75		70.406
Kone	€21.650,00	€10.952,30		60.000
Rotork	€3.270,00	€866,52		3.500
Water Treatment				
Xylem	€29.330,00	€7.364,00		17.300
Pentair	€16.880,00	€3.905,00		10.000
Fluidra	€4.910,00	€2.051,00		7.000
Energy Transition				
Plug Power	€2.110,00	€843,51		3.353
Ballard	€479,70	€97,32		1.170
ITM Power	€259,82	€19,87		360

Appendix: DuPont Analysis

	2020A	2021A	2022A	2023A
DuPont Analysis				
Gross Margin	58%	56%	55%	59%
EBITDA Margin	17%	19%	19%	20%
Net Profit Margin	6%	10%	10%	27%
Asset Turnover	0.67x	0.66x	0.69x	0.65x
Return on Assets	4%	7%	7%	17%
Debt-to-Equity	0.9x	1.2x	0.7x	0.5x
Return on Equity	9%	17%	14%	34%
Return on Capital Employed	9%	17%	12%	13%
Liquidity and Debt Ratios				
Cash Ratio	0.52x	0.16x	0.73x	0.8x
Current Ratio	2.3x	1.1x	3.4x	2.8x
Interest Coverage Ratio	2.3x	5.4x	4.5x	6.2x
Efficiency Ratios				
Days Sales Outstanding (DSO)	87	106	76	93
Inventory Turns	1.8x	1.2x	1.4x	1.4x

Appendix : EV/EBIDA Peers