

Enapter AG

Germany / Cleantech
 Primary exchange: Frankfurt
 Bloomberg: H2O GR
 ISIN: DE000A255G02

Comprehensive
 Update

RATING
BUY

PRICE TARGET
€ 19.00

Return Potential 59.0%
 Risk Rating High

ENAPTER REMAINS AEM ELECTROLYSIS TECHNOLOGY LEADER

At its information day on 23 May, Enapter presented its financial and business situation as well as its technology strategy at the new site in Saerbeck. On 24 May, the company unveiled the AEM Multicore, an electrolyser with an input capacity of 1 MW, which is helping the company make the leap from small electrolysers (hydrogen production of just over 1 kg per day) to large units (H₂ production: approx. 450 kg per day). Pilot production is targeted for 2024, and we assume that series production will start in 2025. We believe that automated mass production of stacks will start in Saerbeck in the same year. Successful execution will be crucial to Enapter's ability to raise new funds in 2024. This will likely be much more challenging than during the pandemic, due to the significant tightening of both monetary and fiscal policy over the past year. In addition, the success story has recently been tarnished by delays in setting up mass production in Saerbeck and the profit warning last year caused by production problems with the EL 4.0 in Pisa. Despite these setbacks, Enapter remains the technology leader in AEM electrolysis, which combines the advantages of the competing technologies: AEM-EL is nearly as cheap and efficient as alkaline electrolysis. Like PEM electrolysis, AEM-EL is very flexible to use and produces hydrogen under high pressure, which reduces the need for downstream compression and saves costs. We therefore still see Enapter excellently positioned to succeed in the very fast-growing electrolysis market. An updated DCF model that takes into account the deteriorated financing conditions and lower forecasts due to the new technology strategy yields a new price target of €19 (previously: €20). We confirm our Buy recommendation.

(p.t.o.)

FINANCIAL HISTORY & PROJECTIONS

	2020	2021	2022	2023E	2024E	2025E
Revenue (€m)	2.07	8.44	14.67	30.20	58.48	147.74
Y-o-y growth	122.7%	307.8%	73.8%	105.9%	93.6%	152.6%
EBIT (€m)	-3.54	-8.62	-12.86	-15.21	-10.74	-0.05
EBIT margin	-171.2%	-102.1%	-87.6%	-50.4%	-18.4%	0.0%
Net income (€m)	-3.57	-8.70	-12.98	-17.60	-14.31	-4.96
EPS (diluted) (€)	-0.16	-0.38	-0.51	-0.65	-0.53	-0.18
DPS (€)	0.00	0.00	0.00	0.00	0.00	0.00
FCF (€m)	-6.17	-33.05	-64.89	-24.51	-35.42	-33.71
Net gearing	-32.2%	-33.8%	-2.1%	29.6%	98.3%	171.0%
Liquid assets (€m)	4.25	19.60	5.07	8.98	2.76	6.55

RISKS

The main risks are: financing risk, technological risk, production risk, product risk, increasing competition, innovations.

COMPANY PROFILE

Enapter produces standardised stacks & electrolysers, which are scalable to larger units based on a modular approach. Enapter's patent-protected AEM technology offers high cost reduction potential. Enapter has production sites in Pisa, Italy, & Saerbeck, Germany, and ca. 240 employees.

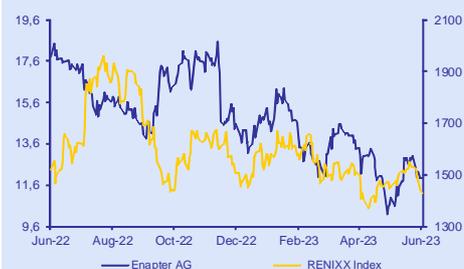
MARKET DATA

As of 23 Jun 2023

Closing Price	€ 11.95
Shares outstanding	27.20m
Market Capitalisation	€ 324.98m
52-week Range	€ 10.20 / 18.50
Avg. Volume (12 Months)	6,466

Multiples	2022	2023E	2024E
P/E	n.a.	n.a.	n.a.
EV/Sales	22.1	10.7	5.5
EV/EBIT	n.a.	n.a.	n.a.
Div. Yield	0.0%	0.0%	0.0%

STOCK OVERVIEW



COMPANY DATA

As of 31 Dec 2022

Liquid Assets	€ 5.07m
Current Assets	€ 27.58m
Intangible Assets	€ 10.27m
Total Assets	€ 107.81m
Current Liabilities	€ 16.07m
Shareholders' Equity	€ 86.45m

SHAREHOLDERS

BluGreen	66.6%
Sergei Storozhenko	4.1%
Johnson Matthey	3.9%
Free Float	25.5%



Enapter's AEM technology convinces compared to competing electrolysis technologies

Currently, there are four relevant electrolysis technologies vying for dominance in the electrolysis market:

- Alkaline electrolysis (A EL),
- Proton Exchange Membrane Electrolysis (PEM EL),
- Anion Exchange Membrane Electrolysis (AEM EL), and the
- Solid Oxide Electrolysis (SO EL).

Alkaline Electrolysis (A EL) is a mature technology that has been commercialised since the 1920s and is used particularly in the fertiliser and chlorine industries. Its advantages are relatively low capital cost, rather high efficiency (see figure 1, Electric System Efficiency), and relatively long stack life. Disadvantages are low flexibility in operation (see minimum partial load capability in figure 1), a low current density (approx. 0.6 A/cm²) leading to a large system footprint, the low pressure and the highly corrosive electrolyte.

Proton Exchange Membrane Electrolysis (PEM EL) was first introduced to the market by General Electric in the 1960s; however, widespread commercialisation has only begun in recent years. PEM EL uses pure water as the electrolyte, is characterised by high current density (>2 A/cm²), has relatively high system efficiency, and can produce hydrogen under high pressure, while offering flexible operation. Disadvantages are the necessary use of expensive noble metals of the platinum metal group and the associated high specific investment costs, as well as a comparatively shorter stack lifetime.

The Anion Exchange Membrane Electrolysis (AEM EL) used by Enapter scores with the lowest specific investment costs at a system size of 1 MW (see figure 1, specific investment cost), a high hydrogen pressure, high water contamination tolerance, small system footprint and high system safety. Disadvantages are the rather short stack lifetime and maturity of the technology (Technology Readiness Level: 7-8, PEM and A EL: 8-9). Enapter is the only company to date to offer small AEM electrolyzers commercially and has unveiled a 1 MW AEM electrolyser prototype.

Solid oxide electrolysis (SO EL) operates at temperatures of approx. 700 - 1000°C and uses ceramics as the electrolyte. Since steam is needed for electrolysis, SO EL requires a heat source. The advantages of SO EL are high efficiency and the possibility to operate the system in reverse mode as a fuel cell. The main challenges are the temperature-related high material wear (see figure 1, stack lifetime), as well as high investment costs.

Figure 1: Electrolysis technologies in comparison

	unit	A EL	PEM EL	AEM EL	SO EL
Electric system efficiency (BoP)	%	52 - 70	55 - 75	55 - 75	74 - 85
Operating temperature	°C	60 - 80	50 - 80	50 - 60	700 - 1,000
Maximum operating pressure	bar	1 - 30	1 - 50	35	1
Minimum partial load capacity	%	20 - 40	~ 10	~ 1	k. A.
Stack lifetime	h	< 90,000	< 60,000	> 35,000	3,500
Specific investment cost for 1 MW system (BoP)	€/kW	1,000 - 1,200	1,500 - 2,300	900 - 1,100	2,500

Source: First Berlin Equity Research, Enapter AG

Enapter remains the leader in AEM technology While there are a few companies around the world (EvoIOH, Gen-Hy, Hydrolite, Verdagy) that also use AEM technology, unlike Enapter, they do not yet have a commercial product.

U.S.-based **EvoIOH** announced in February 2023 that it will build a manufacturing facility in Massachusetts to produce and assemble its AEM electrolysis stacks. EvoIOH's stacks have an input capacity of up to 5 MW (2 t of hydrogen per day). When fully operational, the production facility is expected to have a stack capacity of up to 3.75 GW per year. Work on the plant will begin later this year, and production is expected to start in 2025.



French startup **Gen-Hy**, together with Eiffage Energie Systèmes (€1.7bn revenue, >7,500 employees), announced in February 2023 that they will build an electrolysis factory to produce the AEM electrolyzers developed and patented by Gen-Hy. The factory is expected to have an initial capacity of 100 MW and will be located in Montbéliard, France. First deliveries are expected in 2024. Gen-Hy showcased its product at the Hannover Trade Fair in April 2023.

Hydrolite was founded in 2016 and is 100% owned by Elbit Systems Ltd (Israel). Hydrolite's AEM electrode and stack technology is based on a decade of experience in developing AEM fuel cell technology. The company has developed pilot-scale manufacturing and operational capabilities and has an extensive IP portfolio with 67 patent applications.

Verdagy is a Californian start-up focused on developing and scaling its "eDynamic" anion exchange membrane (AEM) water electrolysis technology for industrial markets. Verdagy says it is developing the world's largest membrane-based electrochemical cells (28,500 cm²). The company has commissioned a 500 kW electrolyser and plans to commercialise the technology in the next few years.

Patents secure Enapter's technological lead Enapter holds a large number of patents (see our initiation of coverage study dated 21 September 2020, p. 20). We consider the most important patent to be the approval for a "device for producing hydrogen on request by means of electrolysis of aqueous solutions from a dry cathode," simply referred to as "dry cathode patent." According to the abstract of the European Patent Office, this invention relates to a device for the electrolytic production of hydrogen, which can operate discontinuously or associated with large power fluctuations and provide directly pressurised hydrogen with high purity. The high degree of purity (99.9%) is achieved without liquid separation.

The dry cathode patent protects Enapter's anion-exchange membrane electrolysis technology well against imitation because the concept does not depend on a specific membrane type or a particular catalyst formulation. Any alternative anion-exchange membrane electrolysis technology with a dry cathode is likely to constitute a patent infringement. The patent should therefore offer Enapter a long-term defensible competitive advantage and is valid in Europe, China, the U.S. and India.

Enapter has also filed patent applications for

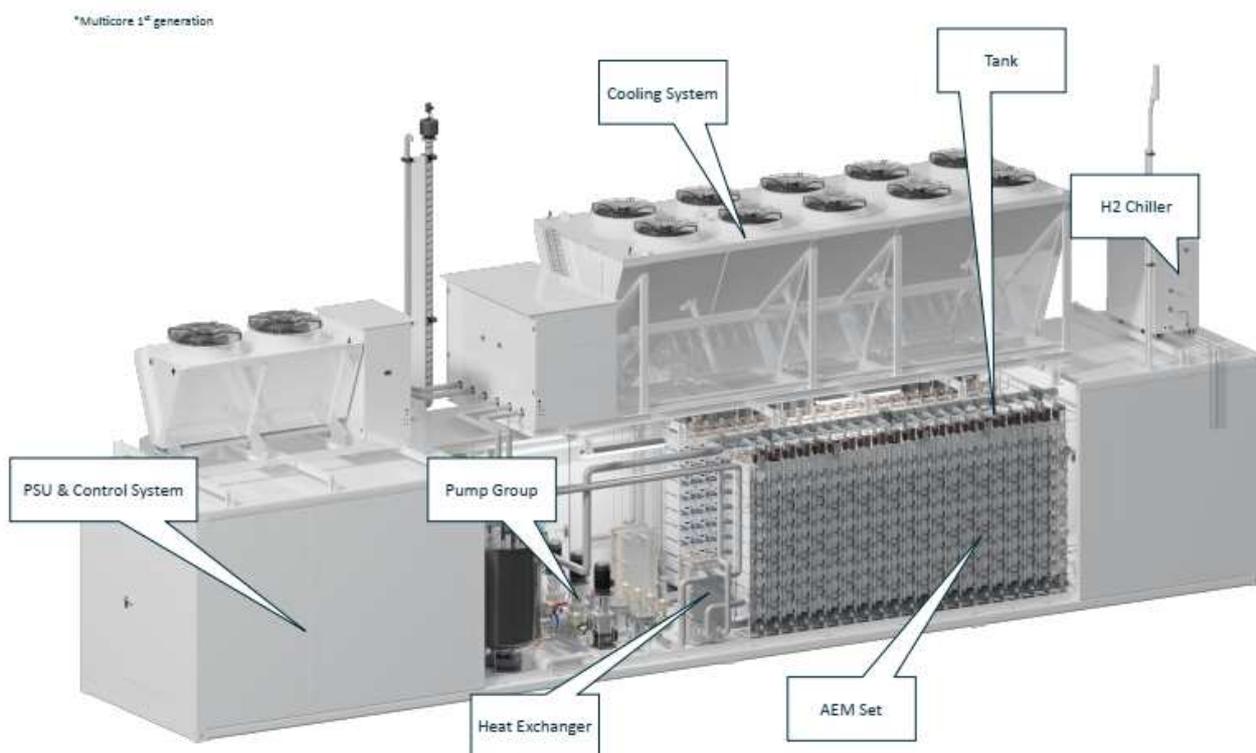
- dry cathode electrolyser variants,
- new product offerings (AEM Multicore and AEM Frames),
- components such as gas block, recombiner, and orifice check valve,
- software such as the dryer control network,
- and membrane developments.

EL 4.0 compact electrolyser in series production In 2022, Enapter began series production of the next generation of compact electrolysers, the EL 4.0, at its production site in Pisa, Italy. This model is significantly smaller and, at 38 kg, weighs only half as much as its predecessor. Thanks to DC and AC operation as well as air or water cooling, it can be used flexibly under a wide range of conditions worldwide. It is likely that Enapter will continue to build the EL 4.0 in Pisa, since the production capacity there can meet demand for the time being. We expect that Pisa will be able to produce over 14,000 stacks per year in single-shift operation.

Electrolyser fleet growing strongly More than 3,300 Enapter electrolysers are now being used by ca. 300 customers in 52 countries. In the final quarter of 2022 alone, Enapter delivered 1,200 electrolysers with a total capacity of approximately 3 MW to its customers. Approximately 120 partners integrate and sell Enapter's products in hydrogen solutions of various scales.

AEM Multicore – the first AEM electrolyser in the megawatt class With the official presentation of the AEM Multicore (see figure 2), Enapter has reached another important milestone in its corporate history. Until now, the company has relied on microwave-sized electrolysers with an input power of 2.4 kW. But the very high demand for electrolysers in the MW range (1 MW = 1,000 kW) and the lower-than-expected uptick in demand for distributed electrolyser solutions has led Enapter to adjust its strategy. The company is now focusing much more on selling large electrolysers such as the AEM Multicore. The model is composed of 420 AEM stacks combined into a total system that can produce about 450 kg of green hydrogen per day with a purity of 99.999%. By scaling many small units into one large system, Enapter can significantly reduce hydrogen production costs. Orders have already been received from Europe, Asia and North America, and the first systems will be built and delivered this year. Pre-series readiness is expected in 2024. The Multicore should be produced in series at the Saerbeck site in Germany starting mid-2025.

Figure 2: AEM Multicore



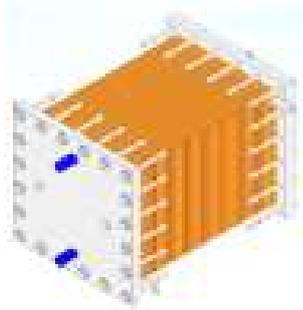
Source: First Berlin Equity Research, Enapter AG

New stack to bring significant cost reductions Enapter is currently developing a new 30 kW stack (see figure 3 on the next page). Major planned improvements are:

- a significantly larger power output than the current stack (input power: 30 kW versus 2.4 kW today), resulting in a simplified product design for large MW-scale electrolysers and reducing costs;
- a rectangular shape, which saves material;
- a higher current density, which increases output;
- a reduced use of PGM (Platinum Group Metals), which lowers costs;
- a longer lifetime of more than 50,000 h (currently: about 35,000 h), which also lowers the hydrogen production cost.

The stack is scheduled to enter prototype test production and validation in 2024 with plans to build and test 50 - 100 stacks. The stack is expected to be deployed in both the EL Model T and the 2nd generation AEM Multicore starting in 2025. Enapter aims to halve the cost of the 1 MW AEM Multicores by using the 30 kW stack.

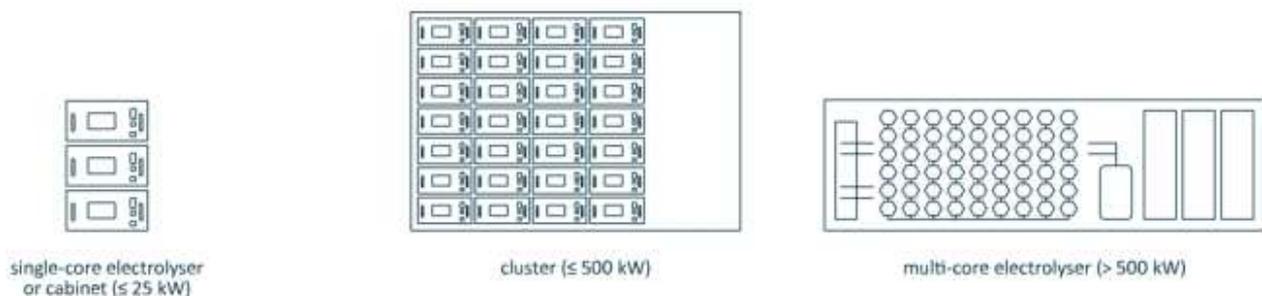
Figure 3: 30 kW stack (“Stack Model T”)



Source: First Berlin Equity Research, Enapter AG

Standardisation and mass production are cost-cutting levers Unlike competitors, Enapter is not devoting itself to developing ever-larger stacks (apart from the planned one-off leap from the 2.4 kW to the 30 kW stack) and custom design of large electrolyser projects. Instead, the focus is on a standardised modular product design to manufacture of electrolysers. This modular product approach allows Enapter's AEM stacks to be used as a minimum modular unit in systems of different scales. The different products are built on a single stack design and are used for both single core electrolysers (e.g. EL 4.0) and multi-core electrolysers (AEM Multicore) (see figure 4). The automated mass production of the stacks is intended to reduce unit costs.

Figure 4: Use of AEM stacks in single core electrolysers (up to 25 kW), in clusters (up to 500 kW) and in multi core solutions (>500 kW)



Source: First Berlin Equity Research, Enapter AG

2022 fell far short of original planning due to quality issues Enapter had originally targeted sales of almost €45m. However, quality problems with the new EL 4.0 electrolyser led to production delays, which ultimately led to sales of €14.7m (+74% y/y, see figure 5 overleaf). At least the quality deficiencies were resolved and production has been running smoothly since October 2022. Still, the quality problems also had a positive effect. During the year, it became apparent that demand for small electrolysers (2.4 kW input power) was lower than expected, but demand for large electrolysers (1 MW input power) such as the AEM Multicore was very high. Thus, Enapter was able to make a strategy shift and is now mainly focusing on the sale of the AEM Multicore.



Figure 5: Selected P&L items

in €m	2022A	2021A	Delta
Sales	14.7	8.4	74%
Operational performance	15.2	9.0	69%
Gross profit	3.2	1.1	187%
<i>Margin</i>	18.1%	6.7%	-
EBITDA	-10.6	-7.6	n.a.
<i>Margin</i>	-72.1%	-90.3%	-
EBIT	-12.9	-8.6	n.a.
<i>Margin</i>	-87.6%	-102.1%	-
EBT	-13.0	-8.7	n.a.
<i>Margin</i>	-88.3%	-103.2%	-
Net result	-13.0	-8.7	n.a.
<i>Margin</i>	-88.4%	-103.1%	-
EPS (diluted, in €)	-0.51	-0.38	n.a.

Source: First Berlin Equity Research, Enapter AG

Balance sheet strengthened by capital increase Enapter almost doubled its equity y/y to €87m. Despite the balance sheet expansion by 74% to €108m, the equity ratio widened from 75% to 80% (see figure 6). The cash position contracted by 74% to €5.1m. The €25m bearer bond issued in February 2023 has since replenished cash while providing a significant increase in previously low financial liabilities (€3.3m). At the end of 2022, Enapter had a net cash position of €1m. Investments in the new production facility in Saerbeck led to an increase in property, plant and equipment from €24m to €68m. The increase in sales led to an increase in working capital from €-0.2m to €5.2m. The working capital ratio (WC / sales) was 35%.

Figure 6: Selected balance sheet items

in €m	2022A	2021A	Delta
Intangible goods & goodwill	10.3	7.1	44%
Property, plant & equipment	67.9	24.0	183%
Rights-of-use assets	0.2	1.1	-83%
Non-current assets, total	80.2	32.2	149%
Inventories	8.4	3.6	134%
Receivables	8.0	2.6	204%
Cash and cash equivalents	5.1	19.6	-74%
Current assets, total	27.6	29.9	-8%
Equity	86.5	46.5	86%
<i>Equity ratio</i>	80.2%	74.9%	+5.3 PP
Financial debt (long-term)	2.4	2.7	n.a.
Financial debt (short-term)	0.9	1.2	-27%
Lease liabilities (long-term)	0.5	0.6	-18%
Lease liabilities (short-term)	0.1	0.2	-25%
Net debt	-1.2	-15.0	n.a.
<i>Net gearing (net debt / equity in %)</i>	-1.4%	-32.2%	n.a.
Payables	11.2	6.4	75%
Balance sheet total	107.8	62.1	74%

Source: First Berlin Equity Research, Enapter AG



Net loss and extensive investments lead to high negative free cash flow The net loss of €13.0m and a €6.5m increase in working capital requirements contributed significantly to a negative operating cash flow of €15.5m. This was almost twice as high as in the previous year (see figure 7). Capital expenditures (€49.4m) were mainly characterised by investments in property, plant and equipment (total: €45m) in the production facilities in Saerbeck and Pisa. This yields a negative free cash flow of €-64.9m, which is nearly twice as high as in the previous year. This amount was mainly financed with existing cash (€14.5m) and the cash capital increase (€53.0m).

Figure 7: Selected cash flow items

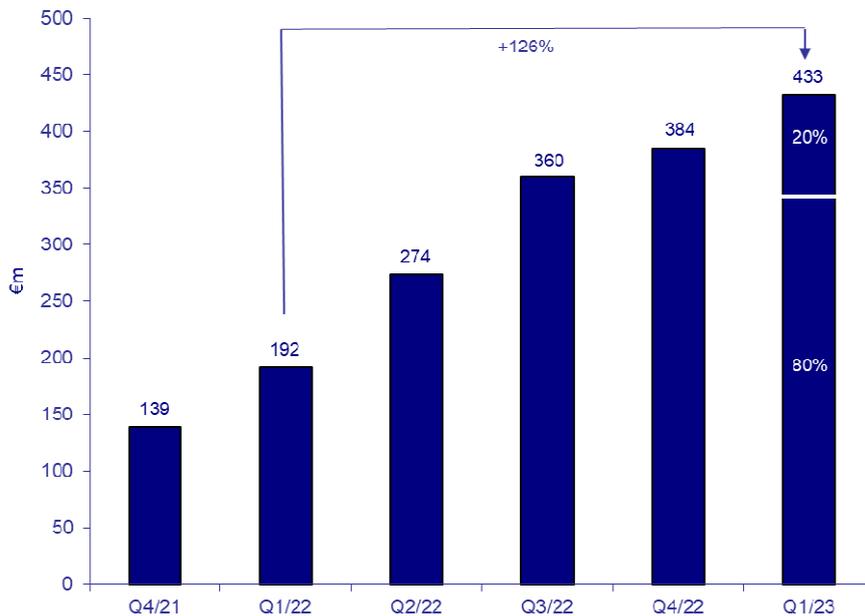
in €m	2022A	2021A
Operating cash flow	-15.5	-8.0
CAPEX	-49.4	-25.1
Free cash flow	-64.9	-33.0
Cash flow from investing	-49.5	-25.1
Cash flow from financing	50.4	48.4
Net cash flow	-14.5	15.4

Source: First Berlin Equity Research, Enapter AG

R&D strength versus cost intensity At the end of 2022, Enapter had 239 employees (end of 2021: 189). On average, 249 employees were on board during the year (2021: 151). The proportion of employees in research and development, including software development, is strikingly high. At YE22, a total of 108 people were employed in this area (previous year: 83). The R&D ratio was therefore 45%, compared with 47% in the previous year. We consider Enapter's research strength an important competitive advantage. However, as long as the company continues to make losses, R&D expenses will weigh on operating earnings. R&D expenses amounted to €6.9m in 2022 (previous year: €3.7m).

Successful in raising funds As part of the capital increase in July 2022, Enapter received gross proceeds of approximately €53m. Of particular importance was the conclusion of a strategic partnership with global player Johnson Matthey, which contributed €20m to the capital measure. This strategic partnership with the specialty chemicals company and leading supplier of fuel cell and electrolyser components is of great significance to Enapter, as joint research and development for AEM electrolysis materials and components should accelerate the performance improvement of the AEM EL technology.

Order backlog and project pipeline At the end of 2022, the order backlog was around €13.5m, of which around €9.1m falls into 2023. At the same time, customer inquiries increased strongly in 2022. The pipeline was well filled at €433m at the end of Q1/23. Compared to the previous year's figure, this is an increase of 126% (see figure 8 overleaf). However, most of the inquiries are related to the AEM Multicore, which is not scheduled for volume production until 2025. We note that the volume of customer inquiries about the AEM Multicore (about 80% of €433m) is not the same as the order intake. Customer interest in Enapter's products has clearly increased significantly. The next months will show to what extent Enapter is able to convert this interest into order intake.

Figure 8: Project pipeline development

Source: First Berlin Equity Research, Enapter AG

Management team expanded On 27 June, Enapter announced in an ad-hoc release that Dr. Jürgen Laakmann has been appointed as a member of the company's Executive Board, effective 1 July 2023. Mr. Laakmann, who has more than 20 years of management experience, including in strategy consulting and in the automotive and tech sectors, will assume the role of co-CEO alongside Mr. Sebastian-Justus Schmidt. Most recently, he was CEO at Formel D Group (>10,000 employees, 2020 revenue: €301m), a leading automotive services provider. There, Mr. Laakmann played a key role in shaping strategic business development and, among other things, established 22 international branches and subsidiaries. He also has extensive experience in private equity and M&A transactions. As a mechanical engineer with a PhD, Dr. Laakmann also brings extensive technical expertise. We believe that CEO and Enapter major shareholder Sebastian-Justus Schmidt has thus organised his succession and paved the way for an orderly and smooth transition.

Back in March, Enapter announced that the management level would be expanded to include CEO Sebastian-Justus Schmidt, CFO Gerrit Kaufhold and CTO Jan-Justus Schmidt to adequately manage the targeted growth. Michael Söhner has been heading Enapter's operations as Chief Operations Officer (COO) since 1 March, 2023. Previously, he was Head of Engineering & Pisa Site Operations Manager of Enapter S.r.l. As COO, he will be responsible for the further expansion and optimisation of the company's operational processes. Philip Hainbach, already Chief Governance Officer (CGO) since October 2022 and previously Head of Energy Policy & Government Affairs at Enapter, has been part of the Enapter GmbH management team since 1 March 2023. As CGO, he continues to be responsible for Legal, Governance, HR, Sustainability, Funding and Public Affairs. The role of Chief Communication Officer (CCO) was assumed by Vaitea Cowan on 1 March 2023. She is a co-founder of Enapter and previously held the position of Head of Communication. As CCO, Vaitea Cowan is responsible for the internal and external communication of all sites. She is the face of Enapter due to her previous broad international presence.



Key risks are technology development... In terms of technology development, we identify the development of the AEM Multicore, the development of the new 30 kW AEM stack, the ramp-up of stack series production in Pisa, and the establishment of automated stack mass production in Saerbeck as key risks.

During the commissioning of the first demonstration and pilot plants of the AEM Multicore, there could be technology-related teething problems such as hardware-related failures. This could lead to reputational damage that negatively impacts market acceptance of AEM electrolysers and could have a negative impact on Enapter's sales and earnings performance.

There could be delays or technical problems in the development and production of the new 30 kW stack. Although Enapter could then fall back on the established 2.4 kW stack, it would then not be able to utilize the technological advancements - i.e. cost reduction potentials of the 30 kW stack.

In addition, we see risks in the ramp-up of series production of electrolysers in Italy and the establishment of automated stack mass production in Germany, which is crucial for the future earning power of the company. Machinery for the Saerbeck site will be ordered when the corresponding orders have been received and the machinery financing has been secured. The establishment of automated mass production could also be delayed. Mass production could suffer from quality defects during ramp-up, which would lead to further delays with corresponding sales and earnings risks.

...and financing Over the last four years, Enapter has raised €109m in equity. After last year's revenue and profit warning (revenue of €14.6m vs. revenue guidance of €44.7m) and the now significantly deteriorated financing environment (very restrictive central bank policies to contain inflation, return of the treasury to a "normal" spending policy after the very expansionary phase during the pandemic), we consider the further financing of the company's growth a much more challenging task than in the past. This was already visible in February 2023, when Enapter had to pay an effective interest rate of about 10% for a two-year bearer bond with a volume of about €25m subscribed by Patrimonium Asset Management AG. Although we believe the company is now fully financed until at least February 2024, additional fundraising is unlikely to be a walk in the park given the capital market and interest rate environment. The capital increases over the last two years had a total volume of €101m and took place at an average price of over €20 per share. But the share price has fallen by around 40% since then.

dena study highlights concepts for distributed hydrogen use The dena study "Business Models for Distributed Hydrogen Concepts - Time for Readjustment", published in May 2023, sheds light on the possibilities for distributed hydrogen concepts in Germany. It provides an overview of the relevant technologies and the current status of the regulatory framework. On this basis, seven exemplary business models for distributed hydrogen concepts are described and examined:

- (1) Repowering of a wind farm with local hydrogen production,
- (2) Hydrogen-based electricity storage according to §39o EEG,
- (3) Provision of balancing power by flexible electrolysis,
- (4) Point-to-point transport of hydrogen,
- (5) GHG quota accounting in the transport sector,
- (6) Seasonal hydrogen storage in neighbourhoods as well as in homes, and
- (7) Hydrogen-based process heat.

Not all business models are currently profitable, but some of them draw attention: For example, the central result for (5) "GHG quota accounting in the transport sector" is that with production costs of green hydrogen of up to approx. 5 €/kg, green hydrogen can already be an economic option for meeting the GHG quota today. For (6) "Seasonal hydrogen storage in the neighbourhood", the calculation shows that the hydrogen case leads to the comparatively lowest total annual costs for electricity and heat. The use of excess electricity from a PV system in the neighbourhood in the case that combines hydrogen production with



pressurised storage and reverse power generation with a fuel cell is less expensive than the use of a CHP instead of a fuel cell, or reverse power generation with a high-temperature fuel cell. In contrast, the use of batteries to utilise the excess electricity leads to significantly higher total costs for electricity and heat.

Guidance for 2023: Sales of around €30m In the current year, Enapter is planning sales of around €30m with EBITDA of €-10m to € -11m. This year will be characterised by the further expansion of production capacities for the EL 4.0 electrolyser in Pisa. At the time of publication of the annual report, the order backlog for the EL 4.0 electrolyser was around €7m for 2023. As EL 4.0 sales are essential for achieving guidance, Enapter will have to report significantly higher order intake in H2/23 to achieve guidance. This year is also expected to see the start of deliveries of the first AEM multicores. Enapter is increasing its investment in the development of the new stack to be used in the next generation AEM Multicore. The company expects losses and cash burn to continue until production and associated sales of the electrolysers reach a sustainably high level.

Estimates revised due to inflationary environment and adjusted technology strategy

We assume that the inflationary environment will leave its mark on the cost side and have adjusted our cost estimates accordingly. The new technology strategy, which relies on the development of a 30 kW stack, is expected to result in lower sales in 2025 compared to our previously assumed technology roadmap based on the use of the 2.4 kW stack. We expect it will take more time to develop and ramp up stack mass production of the new stack than its well proven predecessor. Given these factors, we have lowered our estimates for 2025E (see figure 9). We now assume that Enapter will break even in 2025 and expect the company to generate a positive bottom line in 2026.

Figure 9: Revisions to forecasts

All figures in €m	2023E			2024E			2025E		
	Old	New	Delta	Old	New	Delta	Old	New	Delta
Sales	30.2	30.2	0%	58.5	58.5	0%	197.0	147.7	-25%
EBIT	-15.1	-15.2	-	-7.9	-10.7	-	15.7	0.0	-
margin	-50.0%	-50.4%	-	-13.5%	-18.4%	-	8.0%	0.0%	-
Net income	-17.7	-17.6	-	-11.2	-14.3	-	10.6	-5.0	-
margin	-58.6%	-58.3%	-	-19.1%	-24.5%	-	5.4%	-3.4%	-
EPS (diluted)	-0.65	-0.65	-	-0.41	-0.53	-	0.39	-0.18	-

Source: First Berlin Equity Research, Enapter AG

Buy confirmed at slightly lower price target We have upped the WACC estimate in our DCF model from 12.2% to 13.1% to reflect the more difficult financing environment. Combined with our lowered forecasts, this yields a €19 price target (previously: €20). We reiterate our Buy recommendation.



VALUATION MODEL

DCF valuation model								
All figures in EUR '000								
	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Net sales	30,205	58,482	147,744	281,154	506,077	658,820	838,498	#####
NOPLAT	-15,558	-10,744	-47	22,957	41,441	55,595	71,985	90,958
+ depreciation & amortisation	3,791	4,309	5,957	7,475	8,938	9,771	10,847	12,167
Net operating cash flow	-11,767	-6,435	5,910	30,432	50,379	65,365	82,831	103,125
- total investments (CAPEX, WC, Other)	-8,409	-23,223	-32,212	-48,720	-58,190	-48,460	-57,410	-65,930
<i>Capital expenditures</i>	-7,008	-21,054	-16,252	-28,115	-16,286	-20,004	-23,935	-27,871
<i>Working capital</i>	-3,701	-4,369	-18,460	-20,604	-41,903	-28,456	-33,474	-38,059
<i>Other</i>	2,300	2,200	2,500	0	0	0	0	0
Free cash flows (FCF)	-20,176	-29,658	-26,302	-18,288	-7,811	16,905	25,422	37,195
PV of FCF's	-18,950	-24,627	-19,316	-11,878	-4,487	8,585	11,418	14,775

All figures in thousands		
PV of FCFs in explicit period (2023E-2037E)	146,663	
PV of FCFs in terminal period	377,289	
Enterprise value (EV)	523,952	
+ Net cash / - net debt	1,243	
+ Investments / minority interests	1	
Shareholder value	525,195	
Diluted number of shares	27,195	
Fair value in EUR	19.31	
		Terminal growth 4.0%
		Terminal EBIT margin 13.3%

WACC		Terminal growth rate						
		2.5%	3.0%	3.5%	4.0%	4.5%	5.0%	5.5%
10.1%	Cost of equity	33.60	35.09	36.82	38.82	41.19	44.03	47.48
11.1%	Pre-tax cost of debt	26.84	27.83	28.95	30.22	31.70	33.41	35.43
12.1%	Tax rate	21.72	22.39	23.14	23.99	24.94	26.03	27.29
13.1%	After-tax cost of debt	17.75	18.22	18.74	19.31	19.95	20.67	21.49
14.1%	Share of equity capital	14.62	14.95	15.31	15.71	16.16	16.65	17.20
15.1%	Share of debt capital	12.10	12.34	12.60	12.89	13.20	13.54	13.92
16.1%	Price target	10.06	10.24	10.43	10.63	10.86	11.10	11.37

* for layout purposes the model shows numbers only to 2030, but runs until 2037



INCOME STATEMENT

All figures in EUR '000	2020A	2021A	2022A	2023E	2024E	2025E	2026E
Revenues	2,070	8,442	14,671	30,205	58,482	147,744	281,154
Changes in Inventories	242	540	525	0	0	0	0
Operating performance	2,312	8,982	15,197	30,205	58,482	147,744	281,154
Cost of goods sold	2,320	7,874	12,013	24,466	45,031	113,763	196,808
Gross profit (op. performance /. COGS)	-8	1,109	3,184	5,739	13,451	33,981	84,346
Own Work	2,208	3,330	6,383	3,625	3,509	2,955	1,968
Personnel costs	3,356	7,596	14,300	14,100	15,500	19,207	26,710
Other operating income	605	1,367	2,799	2,114	2,047	2,955	2,812
Other operating expenses	2,369	5,828	8,648	8,800	9,942	14,774	28,115
EBITDA	-2,920	-7,619	-10,582	-11,422	-6,435	5,910	34,301
Depreciation and amortisation	625	1,002	2,276	3,791	4,309	5,957	7,475
Operating income (EBIT)	-3,544	-8,622	-12,858	-15,213	-10,744	-47	26,826
Net financial result	-21	-88	-97	-2,038	-3,858	-5,171	-7,481
Non-operating expenses	0	0	0	0	0	0	0
Pre-tax income (EBT)	-3,565	-8,709	-12,955	-17,251	-14,602	-5,218	19,345
Income taxes	3	-8	23	345	-292	-261	3,869
Minority interests	-1	1	1	0	0	0	0
Net income / loss	-3,569	-8,701	-12,977	-17,596	-14,310	-4,957	15,476
Diluted EPS (in €)	-0.16	-0.38	-0.51	-0.65	-0.53	-0.18	0.57
Ratios							
Gross margin on operating performance	-0.3%	12.3%	21.0%	19.0%	23.0%	23.0%	30.0%
EBITDA margin on revenues	-141.0%	-90.3%	-72.1%	-37.8%	-11.0%	4.0%	12.2%
EBIT margin on revenues	-171.2%	-102.1%	-87.6%	-50.4%	-18.4%	0.0%	9.5%
Net margin on revenues	-172.4%	-103.1%	-88.4%	-58.3%	-24.5%	-3.4%	5.5%
Tax rate	-0.1%	0.1%	-0.2%	-2.0%	2.0%	5.0%	20.0%
Expenses as % of revenues							
Personnel costs	162.1%	90.0%	97.5%	46.7%	26.5%	13.0%	9.5%
Depreciation and amortisation	30.2%	11.9%	15.5%	12.6%	7.4%	4.0%	2.7%
Other operating expenses	114.4%	69.0%	58.9%	29.1%	17.0%	10.0%	10.0%
Y-Y Growth							
Revenues	122.7%	307.8%	73.8%	105.9%	93.6%	152.6%	90.3%
Operating income	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
Net income/ loss	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.



BALANCE SHEET

All figures in EUR '000	2020A	2021A	2022A	2023E	2024E	2025E	2026E
Assets							
Current assets, total	6,633	29,920	27,577	32,045	30,783	53,745	86,406
Cash and cash equivalents	4,248	19,604	5,071	8,985	2,761	6,548	11,779
Short-term investments	0	0	0	0	0	0	0
Receivables	184	2,638	8,014	8,275	9,613	16,191	30,811
Inventories	1,300	3,604	8,421	8,714	12,337	24,934	37,744
Other current assets	901	4,073	6,071	6,071	6,071	6,071	6,071
Non-current assets, total	7,917	32,221	80,237	83,635	100,526	110,966	131,650
Property, plant & equipment	2,870	23,985	67,900	71,564	88,586	98,931	118,299
Goodwill & other intangibles	3,977	7,110	10,272	10,006	9,875	9,970	11,286
Right-of-use assets	1,033	1,055	909	909	909	909	909
Other assets	72	1,156	1,156	1,156	1,156	1,156	1,156
Total assets	14,550	62,141	107,814	115,681	131,308	164,710	218,056
Shareholders' equity & debt							
Current liabilities, total	4,452	10,397	16,070	14,052	16,644	17,358	28,259
Short-term debt	1,415	1,186	871	2,000	4,000	4,000	8,075
Leasing liabilities	109	155	116	116	116	116	116
Accounts payable	947	6,387	11,191	8,044	8,636	9,350	16,176
Current provisions	239	516	1,243	1,243	1,243	1,243	1,243
Other current liabilities	1,851	2,309	2,765	2,765	2,765	2,765	2,765
Long-term liabilities, total	1,353	5,224	5,290	32,770	60,116	97,761	124,730
Long-term debt	21	2,708	2,371	27,371	52,371	87,371	114,296
Leasing liabilities	568	575	471	652	798	943	987
Other liabilities	278	512	605	2,903	5,103	7,603	7,603
Deferred revenue	486	1,428	1,844	1,844	1,844	1,844	1,844
Minority interests	1	2	1	1	1	1	1
Shareholders' equity	8,744	46,518	86,454	68,858	54,548	49,590	65,066
Share capital	22,269	24,406	27,195	27,195	27,195	27,195	27,195
Capital reserve	-6,771	37,615	87,586	87,586	87,586	87,586	87,586
Other reserves	-37	-83	69	69	69	69	69
Treasury stock	0	0	0	0	0	0	0
Loss carryforward / retained earnings	-6,716	-15,418	-28,396	-45,992	-60,303	-65,260	-49,784
Total consolidated equity and debt	14,550	62,141	107,814	115,681	131,308	164,710	218,056
Ratios							
Current ratio (x)	1.49	2.88	1.72	2.28	1.85	3.10	3.06
Quick ratio (x)	1.20	2.53	1.19	1.66	1.11	1.66	1.72
Equity ratio	60.1%	74.9%	80.2%	59.5%	41.5%	30.1%	29.8%
Net debt	-2,812	-15,711	-1,830	20,386	53,610	84,822	110,591
Net gearing	-32.2%	-33.8%	-2.1%	29.6%	98.3%	171.0%	170.0%
Return on equity (ROE)	-40.8%	-18.7%	-15.0%	-25.6%	-26.2%	-10.0%	23.8%
Days of sales outstanding (DSO)	32	114	199	100	60	40	40
Days inventory outstanding	205	167	256	130	100	80	70
Days in payables (DIP)	149	296	340	120	70	30	30



CASH FLOW STATEMENT

All figures in EUR '000	2020A	2021A	2022A	2023E	2024E	2025E	2026E
EBIT	-3,544	-8,622	-12,858	-15,213	-10,744	-47	26,826
Depreciation and amortisation	625	1,002	2,276	3,791	4,309	5,957	7,475
EBITDA	-2,920	-7,619	-10,582	-11,422	-6,435	5,910	34,301
Changes in working capital	528	-1,136	-6,476	-3,701	-4,369	-18,460	-20,604
Other adjustments	255	758	1,594	-2,383	-3,566	-4,910	-11,350
Operating cash flow	-2,137	-7,997	-15,464	-17,507	-14,371	-17,461	2,347
Investments in PP&E	-1,830	-21,570	-44,989	-6,041	-19,884	-14,774	-25,304
Investments in intangibles	-2,208	-3,483	-4,436	-967	-1,170	-1,477	-2,812
Free cash flow	-6,175	-33,050	-64,889	-24,514	-35,424	-33,713	-25,769
Acquisitions & disposals, net	0	0	0	0	0	0	0
Other investments	250	-11	-65	0	0	0	0
Investment cash flow	-3,789	-25,064	-49,490	-7,008	-21,054	-16,252	-28,115
Debt financing, net	1,240	2,463	-653	26,129	27,000	35,000	31,000
Equity financing, net	6,189	48,304	52,998	0	0	0	0
Dividends paid	0	0	0	0	0	0	0
Other financing	1,390	-2,350	-1,924	2,300	2,200	2,500	0
Financing cash flow	8,819	48,417	50,421	28,429	29,200	37,500	31,000
FOREX & other effects	0	0	0	0	0	0	0
Net cash flows	2,894	15,356	-14,534	3,914	-6,224	3,787	5,231
Cash, start of the year	1,354	4,248	19,604	5,071	8,985	2,761	6,548
Cash, end of the year	4,248	19,604	5,071	8,985	2,761	6,548	11,779
Y-Y Growth							
Operating cash flow	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
Free cash flow	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
Financial cash flow	89.8%	449.0%	4.1%	-43.6%	2.7%	28.4%	-17.3%

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ASSET VALUATION SYSTEM

First Berlin's system for asset valuation is divided into an asset recommendation and a risk assessment.

ASSET RECOMMENDATION

The recommendations determined in accordance with the share price trend anticipated by First Berlin in the respectively indicated investment period are as follows:

Category		1	2
Current market capitalisation (in €)		0 - 2 billion	> 2 billion
Strong Buy ¹	An expected favourable price trend of:	> 50%	> 30%
Buy	An expected favourable price trend of:	> 25%	> 15%
Add	An expected favourable price trend of:	0% to 25%	0% to 15%
Reduce	An expected negative price trend of:	0% to -15%	0% to -10%
Sell	An expected negative price trend of:	< -15%	< -10%

¹ The expected price trend is in combination with sizable confidence in the quality and forecast security of management.

Our recommendation system places each company into one of two market capitalisation categories. Category 1 companies have a market capitalisation of €0 – €2 billion, and Category 2 companies have a market capitalisation of > €2 billion. The expected return thresholds underlying our recommendation system are lower for Category 2 companies than for Category 1 companies. This reflects the generally lower level of risk associated with higher market capitalisation companies.

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RECOMMENDATION & PRICE TARGET HISTORY

Report No.:	Date of publication	Previous day closing price	Recommendation	Price target
Initial Report	21 September 2020	€6.50	Buy	€8.90
2...4	↓	↓	↓	↓
5	11 November 2021	€23.00	Buy	€46.00
6	28 January 2022	€19.02	Buy	€24.00
7	6 May 2022	€18.50	Buy	€29.00
8	2 June 2022	€18.30	Buy	€30.00
9	2 August 2022	€16.15	Buy	€28.00
10	13 September 2022	€15.25	Buy	€26.00
11	15 December 2022	€14.60	Buy	€20.00
12	14 February 2023	€15.50	Buy	€20.00
13	Today	€11.95	Buy	€19.00

INVESTMENT HORIZON

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Legally required information regarding

- key sources of information in the preparation of this research report
- valuation methods and principles
- sensitivity of valuation parameters

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