

Buy EUR 114.00 Price EUR 47.10 Upside 142.0 %	Value Indicators: EUR DCF: 114.46 SotP: 115.28	Warburg ESG Risk Score: 3.0 ESG Score (MSCI based): n.a. Balance Sheet Score: 5.0 Market Liquidity Score: 1.0	Description: One of the largest German renewable energy project developers
	Market Snapshot: EUR m Market cap: 434.3 No. of shares (m): 9.2 EV: 652.7 Freefloat MC: 165.0 Ø Trad. Vol. (30d): 76.75 th	Shareholders: Freefloat 38.00 % Ahn Family 26.00 % Bockholdt Family 26.00 % Mainova AG 10.00 %	Key Figures (WRE): 2024e Beta: 1.3 Price / Book: 2.0 x Equity Ratio: 36 % Net Fin. Debt / EBITDA: 3.4 x Net Debt / EBITDA: 3.4 x

The tide is turning for project developers; Initiation with Buy

As one of the leading renewable energy developers in Europe, ABO Energy is poised to profit from the high demand for projects across different technologies such as onshore wind, PV, battery storage and hydrogen. With a pipeline of >24GW under development, project turnover is expected to grow significantly in coming years, allowing ABO Energy to pursue its revenue and margin accretion. The European markets, in particular, should provide a solid basis for sustainable growth and attractive developer margins, which we expect to be accompanied by selected international project-rights sales.

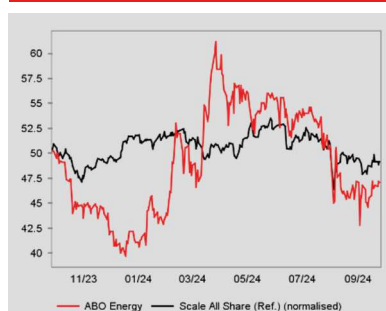
Strong competitive standing: With its proven track record of 5.5 GW of developed projects, a regional presence in 16 countries, and well-established network to local authorities and other stakeholders, ABO Energy should be able to source new projects and underpin its leading industry positioning. Pioneering technologies, such as storage and hydrogen, will play a vital role in future growth and should allow ABO Energy to maintain its competitive edge. By covering the entire project-development value chain, ABO Energy is well prepared to cope with the future challenges of the industry and protect its attractive margin profile.

Our forecast points to steep growth ahead which should allow ABO Energy to significantly enhance net-income generation. Even in the light of recent issues such as extended construction times and supply-chain challenges, we expect ABO Energy to reach the midpoint of its 2024 guidance (EUR 25-31m net income). In the years after that, the vast number of mature projects lay a solid basis to grow net income towards EUR 41m with additional upside arising from project-rights sales abroad.

The solid balance sheet, characterized by a high equity ratio and moderate financial debt, will be needed to finance the expected pipeline expansion and growing number of mature projects. Working capital, in particular, will expand notably and have an adverse effect on FCF generation, which is expected to turn positive in years of larger pipeline sell-offs. The same is true for ROCE generation, which shows volatile development but clearly exceeds the cost of capital over the usual development cycle of three to four years. Therefore, we regard ABO Energy as an attractive investment as it creates value-add for shareholders by generating excess returns.

Potential catalysts for the share are upbeat pipeline growth in FY 2024/25, which underpin the strong revenue and margin outlook, larger portfolio transactions, and steeper net income growth than expected by us.

Attractive upside: We value ABO Energy at EUR 114 per share based on a DCF model, which illustrates the project development cycle of the next decade. The current margin profile is set to rise to a peak EBIT margin of 19%, accompanied by steep revenue growth. To verify our absolute valuation approach, we have applied the SotP model, which uses valuation multiples for the development pipeline and a DCF model for the service business and implies a fair value of EUR 115.28 per share. Even though the limited data quality with regard to segment margins and the pipeline technology-split reduces the significance of the SotP approach, it still underpins our DCF-based valuation.

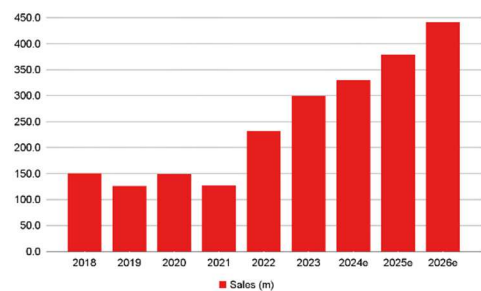


Rel. Performance vs Scale All Share	
1 month:	2.0 %
6 months:	-18.2 %
Year to date:	19.7 %
Trailing 12 months:	-3.1 %

Company events:	

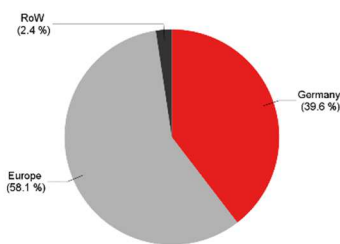
FY End: 31.12. in EUR m	CAGR (23-26e)	2020	2021	2022	2023	2024e	2025e	2026e
Sales	13.8 %	149.2	127.1	231.7	299.7	329.7	379.3	441.5
Change Sales yoy		18.1 %	-14.8 %	82.3 %	29.4 %	10.0 %	15.0 %	16.4 %
Gross profit margin		64.9 %	85.9 %	68.8 %	62.1 %	65.5 %	63.9 %	64.9 %
EBITDA	14.8 %	34.8	30.5	57.0	59.3	63.9	72.2	89.7
Margin		23.3 %	24.0 %	24.6 %	19.8 %	19.4 %	19.0 %	20.3 %
EBIT	18.6 %	22.5	22.4	43.1	42.6	47.5	54.7	71.1
Margin		15.1 %	17.7 %	18.6 %	14.2 %	14.4 %	14.4 %	16.1 %
Net income	15.6 %	13.1	13.8	24.6	27.2	28.3	31.7	42.0
EPS	15.6 %	1.42	1.50	2.67	2.95	3.07	3.43	4.56
EPS adj.	15.6 %	1.42	1.50	2.67	2.95	3.07	3.43	4.56
DPS	3.2 %	0.45	0.49	0.54	0.60	0.62	0.64	0.66
Dividend Yield		1.9 %	1.0 %	0.9 %	1.0 %	1.3 %	1.4 %	1.4 %
FCFPS		4.39	-5.86	-2.07	-7.41	-4.96	-0.89	-4.82
FCF / Market cap		18.3 %	-11.7 %	-3.6 %	-12.1 %	-10.5 %	-1.9 %	-10.2 %
EV / Sales		1.6 x	4.2 x	2.7 x	2.4 x	2.0 x	1.8 x	1.6 x
EV / EBITDA		6.7 x	17.4 x	11.0 x	12.4 x	10.2 x	9.2 x	8.0 x
EV / EBIT		10.3 x	23.7 x	14.5 x	17.2 x	13.7 x	12.2 x	10.1 x
P / E		16.9 x	33.4 x	21.4 x	20.8 x	15.3 x	13.7 x	10.3 x
P / E adj.		16.9 x	33.4 x	21.4 x	20.8 x	15.3 x	13.7 x	10.3 x
FCF Potential Yield		11.7 %	4.4 %	6.9 %	6.1 %	7.4 %	8.2 %	9.3 %
Net Debt		10.7	69.5	98.1	167.1	218.4	232.3	282.7
ROCE (NOPAT)		9.0 %	8.0 %	11.4 %	8.8 %	7.7 %	7.8 %	8.9 %
Guidance:		2024: Net income of EUR 25-31m						

Sales development in EUR m



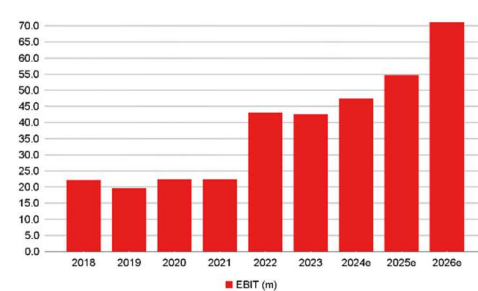
Source: Warburg Research

Sales by regions 2023; in %



Source: Warburg Research

EBIT development in EUR m



Source: Warburg Research

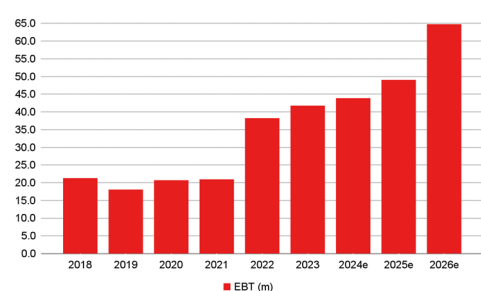
Company Background

- Founded in Germany in 1996 with a focus on onshore wind projects, ABO Energy has become one of the leading developers of renewable energy sources with a broad international focus.
- With the expansion of its technological scope towards PV, battery storage and hydrogen, ABO Energy offers the full range of development services for all established renewable technologies.
- ABO Energy has a proven track record of realized projects totalling 5.5 GW and it is active in 16 countries with local subsidiaries or presence.
- In addition to its development activities, ABO Energy offers O&M services for operating assets, site optimization works and other services for operators
- In 2024, the company decided to change its name to “ABO Energy” and its legal form to a GmbH & Co. KGaA.

Competitive Quality

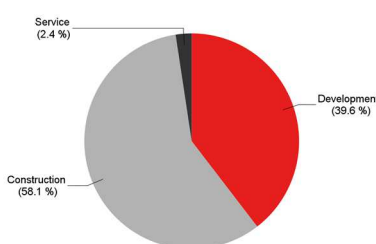
- ABO Energy covers the entire value chain of project development, embedded in a regional corporate structure, which allows for preferred access to new sites.
- The regional approach of ABO Energy is characterized by close collaboration with local authorities, suppliers and residents, which ensures a high probability of realization. It is accustomed to entering new markets
- For battery storage and hydrogen, ABO Energy is pioneering in the European and international markets, allowing the company to diversify and expand its business and benefit from new industry trends.
- The current project pipeline amounts to >24 GW, accompanied by a hydrogen pipeline of >20 GW, which shows ABO Energy’s excellent market access and growth prospects.

EBT development in EUR m



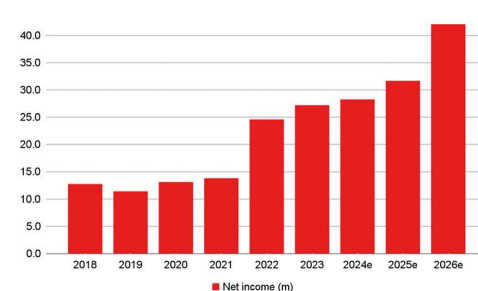
Source: Warburg Research

Sales by segments 2023; in %



Source: Warburg Research

Net income development in EUR m



Source: Warburg Research

Summary of Investment Case	4
Company Overview	5
Competitive Quality	6
Regional approach on an international scale	6
Operating in a fragmented market	6
Proven route-to-market secures future growth	7
Diversified pipeline limits downside risk	9
Mastering the challenges of the industry	11
Full value-chain coverage...	11
...protects margins and secures competitiveness	12
SWOT matrix	13
Analysis of Return on Capital	14
Growing equity base is used to finance pipeline growth	14
Debt structure and maturity profile	15
Free cash flow development lags behind operating performance	17
Strong returns amid balance-sheet expansion	18
Growing capital employed stems from pipeline expansion	20
ROCE is poised to profit from higher project turnover	20
Growth / Financials	22
Renewables are the new backbone of Europe's energy supply	22
Project developers are the first to profit from capacity additions	22
Lead indicators hint at volume growth in main markets	25
Steep revenue and margin growth ahead	27
Operating leverage bolsters absolute margin generation	29
Warburg vs. consensus	31
Valuation	32
Absolute valuation approach (DCF)	32
Input assumptions	32
Cost of capital	33
Indicative pipeline valuation (SotP)	35
Peer-group analysis	37
Conclusion	37
Company & Products	39
Product offering	39
Company history	42
Management	42
Executive board	42
Supervisory Board	44
Shareholder structure	46

Summary of Investment Case

Investment triggers

- A fast improvement of the development pipeline in quality and size, underpinning ABO Energy's revenue and margin growth ambitions, would increase the visibility for coming years and should be rewarded by a higher share price.
- We see the potential for a very strong net income guidance for FY 2025, exceeding our and consensus estimates. Main driver would be an easing supply-chain situation, triggering faster project realisation and earnings generation.
- The sale of larger development portfolios in countries like Finland, South Africa or Canada would boost earnings in the respective year and enhance the financial firepower as well as valuation.

Valuation

- We value ABO Energy at EUR 114 per share, based on a DCF-model. Our model reflects the expected development cycle of the next decade, including a peak EBIT-margin of 19% and steep revenue growth.
- To verify our absolute valuation approach, we compute a SotP model by using valuation multiples for the development pipeline and a DCF-model for the service business, leading to a fair value of EUR 115.28.
- While the limited database regarding the pipeline structure and segment margins limits the significance of the SotP valuation, it validates our DCF-approach.

Growth

- Renewable capacities are expected to face major growth, supported by regulators' aims to develop a sustainable and independent energy supply.
- Additional growth drivers will be the necessary expansion of storage/hybrid projects and development of a European hydrogen supply-chain. ABO Energy is poised to profit from the technological expansion and has positioned itself as first-mover.
- Fundamental indicators such as the volume of permitted projects and accelerated approval processes point to higher project turnover in coming years, allowing for rapid top-line and margin growth.

Competitive quality

- ABO Energy ranks amongst the largest project developers in Europe with an extensive track record of 5.5GW of realized projects. The diversified pipeline includes >24GW of projects under development, which secures revenue and margin growth.
- The regional approach in combination with specialized know-how allows ABO Energy to rapidly adopt market trends, defend its leading market position and secure access to new projects.
- By covering the entire development value-chain, ABO Energy is well prepared to cope with the future challenges of the industry and protect its attractive margin profile.

Warburg versus consensus

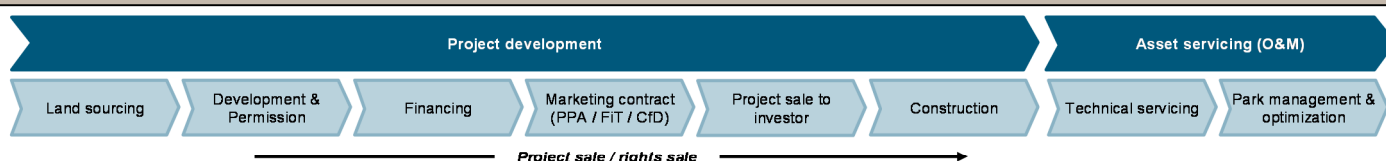
- We position in line with consensus, at the midpoint of guidance for FY 2024.
- In consecutive years though, we expect a faster margin expansion than consensus (+0.5% vs. consensus for FY 2025) and growth acceleration (+7% revenue growth vs. consensus for FY2026), based on the well-filled pipeline of mature projects.
- Our target price of EUR 114 per share is slightly above the average price target of EUR 111.50 (two brokers), though we see additional upside to our model, arising from the adoption of new technologies and a steeper margin growth than reflected in our model.

Company Overview

ABO Energy

Business segments	Project development				Services		
	Onshore wind	PV	Battery storage	Hydrogen	O&M services	Optimization	Expert opinion
	Development, financing and marketing of single technology and integrated projects at an international scale. Track record of >5GW and pipeline of >23GW.				Commercial and technical management. Own energy management products to improve lifecycle management.		
Suppliers							
Competitors							

Value chain



Operative figures (mEUR)

P&L	Sales	EBITDA	EBIT	Net income
Balance Sheet & Cash Flow	Net debt / EBITDA	Equity ratio	Free cash flow	ROCE (NOPAT)

Project pipeline (30.06.2024)

MW	Phase I	Phase II	Phase III	Total
Germany	3,950	150	300	4,400
France	1,360	170	70	1,600
Finland	5,200	100	0	5,300
UK	380	370	0	750
South Africa	2,500	3,000	0	5,500
Canada	1,200	0	0	1,200
Argentina	600	700	0	1,300
Greece	300	700	0	1,000
Colombia	280	500	20	800
Spain	625	425	100	1,150
Ireland	490	60	0	550
Poland	780	20	0	800
Netherlands	60	40	0	100
Tunisia	140	10	0	150
Hungary	110	0	90	200
Total	17,975	6,245	580	24,800

SWOT

<p>Strengths</p> <ul style="list-style-type: none"> - Well-filled pipeline, showing broad diversification - Regional structure allows for high market penetration - Specialized know-how, difficult to replicate 	<p>Weaknesses</p> <ul style="list-style-type: none"> - High operational cost basis and broad country focus - Inflexible cost structure could trigger negative earnings - Volatile earnings and limited recurring revenue basis
<p>Opportunities</p> <ul style="list-style-type: none"> - Vital RES industry, supported by regulators - New technologies following on PV / onshore wind - Surging electricity demand from renewable sources 	<p>Threats</p> <ul style="list-style-type: none"> - Adverse regulation and policies preventing site access - Surging input costs put pressure on project margins - Supply-chain errors lead to project postponements

Competitive Quality

- ABO Energy ranks amongst the largest developers of RES plants, operating a pipeline of >24GW at an international scale including PV, onshore wind and storage.
- An established regional network to suppliers, authorities and other stakeholders ensures high market penetration and high probability of realization.
- Mastering the challenges ahead, ABO Energy covers the entire value chain of project development and is able to protect attractive project margins.

ABO Energy has a solid, international track record

ABO Energy ranks amongst the largest developers of renewable energy plants, with a solid track record of realized projects totalling 5.5GW in several countries. Founded in 1996, the roots of the company can be traced back to the dawn of the German renewables industry in the late 90s, which brought forth some of the largest international developers and parts suppliers.

Since then, ABO Energy has continuously expanded its local and technological footprint and solidified its competitive position.

Regional approach on an international scale

As a project developer, ABO Energy oversees the entire development process of RES (“renewable energy systems”) plants from the selection of a suitable site to the approval procedure and procurement to the construction and commissioning. The entire procedure can take up to six years (onshore wind) and requires a broad range of specialist knowledge and coordination between the different stakeholder groups.

We identify five development phases, which we use to evaluate the quality of the development pipeline and use as basis for our financial forecast:

- **Phase I (land secured):** A potential site has been identified and exclusivity is achieved via a utilization or exclusivity agreement, option or land lease contract.
- **Phase II (pre-planning):** All necessary feasibility analyses have been conducted and the necessary documentation for the approval procedure is in place.
- **Phase III (permission):** The project has been submitted to the responsible approval authorities and a positive outcome is expected.
- **Phase IV (procurement):** Permission has been granted and the financing, marketing contract and parts supply is under negotiation. If applicable, the project is prepared to apply for subsidies (regulated tariffs) or a PPA is negotiated.
- **Phase V (construction):** Financial close has been reached and a marketing contract is in place. The project is under construction and the developer negotiates the sale of the project.

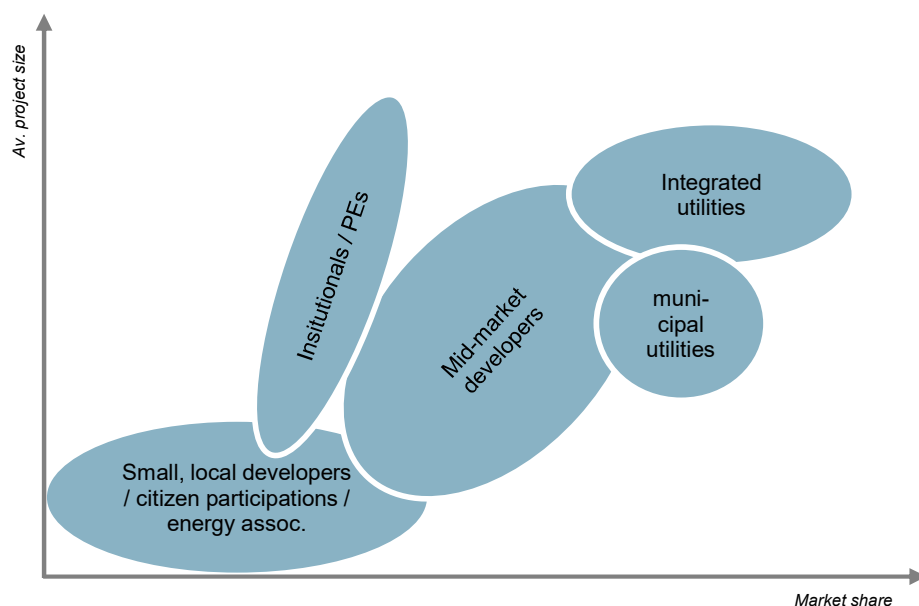
Strong regional network enhances project sourcing

Even though ABO Energy reports only three development phases, we use additional sources like public registers, peer data and market intelligence platforms to augment the data set and generate a more precise view of the projects under development.

Operating in a fragmented market

The developer competitive landscape is highly fragmented, which reflects the local character of the business and the variation in regulatory specifications. Hence, about 45-50% of the market is served by small, local companies, usually with only a few projects under development. The mid-market segment, which includes ABO Energy, accounts for up to 25-30% of the developed capacity and consists of SMEs with a broader local and technological footprint, usually with a track record of >1 GW. The remainder is dominated by large, integrated utilities like RWE, Iberdrola or Orsted which usually focus on large projects at an international scale, including offshore wind projects.

Exemplary market structure



Source: Warburg Research

Market consolidation favours mid-market developers

As we will outline later, we expect the competitive landscape to change, in light of the increasing complexity of financing, marketing and managing the supply chain. First signs of a market consolidation are already visible and the challenges ahead are likely to expedite the process in favour of diversified mid-market companies like ABO Energy.

Proven route-to-market secures future growth

Key to sourcing new projects is to build up a local network of representatives to develop a reliable network to local stakeholders such as land owners, authorities and residents. ABO Energy has a proven track record of managing all relevant groups and operates several field offices, which monitor the entire development process on site and have built up reliable relationships.

ABO Energy has an extensive track record of realized projects in the ballpark of >5.5GW, which makes it one of the most successful developers in Germany:

Track record of selected peers

company	track-record	country profile	technological scope
ABO Energy	> 5.5 GW	international	onshore, PV, storage, hydrogen, hybrid
wpd	6.67 GW	international	onshore, PV, hybrid
PNE (incl. WKN)	6.5 GW	international	onshore, offshore, PV, storage, hydrogen, hybrid
juwi	> 6.5 GW	international	onshore, PV, hybrid
BayWa r.e.	> 6.0 GW	international	onshore, PV, trading, pv trading
Denker & Wulf	1.87 GW	Germany plus subsidiaries	onshore, PV, (hybrid)
Energiekontor	1.4 GW	Germany, UK, France, US	onshore, PV, (hybrid)
Altus	> 1.0 GW	Germany / Europe	onshore, PV
UKA	> 1.0 GW	Germany / Europe	onshore, PV

Source: Corporate websites, ABO Energy, Warburg Research

Even though the historic track record is not a solid indicator of future success, it certainly demonstrates ABO Energy’s know-how, reliability towards stakeholders and ability to manage the entire development process and deliver marketable projects.

For ABO Energy’s future success, we deem the following strategies to be key to sourcing new sites and effectively managing the development pipeline:

- **Market research:** Analysis and identification of high-potential markets including the regulatory environment and determination of growth potential. ABO Energy operates offices in 16 countries to ensure comprehensive knowledge from local sources is incorporated in the decision-making process.
- **Site identification:** Utilization of advanced technologies to identify sites with favourable conditions and conduct feasibility studies. Those tasks can be performed locally or centrally, depending on the local resources.
- **Networking and partnerships:** Participation in industry events to connect with other market participants and collaborate with local companies, governments and landowners to gain valuable insight and access to potential sites. The regional structure of ABO Energy ensures high market penetration and its participation in industry associations and events underlines its active role in the renewables industry.
- **Innovation:** Ability to tap into new technologies and explore opportunities with technological innovators strengthens the competitive edge of ABO Energy. As a first-mover, ABO Energy has developed hybrid and storage projects and has a vast hydrogen pipeline.
- **Stakeholder engagement:** The engagement with local communities usually increases the probability of project-realization and minimizes lawsuits. ABO Energy has a solid track record of developing “citizen wind farms” and is known for its local engagement.
- **Financial and legal expertise:** The development of a marketable project requires a strong business case including detailed financial modelling, risk assessment and legal due diligence. ABO Energy employs experienced experts for financial and legal tasks, which can be staffed on single projects as needed.
- **Data utilization:** Leverage of know-how with advanced data-sets to improve site identification and project planning. In its O&M business, ABO Energy generates operational data which is then used in project development to conduct superior market analysis and create financial models.
- **Flexibility and adaptability:** A diversified project-sourcing strategy across markets and technologies allows ABO Energy to mitigate risks and to seize opportunities. Furthermore, ABO Energy has proven its ability to adapt to a changing regulatory landscape, market environment, or new technologies.

By combining these strategies, we consider ABO Energy to be well positioned to effectively source new projects and build a growing pipeline whilst ensuring adequate risk assessment.

Diversified pipeline limits downside risk

By the end of H1/24, ABO Energy had developed a project pipeline of 24.8 GW, in several countries and involving various technologies.

Project pipeline as of H1/24

MW	Phase I	Phase II	Phase III	Total
Germany	3,950	150	300	4,400
France	1,360	170	70	1,600
Finland	5,200	100	0	5,300
UK	380	370	0	750
South Africa	2,500	3,000	0	5,500
Canada	1,200	0	0	1,200
Argentina	600	700	0	1,300
Greece	300	700	0	1,000
Colombia	280	500	20	800
Spain	625	425	100	1,150
Ireland	490	60	0	550
Poland	780	20	0	800
Netherlands	60	40	0	100
Tunisia	140	10	0	150
Hungary	110	0	90	200
Total	17,975	6,245	580	24,800

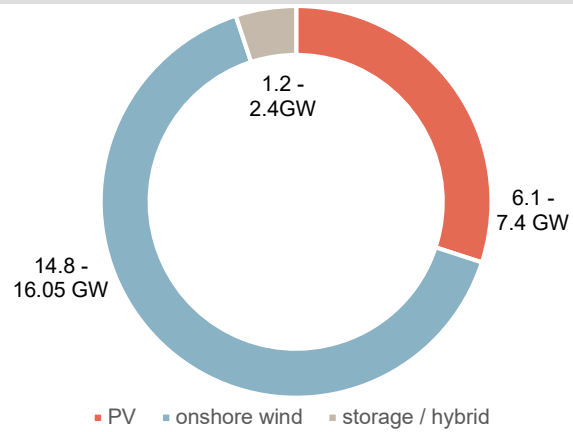
Source: ABO Energy, Warburg Research

Technological and local diversification limits earnings shortfall

Even though we know that onshore wind, PV, and storage projects are included in the pipeline, ABO Energy does not provide a technological split. We use further data for an approximation from sources such as public registers, industry datasets and press releases.

- **Onshore wind:** Makes up the largest share of the pipeline at around 60-65%. The emphasis on onshore wind arises from ABO Energy’s origins as a wind developer. The other technologies were added later. In addition, countries in which ABO Energy is active, like Finland, Germany and the UK are known as developed onshore wind markets with larger single project sizes.
- **PV:** We estimate the share of PV to account for 25-30% of the pipeline, assuming an average PV project-size of 5-50MW. Some of the countries like Greece, Spain, Poland, the Netherlands and Hungary have shown strong PV momentum in recent years, which should also be reflected in ABO Energy’s pipeline.
- **Storage:** Apart from the UK, South Africa, Spain, Greece and Germany, storage projects are still rare due to sluggish regulatory support. We assume the included projects are limited to phase I+II and account for 5-10% of the pipeline, given the nascency of the technology and its low prevalence. In addition, some of the storage projects are hybrid projects in combination with PV and/or onshore wind.

Approximated split by technology



Source: Various data sources, Warburg Research

The diversified profile of ABO Energy’s pipeline allows for a balancing of markets and technologies if adverse market conditions cause a local downturn. In addition, ABO Energy can relocate resources as needed, ensuring optimal utilization of its development capacities and protecting margins.

ABO Energy is poised to profit from the challenges ahead

Mastering the challenges of the industry

The fragmented developer market faces several challenges arising from the liberalization of the renewables industry. Since grid parity has been reached, subsidization is being phased-out and developers need to find solutions to develop marketable projects without subsidized prices and plain vanilla financing.

- The preferred replacement for long-term governmental tariffs are PPAs (“Power Purchase Agreements”), though the negotiation of private off-taker agreements require a thorough understanding of power markets, risk profiles and local grid regulation.
- The same applies to financing, which is moving away from plain project financing. To achieve an attractive project return, investors are requesting complex financing solutions, suited to their funding strategy and portfolio structure.
- Sourcing strategies and supply-chain management became a crucial task in recent years as delivery times for parts like turbines, central inverters and transformer stations rose sharply.
- The average project size has been continuously increasing in both PV and onshore wind, making a proper risk assessment and financing of project activities a key driver of financial success.
- Down-payments need to be covered by a solid balance sheet and both suppliers and PPA off-takers demand robust financial KPIs.
- On-time grid-access is a huge challenge in most countries in which ABO Energy is active and requires a thorough understanding of local grid regulation and the ability to make deposits as security for a guaranteed grid connection.

We expect the challenges ahead to boil down to a market consolidation in favour of mid-sized and large developers as smaller companies cannot scale the competence centres as required and, at the same time, protect margins. Hence, the fragmented market structure is set to consolidate and ABO Energy is poised to strengthen its market position.

Full value-chain coverage...

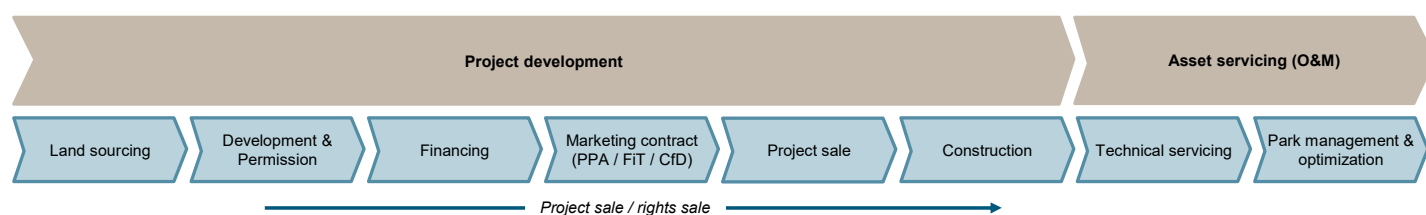
ABO Energy covers the full range of services associated with the different development phases, embedded in a local corporate structure:

- **Site acquisition:** Identification of suitable areas and conclusion of land lease agreements.
- **Development:** Analysis of meteorological data, calculation of feasibility and selection of plants and park layout. Completion of the regulatory approval process.
- **Financing:** Structuring of financing and loan agreements. Securing remuneration by FIT, PPA or CfD.
- **Construction:** Establishment of grid connection and supervision of all construction activities until commissioning.
- **Sales:** Structured investment process and sale of the project to an operator (utility, investor, local municipality, IPP, citizen participation).
- **O&M:** Technical and commercial management. Additional product offering to optimize park operation.

Usually all projects are sold with an O&M contract, which gives ABO Energy responsibility for the commercial and technical management of the plant. Even though the margins and revenue contributions are low compared to those of project development, O&M services generate a sustainable and predictable revenue stream and allow ABO Energy to gain access to potential repowering projects.

Competitiveness bolstered by full-range service-offering

Value chain coverage of ABO Energy



Source: ABO Energy, Warburg Research

For special competence such as special financing solutions, regulatory and legal expertise or marketing contracts (PPAs), ABO Energy employs centralized know-how hubs, which support the development field offices as consultants.

Further, ABO Energy employs its own teams to supervise or execute the construction process, which makes it independent of subcontractors and avoids potential bottlenecks in the availability of EPC contractors.

...protects margins and secures competitiveness

As a mid-market developer, ABO Energy is able to scale overhead costs arising from specialized departments over a vast number of projects, limiting the allocable expenses per project. This protects project margins but also ensures that ABO Energy remains competitive and can develop marketable projects.

Scaling of special competence protects project-margins

Mastering the increasing complexity of RES projects with regard to financing and marketing will be key to remaining competitive against fully integrated utilities and infrastructure PEs, which usually have higher spending power in terms of acquiring personnel and projects.

We regard ABO Energy as well positioned to contend with a pick-up in competition and defend its market position. The combination of a local sourcing strategy with innovation ability and specialized know-how represent high market-entry barriers for small developers but also integrated utilities

If our assumption regarding a potential market consolidation proves true, we see ABO Energy becoming an active consolidator, as its local structure would allow for the effective integration of small businesses.

SWOT matrix

Strengths

- Well-filled pipeline, showing broad technological and local diversification with several mature projects, lays a solid basis for earnings growth.
- An established regional structure allows for high market penetration accompanied by a solid track record and references.
- Specialized technical, regulatory and financial know-how is difficult to replicate.
- Established network of investors, suppliers, regulators & authorities.

Weaknesses

- High operational cost-base and broad country focus can cause a cost overrun and calls for a high degree of management attention.
- Inflexible corporate cost structure in a possible dry spell for projects would trigger negative earnings generation.
- Volatile earnings generation and limited recurring revenues would be insufficient to cover operating expenses.
- Expensive financing of project activities requires strong project-returns to earn capital costs.

Opportunities

- Vital renewable energy industry supported by regulators' aims to achieve carbon neutrality.
- New technologies following PV and onshore wind, such as hydrogen and storage, will become mature technologies.
- Surging demand for renewable electricity from data centres and the establishment of a green hydrogen supply chain.
- Shorter approval cycles and faster realization times to boost project turnover and subsequently, earnings generation.

Threats

- Adverse regulation or policies prevent the development of new sites and limit the repowering potential.
- Surging input costs put pressure on project margins. This in a high-interest environment would make RES plants unattractive to investors.
- Supply-chain errors lead to postponement or even cancellation of projects.
- Power prices below the LCOE of RES plants would make them uneconomical and hence unmarketable.

Analysis of Return on Capital

- Typical for project developers, ABO Energy’s balance sheet is characterized by high working capital, a strong equity base and moderate leverage.
- Return generation is volatile but reaches an attractive level when considering the usual project development cycle.
- ROCE generation also shows volatile development but proves ABO Energy’s ability to allocate funds efficiently and create value-add for shareholders.

The balance sheet of ABO Energy is characterized by a solid equity ratio, moderate financial leverage and high inventories, while fixed assets play a minor role, as is typical for a project developer.

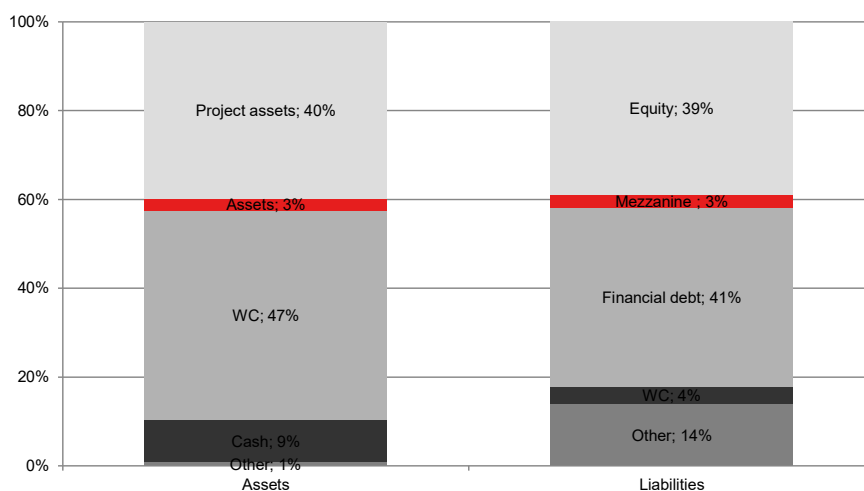
Since we assume ABO Energy can generate a positive and growing net income in the future, the equity ratio is set to improve further, though the cash-flow generation is heavily impacted by growing inventories and receivables. Rising working capital, however, is a result of pipeline growth and higher project turnover and lays the basis for accelerated growth.

Growing equity base is used to finance pipeline growth

Reflecting the risk profile of a project developer, ABO Energy shows a solid equity ratio of 39%, sufficient to cover potential losses and project impairments. The activated pipeline amounted to EUR 196.3m by the end of 2023 whilst equity stood at EUR 192.6m. Even in the case of material project impairments (40-50% of the pipeline), ABO Energy would be able to maintain its operative business and prevent a debt default. In addition, the majority of project assets arises from late-stage projects, which have a very low cancellation risk of 1-5%, making a substantial impairment unlikely.

Solid equity ratio covers potential project impairments

Balance sheet structure as of 31.12.2023



Source: ABO Energy; Warburg Research

Financial debt is used to finance working capital, which is the largest asset position and is made up of:

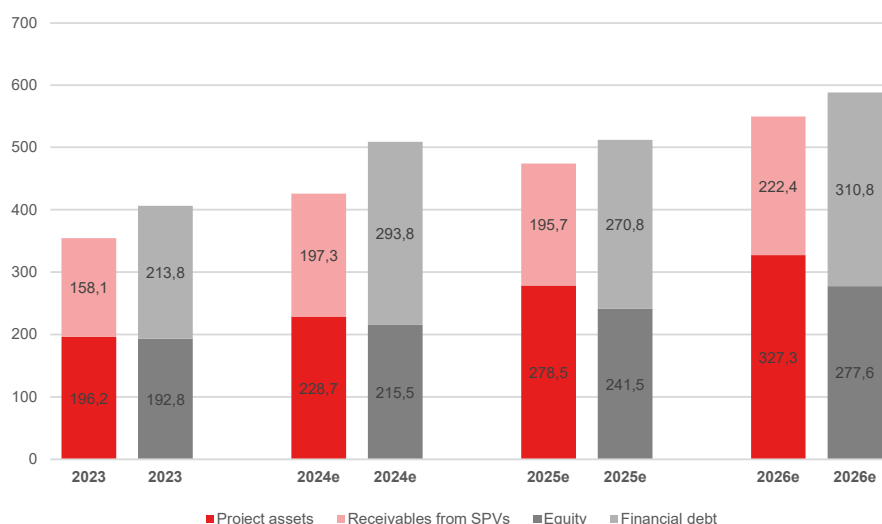
- (I) **Inventories:** Goods used for projects under construction and development activities (EUR 11.86m).
- (II) **Receivables:** As outlined in the previous chapter, ABO Energy charges the project SPVs, which are owned by the company, for the rendered development services as soon as permission has been granted for the project and, as the case may be, for construction services rendered. The

The balance sheet is characterized by working capital

revenue and margin shown are activated as receivables until the SPV is sold. Receivables against SPVs amounted to EUR 158.1m in 2023.

In our forecast, we expect ABO Energy to expand its project pipeline and increase its project turnover, resulting in growing project assets (inventories) and accounts receivable from SPVs (charged construction services).

Development of balance-sheet ratios (EURm)



Additional debt is used to finance pipeline expansion

Source: ABO Energy; Warburg Research

The balance-sheet ratios though, are expected to remain roughly stable with equity covering the pipeline growth and financial debt being used to finance receivables. However, since we assume massive pipeline growth, ABO Energy will need to finance a small proportion of activated projects with additional debt (EUR 41.3m in 2026). Our outlook assumes a moderate increase in dividend payments to EUR 0.66/share in 2026 (EUR 0.60 for 2023), which could also be used to bolster equity and reduce the need for financial debt.

Debt structure and maturity profile

The financial debt of ABO Energy consists of different debt instruments, which are mainly used to finance working capital and the small asset base (intangibles & fixed assets):

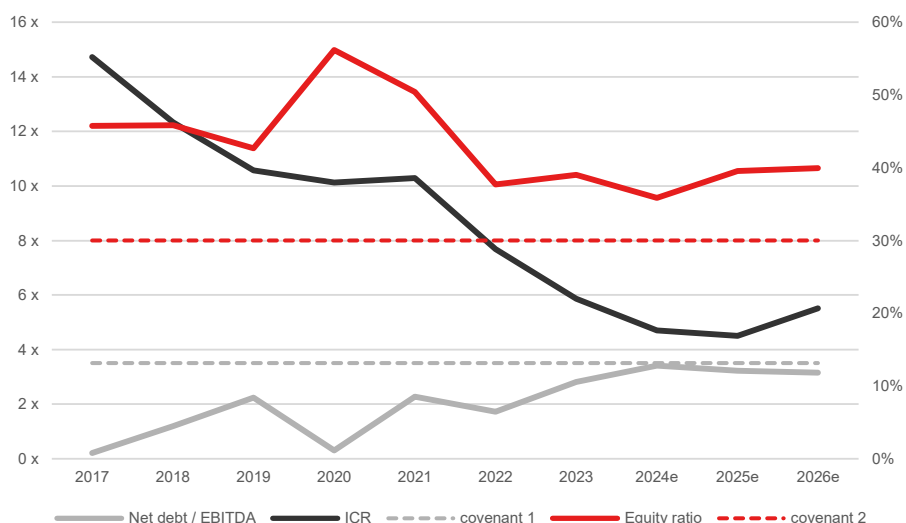
- **Bilateral loans:** Loan facility, which can be utilized flexibly. Covenants are an equity ratio >30% and net debt / EBITDA < 3.5x. Debt is usually drawn as a bank loan.
- **Promissory note:** ABO Energy has issued five tranches with a total volume of EUR 70m with various tenures (2025/27/29). Coupons are undisclosed.
- **Bond:** In 2021, a bond with a volume of EUR 46m was issued with a coupon of 3.5% and tenure of nine years (2030), followed by a Green Bond in the volume of EUR 80m in 2024 and a tenure of five years (2029).
- **Mezzanine capital:** Using various financing vehicles (ABO Energy Mezzanine GmbH & Co. KG, ABO Energy Mezzanine II GmbH & Co. KG), ABO Energy has issued participation rights in the volume of EUR 13.7m. Terms are undisclosed.

Debt covenants will be met in any years

Our model shows that the covenants of the bilateral loan facilities will be met in any year and the growing EBITDA generation allows for an increase in liabilities to banks, in line with profit generation. Hence, we assume ABO Energy can cover the liquidity needed for operations, or cover the negative operating cash flow, with additional debt from banks amounting to EUR 41.7m in 2026. The additional debt simulated includes compensation for the repayment of the first two promissory note tranches of EUR 23m. Further, we assume a necessary cash position of at least EUR 20m to ensure bankability and to enable business operations.

Alternative financing instruments would be to tap into the existing bond or to issue a new bond or hybrid debt instruments.

Debt covenants and credit KPIs

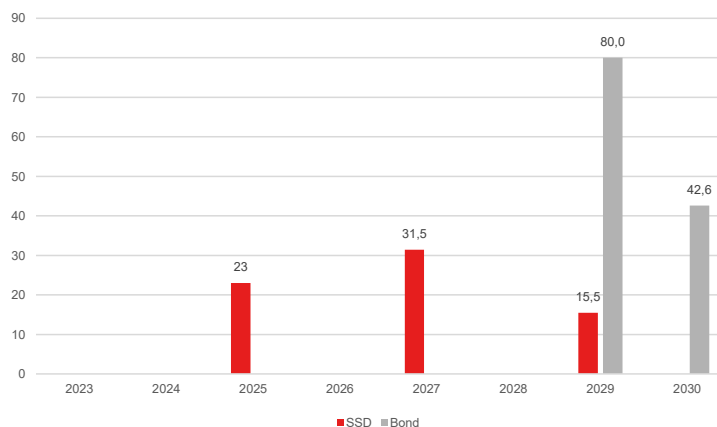


Debt refinancing should be possible based on solid KPIs

Source: ABO Energy; Warburg Research

The maturity profile of the existing debt instruments shows bullet repayments in 2025, 2027, 2029 and 2030. Since we expect ABO Energy to expand its business operations considerably in the same period and expand its balance sheet accordingly, expiring debt has to be refinanced, though the solid equity ratio and credit KPIs should be sufficient to issue new debt in the future.

Maturity profile (bond / promissory note; EURm)



Source: ABO Energy; Warburg Research

According to the schedule of liabilities published in the 2023 financial report, liabilities to banks have different tenures of <1 year, 1-5 years or > 5 years.

Maturities according to the FY 2023 report

mEUR	< 1 year	1-5 years	> 5 years	Total
Bonds	0,00	0,00	42,64	42,64
Promissory note	0,00	70,00	0,00	70,00
Bank loans	3,22	58,77	25,50	87,49
Mezzanine				13,70
	3,22	128,77	68,14	213,83

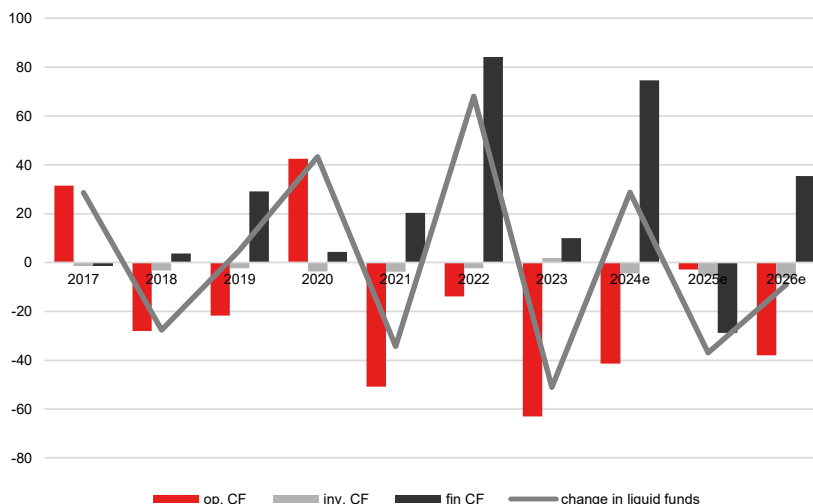
Source: ABO Energy; Warburg Research

Free cash flow is burdened by working capital build-up

Free cash flow development lags behind operating performance

In the cash-flow statement, the working-capital expansion as a result of good business prospects, becomes visible in a negative operating cash flow. Inventories (projects) and receivables show steep growth, though both should normalize as soon as market growth stabilizes at high levels (WRe: 2028-2035).

Cash-flow development



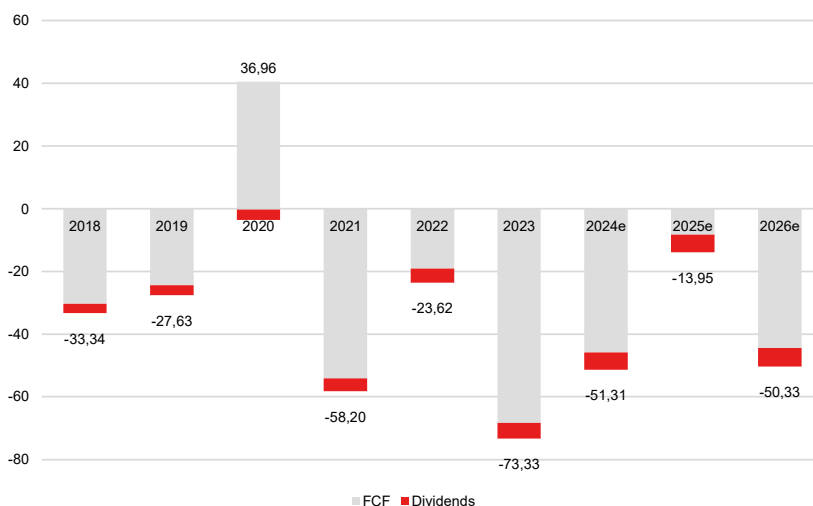
Source: ABO Energy; Warburg Research

Free cash flow turns positive in years of pipeline sell-off

Despite the years marked by a decline in project output (2017/2020), operating cash flow is negative, which we deem to be a result of the different sales approaches employed by ABO Energy, making clear period-mapping of margins impossible.

The same is true for free cash flow, which is usually burdened by the build-up of inventory and receivables as a result of a strong operating performance. As long as ABO Energy faces steep market growth, we expect FCF to remain negative. However, as outlined under "Financials", yearly renewable capacity additions are expected to reach a plateau in 2028, which should then allow FCF to turn positive.

FCF development incl. dividend payments (EURm)



Source: ABO Energy; Warburg Research

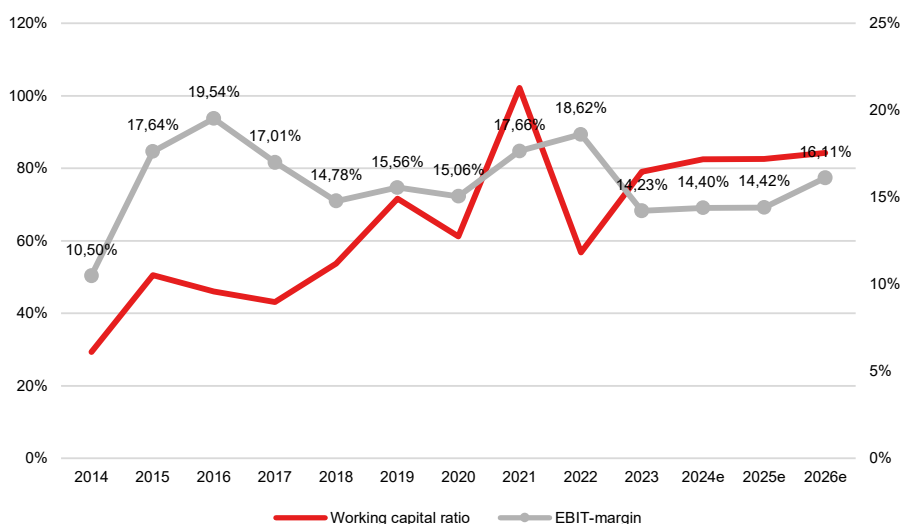
Investments do not play a vital role in ABO Energy's business model as capex is limited to goods needed for general business operations. We assume a slight increase in capex from EUR 4.4m in 2024 to EUR 6.4m in 2026.

Margin generation reflects volatility of project-development business

Strong returns amid balance-sheet expansion

ABO Energy’s margin generation is characterised by the volatile project development cycle, with some years of only a few project sales and other periods of high project output. However, while the different sales approaches used by ABO Energy moderate earnings volatility, they trigger working-capital swings (see chapter “Financials”).

EBIT-margin development



Source: ABO Energy; Warburg Research

Margin growth should follow recent pipeline expansion

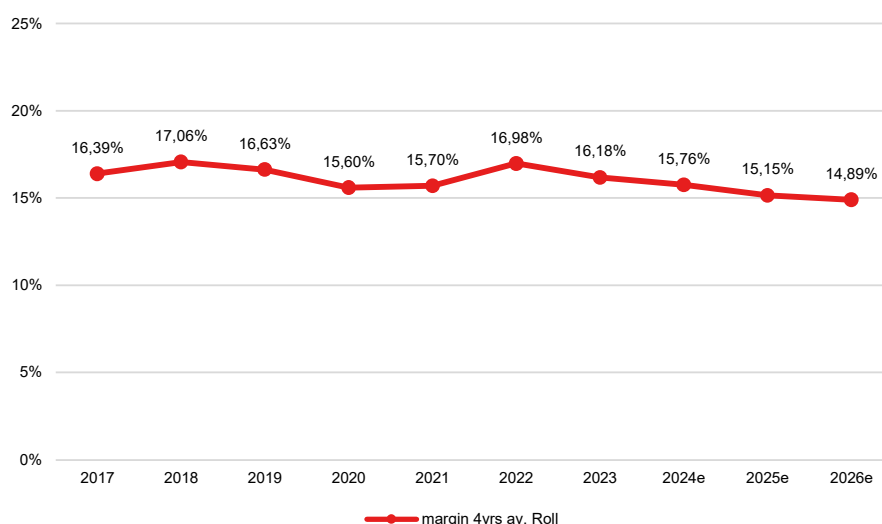
Given the usual project uncertainties and project postponement risks, our forecast is subject to possible periodic deviations of +/- 2-4% on EBIT-margin level. If projects are postponed or construction takes longer than expected, margin generation will occur in the following period and working capital (inventories, accounts receivable) will surge over the reporting date.

However, the predicted market growth, well-filled pipeline and favourable market conditions are pointing to revenue and absolute margin growth in next few years. Compared to past cycles though, we expect relative margins to decrease slightly, owing to a change in the technology and country mix.

- The share of PV projects is expected to increase, which we expect to have an adverse effect on margins since PV projects come with lower project margins than onshore wind projects. However, considering that PV projects have a shorter project-cycle, require less capital commitment and diversify ABO Energy’s revenue streams, the benefits exceed the margin disadvantage.
- In countries such as South Africa, Canada or South America, ABO Energy usually sells the project rights at an early development stage at a lower project margin than those of turnkey projects.

Since the usual project cycle takes 3-5 years, we regard the average margin generation (4 years, annual roll) to be more meaningful when assessing the sustainability of returns generation:

Average margin over project cycle



Average margin over the usual project cycle shows stable development

Source: ABO Energy; Warburg Research

The average margin development is less volatile and underpins our assumption of stable margins over the assumed project cycle. However, the downward trend in the forecast period (FY 2024-26) reflects the changes in the technology and country mix as outlined above. Whilst the average margin level ranged between 15.6% and 17.1% in the past, we expect the average margin to come down to 14.9%-15.8% in FY 2024-2026.

In the mid-term though (WRe: 2027/28), margins should pick up again as we expect developed markets in western Europe to outgrow markets abroad, increasing the share of turnkey projects sold. In addition, hybrid, storage and hydrogen projects are expected to gain relevance and the increasing complexity of these projects should be rewarded by higher project margins.

Hence, we expect the long-term margin corridor to fluctuate between 15% and 19%, which we also reflect in our DCF-based valuation.

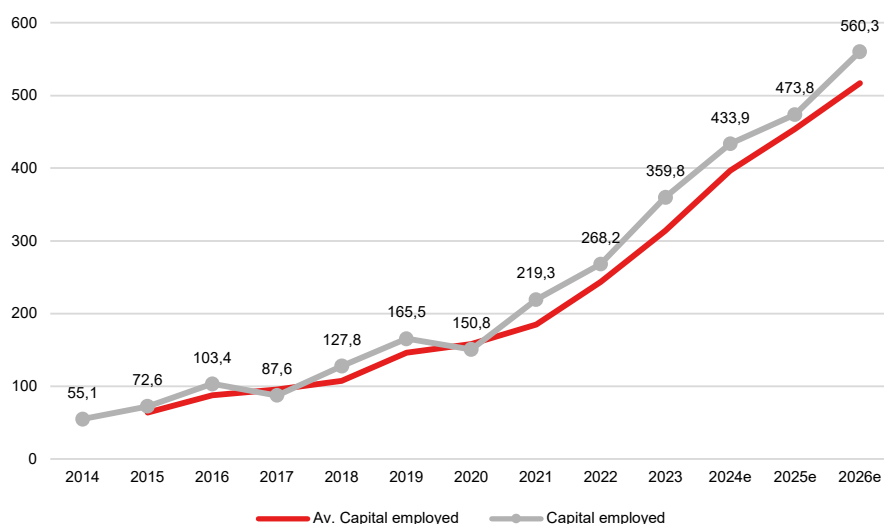
Capital employed is affected by steep working-capital expansion...

Growing capital employed stems from pipeline expansion

As outlined above, we expect a remarkable expansion in the balance sheet of ABO Energy, mainly due to higher working capital, driven by the growing pipeline (inventories) and increasing share of mature projects (accounts receivable), and projects under construction (inventories, accounts payable). To finance growth, ABO Energy has issued bonds and promissory notes, uses loan facilities and reinvests profits to meet its debt covenants.

Capital employed expands along the same lines, reflecting the use of spare funds to finance growth and expand the pipeline

Development of capital employed and av. capital employed (EURm)



...but lays the foundation for margin enhancement

Source: ABO Energy; Warburg Research

However, the growing capital employed lays the foundation for future earnings growth and the incline is expected to come down and align with market growth in the mid-term (WRe: 2027/28). As soon as market growth reaches a plateau, capital employed will also stagnate or even decline, assuming a roughly stable pipeline size and even distribution along the project phases.

ROCE is poised to profit from higher project turnover

Similar to margin generation, ROCE shows volatile development as a result of the usual project cycle. The development time of an RES project can take up to six years. Meanwhile, working capital increases before the projects are contributing to return generation.

Hence, ROCE declines in times of steep pipeline growth and spikes in years of major project sales. In addition, the stabilising effect of the different sales approaches on margins, does not apply to ROCE, as the corresponding build-up of working capital affects capital employed.

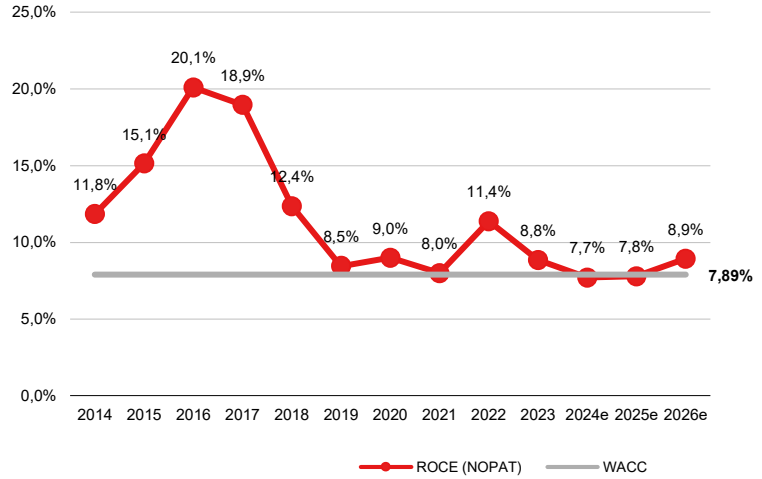
The historic ROCE development can be divided into three phases:

- **Phase I (2014-2017):** Prior to the changes in the German EEG (“Renewable Energy Law 2017”), ABO Energy sold several mature projects and reduced working capital, which triggered peak ROCE generation of 20.1% in 2016.
- **Phase II (2018-2022):** The regulatory changes and adverse market conditions sparked a market drought in Germany, earmarked by very long development and permission cycles. Only a few projects were sold and ABO Energy expanded its business to other countries, which became visible in a growing international pipeline and working capital.
- **Phase III (2023-now):** Following the energy crisis in Europe, regulators in Germany and the EU introduced measures to boost RES capacity development. Key measures have

ROCE development very volatile depending on market environment

been the curtailment of the duration of the permit-approval procedure and improved access to new sites. These measures enabled ABO Energy to expand its pipeline and capital employed surged, though the new projects will only become return accretive in three to four years (PV), respectively four to six years (onshore wind). Even if permit-approval and construction times decline further, ROCE will only go up in two to three years.

ROCE vs. cost of capital



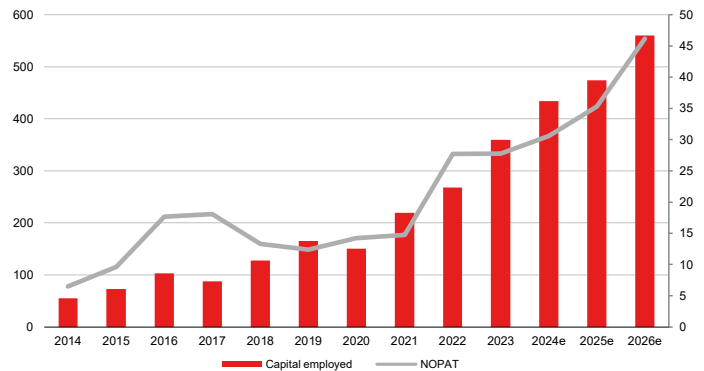
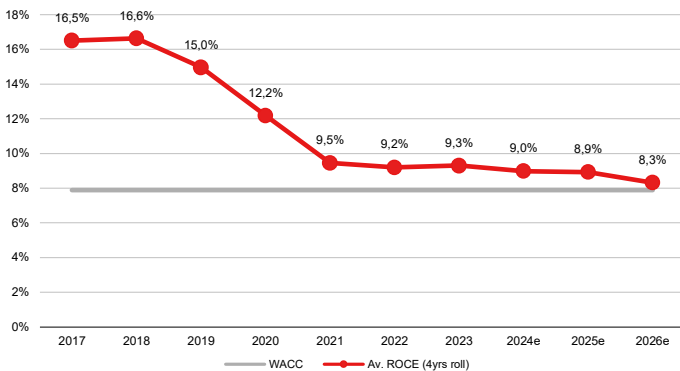
On average, ROCE exceeds cost of capital

Source: ABO Energy; Warburg Research

Our ROCE projection shows a marginal ROCE improvement in 2024-2026, driven by the described pipeline expansion but delayed return generation. However, in the years after (2027/28), ROCE should improve significantly and reach a new peak in 2029-2030, based on the recent pipeline development and current permission and construction times.

Compared to ABO Energy’s cost of capital, which we calculate at 7.89% (see chapter “valuation”), ROCE is on a par with the WACC in years of pipeline growth and marginal project sales but clearly exceeds the cost of capital when the pipeline is sold off. On average (four years roll), ABO Energy manages to earn its capital cost at any time, which proves the company’s ability to allocate funds efficiently and create value-add for shareholders.

Av. ROCE / capital employed and NOPAT development



Source: ABO Energy, Warburg Research

Growth / Financials

- Renewable energy plants are expected to face surging demand supported by regulators in Germany and the EU.
- Additional growth drivers will be the development of storage capacities and a European hydrogen supply-chain.
- Steep pipeline growth hints at major revenue and earnings growth in the future, but require investments in the corporate structure and working capital.

Ambitious development targets are backed by regulatory frameworks

Renewables are the new backbone of Europe's energy supply

The energy crisis in Europe was the trigger that prompted governments to double down on regulatory support to achieve climate neutrality and intensify efforts to develop sufficient renewable energy capacities and become independent of fossil sources. Several measures have been implemented on national and EU level:

- **EU Climate Law** establishes the goal of achieving climate neutrality by 2050, with a mandatory reduction in greenhouse gas emissions by at least 55% by 2030 (compared to 1990 levels). It outlines specific actions to reach these targets, such as incentivizing RE growth and enhancing energy efficiency.
- **REPowerEU**: The REPowerEU plan aims to reduce dependence on Russian fossil fuels and expedite the green transition. It raises the renewable energy target to 45% of the EU's total energy consumption by 2030. This initiative seeks to diversify energy sources and accelerate the development of infrastructure for renewable energies, contributing to a more sustainable and resilient energy system.
- **Renewable Energy Directive**: The Renewable Energy Directive establishes mandatory targets for the proportion of renewable energy in the EU's overall energy consumption. It requires member states to develop national action plans to enact the directive's provisions. Additionally, the directive encourages the growth of renewable energy sources such as wind power, solar energy, bioenergy, and others, fostering a more sustainable energy landscape.
- **Financial support & permit procedures**: Financial resources from the EU and member states support RE expansion, including subsidies for wind turbines and solar parks, along with loans for investments. Approval procedures to grant permits for such projects are expedited by online platforms and streamlined administrative processes.

In recent years, there has been upbeat growth in the share of renewables in Europe's gross energy production but, with regard to the 2030 targets, the yearly capacity additions are still behind plan. As a result, there is expected to be double-digit growth in gigawatt capacity additions annually, especially in onshore and offshore wind as well as PV, which offers plenty of scope to accelerate growth.

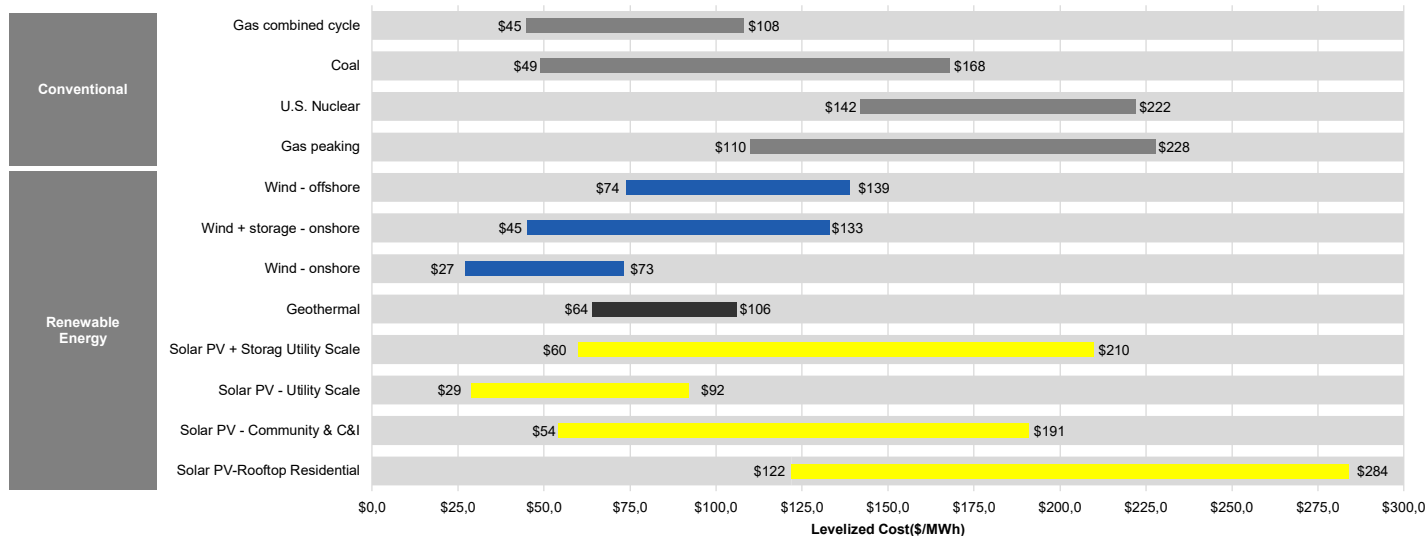
Project developers are the first to profit from capacity additions

ABO Energy ranks among the largest European project developers and focuses on onshore wind, PV, battery storage and hydrogen projects. Historically, onshore wind was the company's strength but as soon as PV became cost-competitive, ABO Energy established the PV segment as second growth pillar. In recent years, battery storage and hydrogen have been added as additional technologies and the increasingly important role of these technologies in the European energy transition should trigger steep growth.

Today, onshore wind and PV offer the cheapest LCOE ("levelized cost of energy") available and they are on the brink of becoming the backbone of Europe's energy supply.

Developers are first to profit from increasing volumes

Levelized cost of electricity 2024



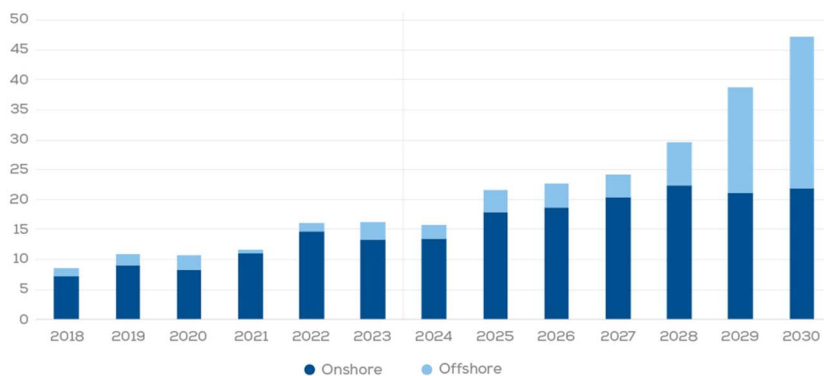
Source: Lazard; Warburg Research

Onshore wind in Europe is expected to add 10-15 GW p.a.

Driven by the drop in production costs, European utilities have built large renewable energy portfolios and communicated ambitious growth targets by 2030, which suggest major market growth.

Capacity additions of 10-15 GW p.a. are expected for onshore wind in Europe, though bottlenecks in the supply chain and sluggish grid development pose challenges for new projects. Nevertheless, yearly capacity additions should remain at high levels. Germany, France, Spain and Finland are the largest markets for ABO Energy.

Annual wind capacity additions outlook in Europe (GW)



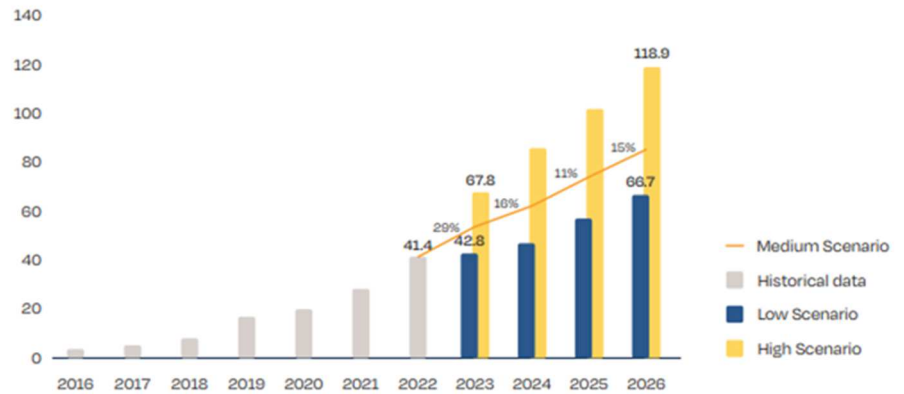
Source: WindEurope, Warburg Research

PV should continue to add significant volumes

In 2023, Solar Power Europe declared yet another milestone-year for the solar industry. The newly installed solar capacity of 55.9 gigawatts across the 27 European Union member states surpassed the previous year's expansion by an impressive 40%. This growth trajectory has been consistent, with similar rates achieved in the preceding two years. Notably, 20 of the 27 member states recorded their best-ever year for solar installations in terms of volume. Consequently, the cumulative installed solar capacity in the European Union has now reached 263 gigawatts.

Looking ahead, the European Solar Association anticipates that annual growth will continue over the next years, albeit at slightly more moderate rates than in recent years. This projection comes in light of the significant drop in solar panel prices observed in 2023. While advantageous for project companies like ABO Energy, this trend has posed challenges for European manufacturers.

Annual PV capacity additions outlook for Europe (GW)

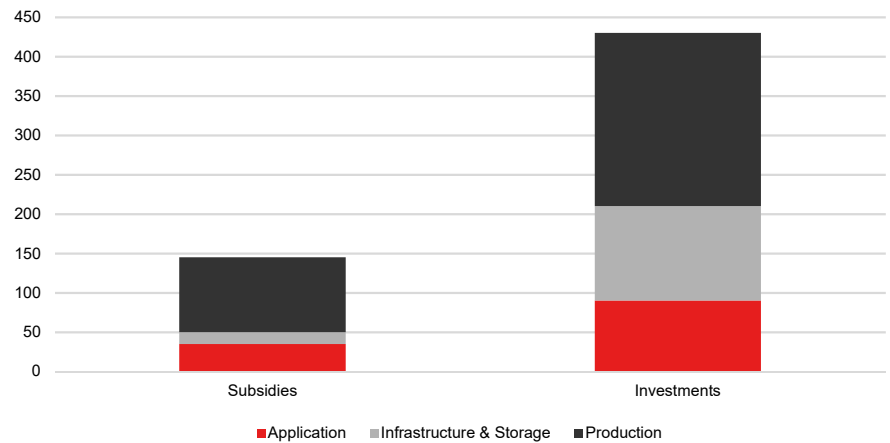


Source: Solar Power Europe, Warburg Research

Hydrogen and battery storage set to play a vital role in the EU

Though still at an early stage, the markets for hydrogen and battery-storage are anticipated to play a crucial role in the ultimate success of the energy transition. In terms of regulation, these markets have come to the fore and are supported by various subsidy schemes. The European Hydrogen Strategy aims to channel significant investments into hydrogen infrastructure and production. These investments, totalling EUR 430bn, are projected to unfold in three phases by 2030.

EU investment in hydrogen by 2030 (in EURbn)



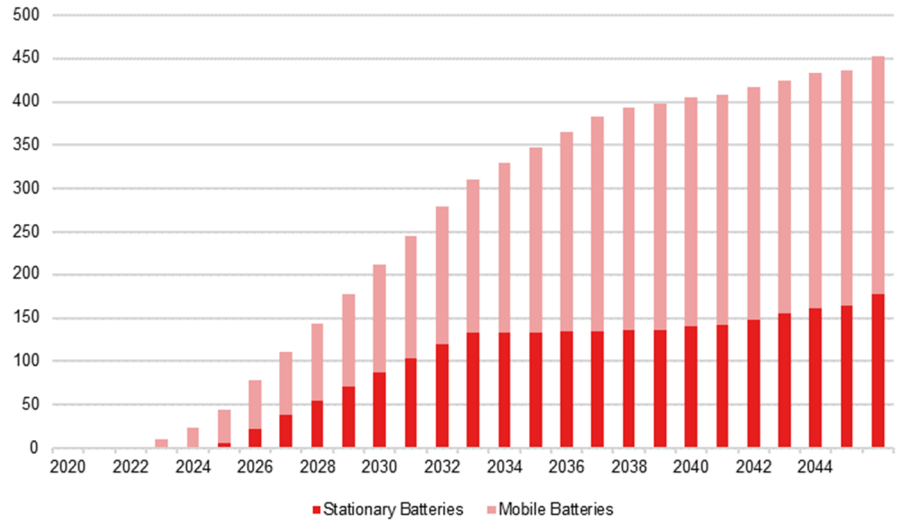
Source: Handelsblatt, Warburg Research

Supported by huge investments and subsidies

Stationary batteries, used as a hybrid project solution in connection with a PV or onshore wind park or as standalone project, play a vital role in the end-consumer market. In Germany alone, approximately 400,000 battery storage units have been installed alongside PV systems, reflecting a growing trend towards decentralized energy storage. Additionally, the soaring demand for power for electric vehicles and data centres underpins the importance of mobile battery storage solutions.

While pumped storage has historically dominated the energy-storage landscape, the focus is turning to large-scale battery storage for grid stability and new business models. The optimal quantity and combination of energy-storage systems will depend on factors such as investment costs for new storage technologies, the availability of alternative flexibility options, and the pace of renewable energy expansion.

Projected battery storage development in Germany (GWh)



Source: Statista, Warburg Research

The first companies in the renewable value chain to profit from rapid capacity growth are project developers, which focus on developing, securing permission for and executing projects, and subsequently selling the commissioned assets to operators.

Lead indicators hint at volume growth in main markets

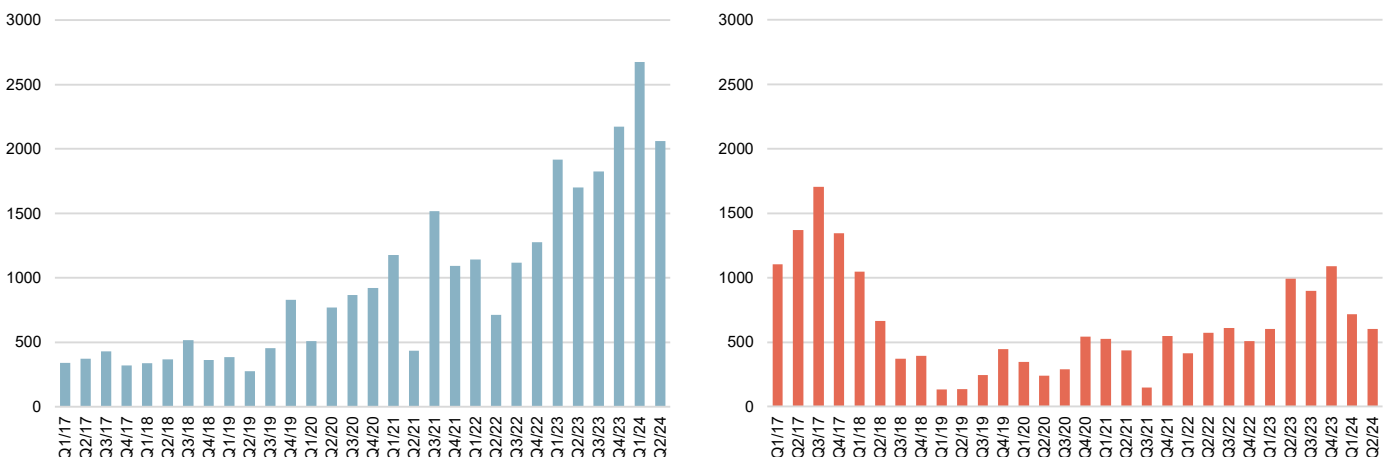
For several years, sluggish approval procedures for building permits for onshore wind and PV dogged European markets such as Germany and France, making the few realized projects very valuable. However, regulators have identified permit-approval as a main bottleneck to accelerating capacity development and introduced measures to (I) shorten approval times and (II) increase the number of permits granted.

Surging permit-approval rates will translate into volume growth

Even though the positive underlying development is not yet visible in capacity additions, a surge in granted building permits can be observed, which hints at steep market growth ahead, assuming a construction time of 12-24 months for onshore wind and 6-12 months for PV. Additional obstacles to be overcome in 2024/25 are limited grid capacities, long lead-times for parts such as turbines and transformer stations, and EPC capacities, which are likely to extend realization times by up to 12 months.

However, we expect the hurdles to be overcome in the short term and yearly capacity additions to follow the steep growth in permits, even considering that some projects will be cancelled for profitability reasons.

Permitted capacity and gross capacity additions in Germany (GW, onshore wind)

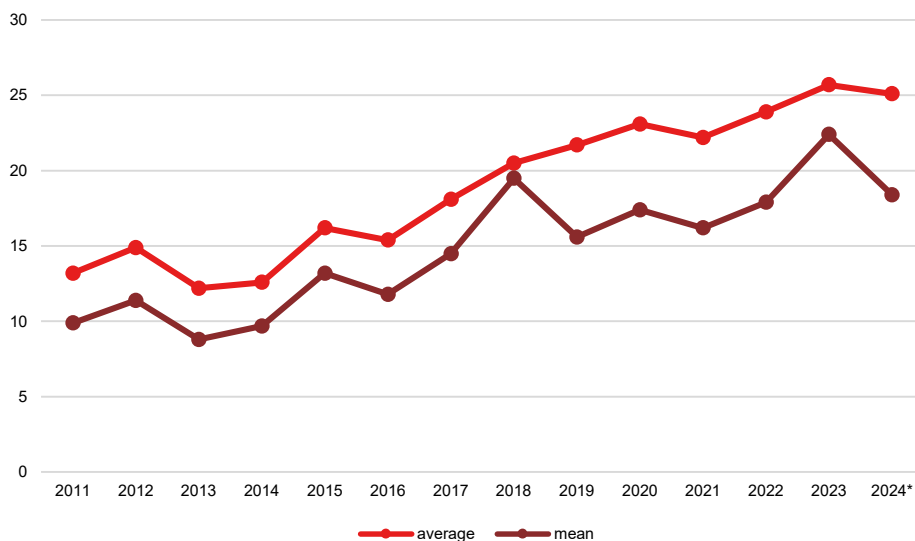


Source: Fachagentur Wind; Warburg Research

Duration of approval procedure showing first signs of a decline

Similar development can be observed for the average duration of a permit-approval process, which is showing the first decline in years but with a widening range. Improved regulation and new laws are benefitting new projects in particular by significantly speeding up the permit-approval process. In contrast, some older projects have been on hold for years. Hence, while the average / mean durations are still at high levels, this is expected to shorten as soon as older projects are granted permission and exit the data set.

Duration of permit-approval for onshore wind projects (GER, months)



Source: Fachagentur Wind; Warburg Research

The data sets shown above show only the German onshore wind market owing to a lack of data availability for other markets / technologies. However, we observe a similar development in data for single projects or public registers for PV and other main European markets like France, the Netherlands, Denmark and Italy.

Earnings volatility moderated by different revenue models

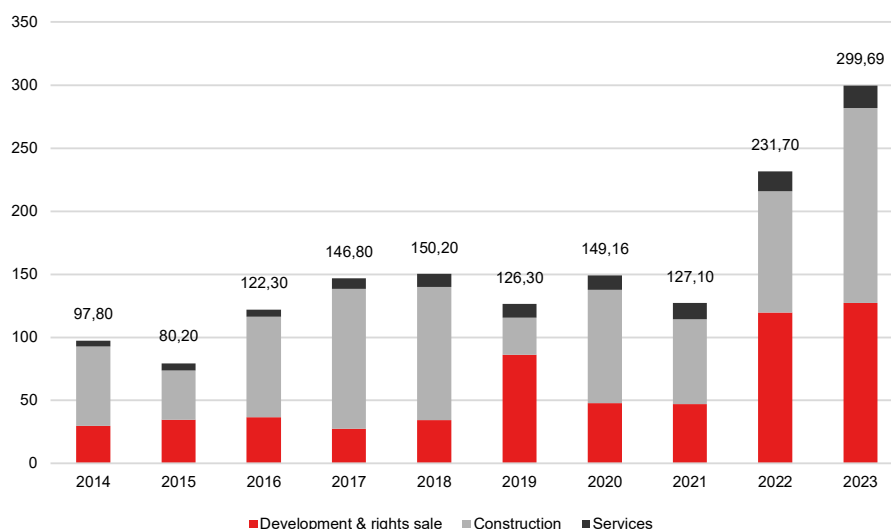
Steep revenue and margin growth ahead

ABO Energy’s financial performance of recent years reflects the underlying market growth since 2019. To moderate earnings-volatility as a result of project postponements or delays in grid connection, ABO Energy uses different revenue models, which allow the company to reveal the value-add generated in project development. The sales approaches are shown as different reporting segments in the financial reports:

1. **Development & project rights sale:** As soon as permission is granted for a project ABO Energy charges the project SPV the rendered service including 50% of the applicable project-margin. Since the project SPV is still fully owned by ABO Energy, a corresponding position is built on the balance sheet (receivables from associated companies) and the generated earnings are not yet cash-effective. A similar approach is used for the sale of project rights, but a sale to an external investor means that revenue and margins become cash-effective.
 - 1.1. **Construction management:** In the case of a project-rights sale, ABO Energy offers to supervise the construction of the asset and oversee all necessary steps for the buyer and charges the client a service fee.
2. **Construction:** With the commissioning and sale of a project, ABO Energy generates the second half of the project margin and the entire project margin becomes cash-effective as the receivables position is closed.
3. **Services:** All service activities, including O&M services and site optimization works are charged per order on a regular basis.

The ability to show revenue and margin contribution from development activities prior to the project commissioning, smooths the P&L development and moderates the fluctuation in earnings generation that would otherwise occur.

Historical development of sales per segments



Source: ABO Energy, Warburg Research

We forecast the P&L based on the project pipeline and assume mature projects will be sold in the next one to three years. Main markets should be Germany, France, Finland, Spain and the UK/Ireland, accompanied by project-rights sales in other countries.

Project pipeline as of 30.06.2024 in MW

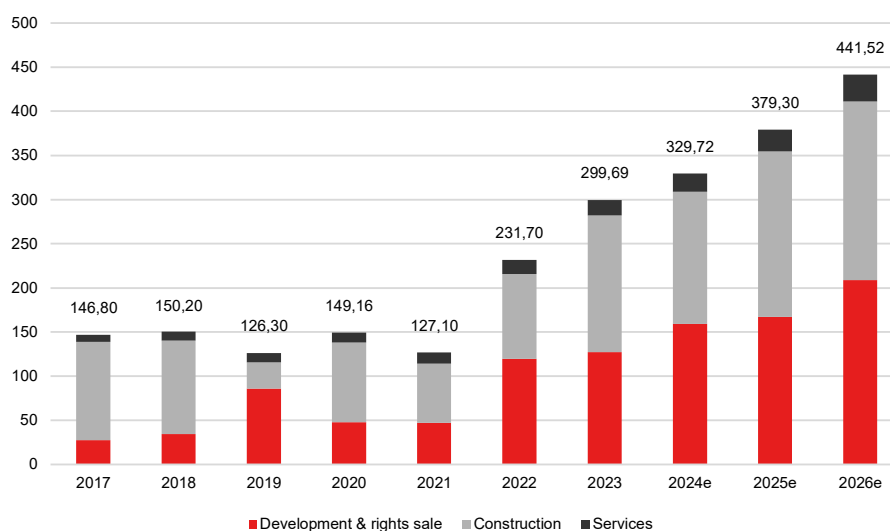
MW	Phase I	Phase II	Phase III	Total
Germany	3,950	150	300	4,400
France	1,360	170	70	1,600
Finland	5,200	100	0	5,300
UK	380	370	0	750
South Africa	2,500	3,000	0	5,500
Canada	1,200	0	0	1,200
Argentina	600	700	0	1,300
Greece	300	700	0	1,000
Colombia	280	500	20	800
Spain	625	425	100	1,150
Ireland	490	60	0	550
Poland	780	20	0	800
Netherlands	60	40	0	100
Tunisia	140	10	0	150
Hungary	110	0	90	200
Total	17,975	6,245	580	24,800

Source: ABO Energy, Warburg Research

Mature pipeline underpins growth forecast

For 2024, delays in grid connections, extended lead-times and construction point to an increasing proportion of development and rights-sales revenues, which will turn around in 2025 when these projects can be commissioned. Since we apply realisation probabilities to the different projects included in our forecast, a deviation of +/- 5-10% of sales is possible, arising from project postponements, cancelations or other circumstances which shift the revenue and margin generation from one year to the next. However, the solid number of late-stage projects and robust country diversification should limit material shortfalls to a minimum.

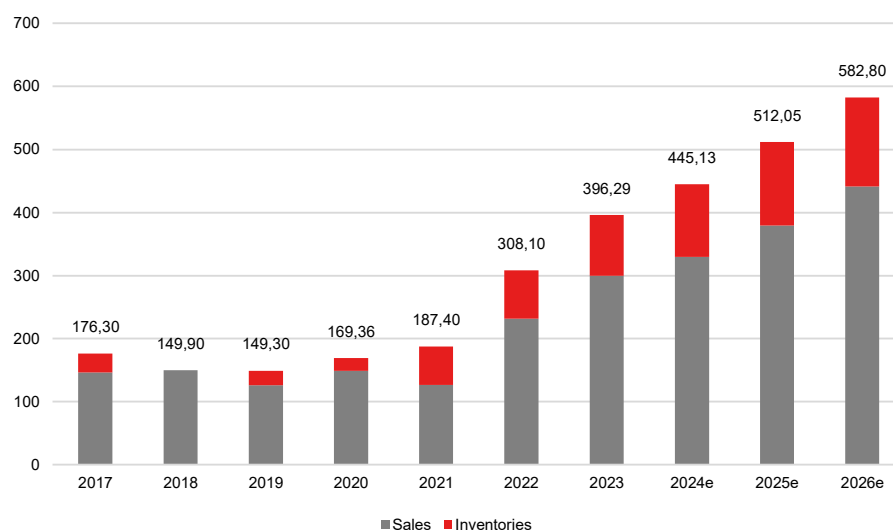
Revenue forecast 2024e-2026e (EURm)



Source: ABO Energy, Warburg Research

In addition to revenues, ABO Energy usually builds up inventories which are a result of the addition of new projects to the pipeline, further development of existing projects or projects under construction. We expect the yearly pipeline additions to show notable growth ranging from 1.2GW (2024e) to 2.8 GW (2026e) and several projects under construction at the reporting date to result in a further build-up of inventories.

Total sales forecast 2024e-2026e (EURm)



Source: ABO Energy, Warburg Research

Compared to the management’s forecast, which targets an increase in total sales of 10-30%, our estimates are positioned at the lower end of guidance with a growth rate (total sales) of 12.3%, owing to a challenging market environment and supply-chain disruption.

Operating leverage bolsters absolute margin generation

As a basis for our margin forecast, we apply project margins to each technology and country. In general, we expect developer margins to remain on attractive levels, though some adverse developments will impact ABO Energy’s P&L:

- The share of project sales generated by PV projects should increase in line with the steep growth in PV capacity additions and shorter planning and approval times but as PV projects come with lower margins than wind, the overall project margin is expected to dip slightly.
- Material costs (wind turbines) for onshore wind projects have increased substantially, which is partially offset by new turbine generations with a higher output per MW installed. However, we expect rising construction costs in the short term (2024-2025) and a normalization in 2026.
- For PV, construction costs are set to drop following the sharp decline in module prices since H2/23. However, achievable prices for PV power also came down significantly, offsetting the positive capex development.
- In an early anticipation of the major growth opportunities ahead, we expect ABO Energy to increase its headcount and to have to pay competitive salaries for experienced project engineers. Therefore, there should be a disproportionate increase in personnel costs, putting some pressure on EBITDA margins.
- Other operating expenses arising from development activities should develop in line with the higher project turnover.

Based on our market outlook and detailed project planning, operating expenses will affect margin generation in the short term but will allow ABO Energy to build a capable platform for future growth, which we categorize into three phases:

1. Phase I (2024-2027): The pipeline should experience steep growth and project turnover is expected to increase but supply-chain issues, prolonged delivery times and staff shortages will restrain margin generation.

Steady net-income growth...

...despite cost headwinds

2. Phase II (2028-2030): Yearly project output should grow significantly, whilst pipeline growth should decline to lower levels. The cost basis will be flattish, triggering a margin expansion.
3. Phase III (post 2030): Growth slows down, the majority of new projects are repowering projects. Project margins and costs stabilize on lower levels compared to phase II.

Our detailed P&L forecast reflects the basic assumptions outlined above and results in a slight decline in relative margin generation but growth in absolute margins.

Detailed P&L forecast

in EUR m	2020	2021	2022	2023	2024e	2025e	2026e
Sales	149.2	127.1	231.7	299.7	329.7	379.3	441.5
Increase / decrease in inventory	20.2	60.3	76.4	96.6	115.4	132.8	141.3
Own work capitalised	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total sales	169.4	187.5	308.1	396.3	445.1	512.1	582.8
Material Expenses	72.6	78.3	148.8	210.3	229.2	269.9	296.1
Gross profit	96.8	109.2	159.3	186.0	215.9	242.2	286.7
Personnel expenses	50.8	63.4	77.7	98.2	110.0	120.0	135.0
Other operating income	6.4	5.1	5.1	10.5	5.0	5.0	2.0
Other operating expenses	17.6	20.4	29.7	39.0	47.0	55.0	64.0
Unfrequent items	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA	34.8	30.5	57.0	59.3	63.9	72.2	89.7
margin %	23.3%	24.0%	24.6%	19.8%	19.4%	19.0%	20.3%
Depreciation of fixed assets	12.3	8.0	13.8	16.7	16.4	17.5	18.6
EBITA	22.5	22.4	43.1	42.6	47.5	54.7	71.1
Amortisation of intangible fixed assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Impairment charges and amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBIT	22.5	22.4	43.1	42.6	47.5	54.7	71.1
margin %	15.1%	17.7%	18.6%	14.2%	14.4%	14.4%	16.1%
Interest income	0.7	0.9	2.6	5.9	6.0	6.0	6.0
Interest expenses	2.2	2.2	5.6	7.3	9.5	11.8	13.9
Financial result	-1.8	-1.5	-4.9	-0.9	-3.0	-5.3	-7.4
Recurring pretax income from cont. operations	20.7	21.0	38.2	41.8	44.5	49.4	63.7
Extraordinary income/loss	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBT	20.7	21.0	38.2	41.8	44.5	49.4	63.7
Taxes total	7.6	7.2	13.7	14.5	15.8	17.5	22.4
Net income	13.1	13.8	24.6	27.2	28.7	31.9	41.4

Source: ABO Energy, Warburg Research

To derive EBIT and EBT, we calculate depreciation and financing costs based on a detailed outlook (please refer to “Balance Sheet” above). The asset-light business model of ABO Energy does not trigger major depreciation on fixed assets and the majority of depreciation costs arise from the impairment of activated projects (Inventories). Relative to the higher number of activated projects, we assume a yearly impairment of EUR 12-14m and depreciation on fixed assets of EUR 4m.

To finance the pipeline expansions and subsequently higher activated project inventories, we assume ABO Energy will increase its financial liabilities which will result in rising financing costs, particularly from the green bond newly issued in H1/24.

As mentioned before, our outlook is subject to a certain deviation arising from unplanned project-rights sales abroad, project postponements or supply-chain problems lasting for longer than expected. If we apply a bull case to our model, the margin development improves by 3-5% on EBITDA level. In a bear-case scenario, the vast headcount and overhead costs harm our margin forecast by 4-5%.

Warburg vs. consensus

Our estimates expect faster earnings growth than consensus in 2025/26

Compared to consensus estimates, we assume faster top-line and margin growth in 2025/26 since we expect project turnover to show steep growth and operating leverage to bolster margins. Our net-income estimate for 2024 is positioned at the midpoint of guidance (EUR 25-31m) and is in line with consensus.

Warburg vs. consensus

Year	Consensus			Warburg Research			Deviation (WRe vs. Consensus)		
	2024	2025	2026	2024	2025	2026	2024	2025	2026
Sales	350,32	381,76	412,49	329,72	379,30	441,52	-5,9%	-0,6%	7,0%
EBITDA	65,02	71,47	81,14	63,89	72,20	89,74	-1,7%	1,0%	10,6%
<i>margin %</i>	<i>18,56%</i>	<i>18,72%</i>	<i>19,67%</i>	<i>19,38%</i>	<i>19,04%</i>	<i>20,33%</i>			
EBIT	47,81	53,29	62,00	47,49	54,70	71,14	-0,7%	2,7%	14,7%
<i>margin %</i>	<i>13,65%</i>	<i>13,96%</i>	<i>15,03%</i>	<i>14,40%</i>	<i>14,42%</i>	<i>16,11%</i>			
Net income	28,51	30,51	35,49	28,26	31,67	42,05	-0,9%	3,8%	18,5%

Source: FactSet, Warburg Research

Mid-term outlook supports our earnings forecast

The company intends to double net income to EUR 50m by 2027 (compared to FY 2022 figures), hinting at steep earnings growth similar to our assumption.

However, it is important to highlight the possibility of project postponements, which might shift earnings between years and cause deviations from our forecast, though the increasing number of potential projects and huge backlog clearly support the positive trend in earnings.

Valuation

- Based on our model assumptions, we derive a DCF-based fair value per share of EUR 114.
- The indicative pipeline valuation results in a fair value per share of EUR 115.28 (SotP), which supports our absolute valuation approach.
- Comparability of peer-group multiples is limited by the small number of peer companies and different business models.

To derive the fair value of ABO Energy, we use a DCF model, which illustrates the renewable energy development cycle of the next decade. As a second valuation approach, to verify our DCF model, we use valuation multiples for ABO Energy’s pipeline, derived from pipeline transactions of recent years. Further, we compare ABO Energy to peers, though the differences in business models, local footprints, and pipeline structures limit comparability.

Absolute valuation approach (DCF)

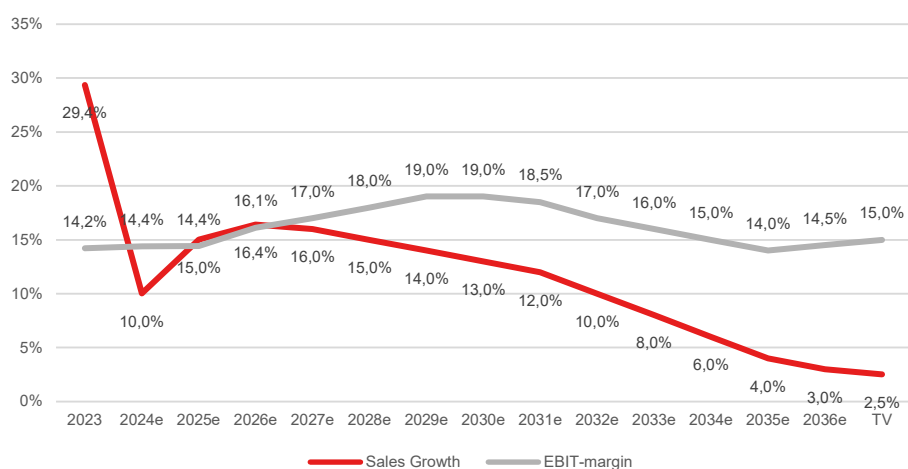
Input assumptions

We compute a DCF model, based on our detailed financial outlook and market scenario outlined under “Financials”:

- **Growth:** ABO Energy operates a huge pipeline of >24GW, which is expected to translate into steep revenue growth. Based on recent permission and construction periods, project output is expected to increase significantly. Key driver of revenue growth will be the expansion of renewable capacities in Europe, accompanied by larger, single project sales abroad. We expect a pick-up in growth rates in FY 2025-2027, peaking at 16.4% in FY 2026. In the period thereafter (2028-2035), growth rates are expected to come down in line with the ambitions of regulators and reach 2.5% in the terminal value.
- **Margin:** As discussed under “Financials” and “Returns”, we expect the EBIT margin to improve slightly, from 14.2% in FY 2023 to 16.1% in FY 2026. After that, we expect European markets to outgrow markets abroad, resulting in a higher share of turnkey projects. In addition, hybrid and storage projects should carry attractive margins, leading to margin growth up to 19% (peak margin over project cycle) in FY 2029/30, followed by a margin decline down to 14%. The sustainable average margin in the terminal value is derived from the average margin over the project cycle at 15%.

Our model assumptions portray the project development cycle

Revenue growth and margin development



Source: ABO Energy, Warburg Research

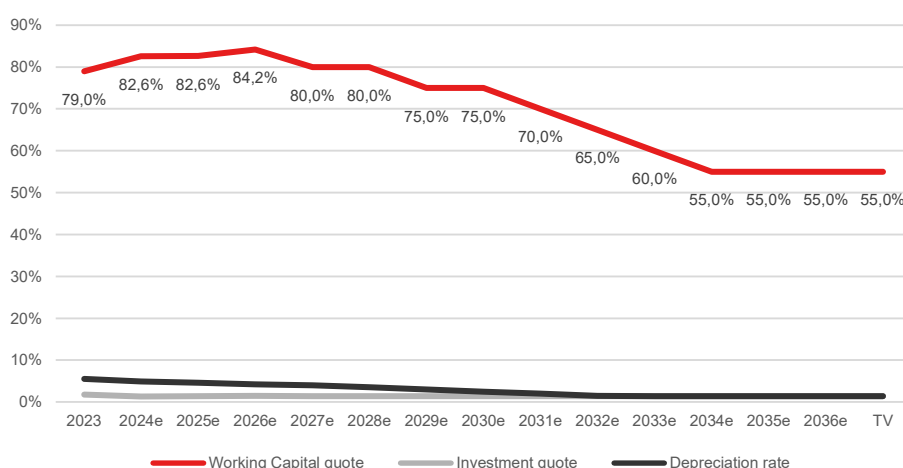
Similar to our detailed P&L forecast, our assumptions are subject to possible periodic deviations, arising from longer construction times, supply-chain errors or the limited availability of exogeneous parts.

Balance-sheet dynamics play a vital role for ABO Energy. Working capital, in particular, fluctuates strongly and affects free cash-flow generation.

Working-capital fluctuation has a strong impact on FCF

- **Working capital:** The pipeline growth and the addition of new technologies triggers steep growth in NWC/Sales. However, in years of strong project sales, the WC ratio is set to come down, following the project development cycle outlined in previous chapters. We assume working capital will go up to 84.2% of sales in FY 2026, will remain on high levels (75%-80%) until 2030 and decline thereafter. The key driver behind this development is the expected pipeline expansion, though as of 2031, market growth should start to decline and consequently working capital too. As a long-term working capital ratio, we take the average historic rate of 55%.
- **CAPEX:** The business model of ABO Energy does not require major capex but minor investments have to be made in technical equipment, office supplies & IT or intangibles (licence, client lists). Hence, we calculate with a stable investment ratio of 1.4% of sales. The same is true for depreciation, which we calculate on current balance-sheet data. Mid-term, depreciation and investment ratios converge and reach 1.4% in the terminal value.

Balance sheet KPIs



Source: ABO Energy, Warburg Research

Provisions and pension liabilities are not part of ABO Energy’s balance sheet. Possible changes to our model may arise from an IFRS-transition, expected to be implemented by ABO Energy in the next years.

Cost of capital

We calculate WACC at 7.96%, based on the following assumptions:

- **Cost of debt:** Based on the bond placement in FY 2024 (EUR 80m; 7.75%), and other financial instruments used (bank loans; 4-5%), we calculate average cost of debt at 6% (volume-weighted).
- **Target debt ratio:** To finance pipeline growth and the corresponding working capital swings, ABO Energy uses financial debt, which fluctuates between 35-45%. As a target debt ratio, we use the average of 40%.
- **Tax-rate:** We assume a tax rate of 35%, in line with historic data. The cost of debt after tax is 3.90%.

We calculate WACC at 7.50%, assuming a cost of equity of 9.90%

- **Cost of equity:** Reflecting the cyclicity of the business model and project development risks, we apply a beta of 1.30. Risk-free return is 2.75% and expected market return 8.25%, resulting in a cost of equity of 9.90%.

DCF-model

Figures in EUR m	Detailed forecast period			Transitional period										Term. Value
	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	2036e	
Sales	329.7	379.3	441.5	512.2	589.0	671.4	758.7	849.8	934.8	1,009.5	1,070.1	1,112.9	1,146.3	
Sales change	10.0 %	15.0 %	16.4 %	16.0 %	15.0 %	14.0 %	13.0 %	12.0 %	10.0 %	8.0 %	6.0 %	4.0 %	3.0 %	2.5 %
EBIT	47.5	54.7	71.1	87.1	106.0	127.6	144.2	157.2	158.9	161.5	160.5	155.8	166.2	
EBIT-margin	14.4 %	14.4 %	16.1 %	17.0 %	18.0 %	19.0 %	19.0 %	18.5 %	17.0 %	16.0 %	15.0 %	14.0 %	14.5 %	
Tax rate (EBT)	35.6 %	35.4 %	35.1 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	
NOPAT	30.6	35.3	46.2	56.6	68.9	82.9	93.7	102.2	103.3	105.0	104.3	101.3	108.0	
Depreciation	16.4	17.5	18.6	20.5	20.6	20.1	19.0	17.0	14.0	14.1	15.0	15.6	16.0	
in % of Sales	5.0 %	4.6 %	4.2 %	4.0 %	3.5 %	3.0 %	2.5 %	2.0 %	1.5 %	1.4 %	1.4 %	1.4 %	1.4 %	
Change in provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Change in liquidity from														
- Working Capital	35.4	41.1	58.5	37.9	61.5	32.4	65.5	25.8	12.7	-1.9	-17.2	23.5	18.4	
- Capex	4.4	5.4	6.4	7.2	8.2	9.4	10.6	11.9	13.1	14.1	15.0	15.6	16.0	
Capex in % of Sales	1.3 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Free Cash Flow (WACC-model)	7.2	6.3	-0.1	32.0	19.8	61.3	36.6	81.5	91.5	106.9	121.5	77.7	89.7	
PV of FCF	7.1	5.8	-0.1	25.4	14.7	42.2	23.4	48.5	50.7	55.1	58.2	34.7	37.2	819.7
share of PVs	1.1 %			31.9 %										67.0 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	40.0 %	Financial Strength	1.20
Cost of debt	6.0 %	Liquidity	1.40
Market return	8.3 %	Cyclicity	1.50
Risk free rate	2.8 %	Transparency	1.40
Risk premium	5.5 %	Others	1.00
Cost of equity	9.9 %		
WACC	7.50 %	Beta	1.30

Valuation (m)

Present values until 2036e	402.9		
Terminal Value	819.7		
Financial liabilities	213.8		
Pension liabilities	0.0		
Hybrid capital	0.0		
Minority interest	0.0		
Market val. of investments	0.0		
Liquidity	46.7		
Equity Value	1,055.5	No. of shares (m)	9.2
		Value per share (EUR)	114.46

Sensitivity Value per share (EUR)

Beta (WACC)	Terminal Growth							Delta EBIT-margin						
	1.75 %	2.00 %	2.25 %	2.50 %	2.75 %	3.00 %	3.25 %	-1.50 pp	-1.00 pp	-0.50 pp	0.0	0.50 pp	1.00 pp	1.50 pp
1.60 (8.5 %)	81.31	83.57	86.02	88.66	91.54	94.68	98.12	75.15	79.66	84.16	88.66	93.17	97.67	102.17
1.45 (8.0 %)	91.20	94.00	97.04	100.36	104.00	108.00	112.42	85.49	90.45	95.41	100.36	105.32	110.28	115.24
1.38 (7.8 %)	96.78	99.92	103.33	107.07	111.19	115.73	120.79	91.42	96.64	101.85	107.07	112.29	117.51	122.72
1.30 (7.5 %)	102.87	106.38	110.23	114.46	119.14	124.34	130.15	97.95	103.46	108.96	114.46	119.97	125.47	130.97
1.22 (7.3 %)	109.52	113.48	117.84	122.65	128.00	133.97	140.70	105.19	111.01	116.83	122.65	128.47	134.29	140.11
1.15 (7.0 %)	116.83	121.31	126.26	131.76	137.91	144.83	152.67	113.24	119.42	125.59	131.76	137.94	144.11	150.28
1.00 (6.5 %)	133.80	139.63	146.14	153.46	161.76	171.25	182.19	132.42	139.44	146.45	153.46	160.47	167.49	174.50

- We assume steep revenue growth, based on the well-filled pipeline and expected market growth.
- Margins are expected to pick up and reach 19% in the mid-term.
- As a long-term margin, we use the average EBIT margin over the project cycle of 15%.
- Working capital is expected to remain high (>70%) in times of revenue growth and reach 55% in the terminal value.
- We apply a high beta of 1.3, reflecting the volatile earnings development and project development risks.

Source: Warburg Research

To apply valuation multiples to the pipeline, additional data is needed

Indicative pipeline valuation (SotP)

In recent years, several pipeline transactions have taken place in the renewable industry, which we use to derive transaction multiples for ABO Energy's pipeline. This approach values only the current pipeline, as published in the H1/24 report, and does not account for future project acquisitions. In addition, the pipeline data provided by ABO Energy, does not include a detailed technology split and only includes three development stages, limiting the accuracy of the calculated values.

To generate a usable data set, we use further data for an approximation from sources such as public registers, industry datasets and press releases:

- Onshore wind makes up 60-65% of the pipeline, dominated by European countries.
- PV accounts for 25-30%, dominated by Southern Europe and non-European countries.
- Storage / Hybrid adds the remaining 5-10%, though in an early development phase.

Due to the limited availability of storage multiples, we deduct 7.5% of phase I projects from our valuation. Storage projects are therefore seen as optional value-add.

Valued pipeline

	Phase I	Phase II	Phase III	
Germany	3,950	150	300	
France	1,360	170	70	
Finland	5,200	100	0	
UK	380	370	0	
South Africa	2,500	3,000	0	
Canada	1,200	0	0	
Argentina	600	700	0	
Greece	300	700	0	
Columbia	280	500	20	
Spain	625	425	100	
Ireland	490	60	0	
Poland	780	20	0	
Netherlands	60	40	0	
Tunesia	140	10	0	
Hungary	110	0	90	
	17,975	6,245	580	24,800
- storage	1,348			
Valued	16,627	6,245	580	23,452

Source: ABO Energy, Warburg Research

As basis for our valuation multiples, we use the following transactions:

Historic pipeline transactions are used to derive blended multiples

1. Sale of Nordex' development business to RWE in 2020, including 2.7GW of projects for EUR 402.5m.
2. Sale of minority stake in BayWa r.e to Energy Infrastructure Partners, which acquired 49% for EUR 530m.
3. Sale of the French pipeline of RES group
4. EDP / Vento Ludens transaction
5. Orsted / Ostwind deal
6. OX2 takeover bid: EQT offered to take the Swedish developer private in 2024.

Each deal had its own characteristics in terms of pipeline structure, technology and country profile, which we use to build blended multiples for the different country baskets of ABO Energy's pipeline.

Country baskets and applicable multiples

<i>European basket</i>	Phase I	Phase II	Phase III	
Germany	3,654	150	300	
France	1,258	170	70	
Finland	4,810	100	0	
UK	352	370	0	
Greece	278	700	0	
Spain	578	425	100	
Ireland	453	60	0	
Poland	722	20	0	
Netherlands	56	40	0	
Hungary	102	0	90	
Total	12,261	2,035	560	
Multiple	0.01	0.20	0.31	
Value mEUR	154.44	416.54	176.35	747.32
Americas basket				
Canada	1,110	0	0	
Argentina	555	700	0	
Total	1,665	700	0	
Multiple	0.01	0.13	0.20	
Value mEUR	13.02	88.98	0.00	102.01
Emerging basket				
Tunisia	130	10	0	
Columbia	259	500	20	
South Africa	2,313	3,000	0	
Total	2,701	3,510	20	
Multiple	0.005	0.08	0.12	
Value mEUR	13.00	274.57	2.41	289.98
				1,139.31

Source: Warburg Research

Based on our assumptions regarding the technological split and the blended multiples, we calculate a total value for the development pipeline of EUR 1,139.31m. Less net debt and minorities, the value per share (9.22m shares) is EUR 105.43.

In addition to the pipeline value, the O&M segment needs to be added to derive the fair value per share of the company. However, as ABO Energy does not provide detailed data (margins, cost structure, net debt), we use data from peers such as Energiekontor and PNE to compute the EV of the segment, which we estimate at EUR 90.8m (DCF-based).

Hence, the fair value per share amounts to EUR 115.28 but is subject to considerable uncertainties, owing to the limited data quality.

SotP approach

Segment	Enterprise value	Valuation approach
Project development	1,139.31	Multiple-based pipeline valuation
Service	90.80	DCF-model
Total EV	1,230.11	
+ cash	46.68	
- debt	213.76	
- minorities	0.02	
Fair value	1,063.01	
shares	9.22	
Fair value per share	115.28	

Source: Warburg Research

SotP approach derives a fair value per share of EUR 114

Peer-group multiples lack comparability

Peer-group analysis

The number of listed project developers in the DACH region and Europe is very low, making a detailed peer-group analysis impossible. In addition, peer companies pursue mixed business models by combining project development and asset operation (IPPs). Hence, valuation multiples are inconclusive for the determination of ABO Energy's fair value.

Peer-group overview (13/09/2024)

Company	LC	Price in LC	MC in LC m	EV in LC m	P / E			EV / Sales			EV / EBITDA			EV / EBIT		
					24e	25e	26e	24e	25e	26e	24e	25e	26e	24e	25e	26e
<i>System peers</i>																
EnergieKontor AG	EUR	55.70	777.6	1,035.3	21.5 x	10.2 x	11.7 x	4.9 x	2.3 x	2.5 x	10.5 x	6.6 x	6.9 x	14.7 x	8.0 x	9.3 x
PNE AG	EUR	11.18	856.4	1,647.7	n.a.	n.a.	n.a.	9.3 x	8.2 x	6.5 x	36.3 x	25.3 x	18.5 x	188.2 x	74.8 x	46.2 x
OX2 AB	SEK	60.00	16,351.1	13,350.1	15.6 x	10.1 x	6.9 x	1.2 x	0.9 x	0.6 x	10.2 x	7.1 x	4.5 x	15.6 x	7.7 x	4.5 x
Arise AB	SEK	44.55	1,935.9	2,651.7	11.6 x	9.6 x	7.9 x	5.4 x	4.4 x	3.7 x	10.3 x	8.1 x	6.7 x	14.5 x	10.8 x	8.5 x
Eolus Vind AB Class B	SEK	48.05	1,196.8	1,934.8	7.2 x	4.5 x	4.0 x	2.1 x	1.3 x	1.2 x	7.6 x	5.2 x	4.7 x	8.0 x	5.4 x	4.8 x
Magnora ASA	NOK	23.40	1,539.3	1,372.8	3.8 x	6.7 x	9.2 x	2.8 x	3.6 x	7.2 x	3.6 x	4.9 x	15.6 x	3.2 x	4.9 x	10.6 x
Average					11.9 x	8.2 x	7.9 x	4.3 x	3.4 x	3.6 x	13.1 x	9.5 x	9.5 x	40.7 x	18.6 x	14.0 x
Median					11.6 x	9.6 x	7.9 x	3.8 x	3.0 x	3.1 x	10.2 x	6.8 x	6.8 x	14.6 x	7.9 x	8.9 x
ABO Energy GmbH & Co. KGaA	EUR	44.60	411.3	685.1	14.5 x	13.0 x	9.8 x	2.1 x	1.8 x	1.6 x	10.7 x	9.5 x	7.6 x	14.4 x	12.5 x	9.6 x
Valuation difference to Average					-18%	-37%	-19%	105%	91%	133%	22%	1%	24%	182%	49%	45%
Fair value per share based on Average					36.63	28.15	36.16	122.90	112.15	143.59	60.90	45.07	62.44	179.78	80.72	78.23

Source: FactSet, Warburg Research

The low significance of peer-group multiples also becomes visible in the vast range of derived fair values, depending on the multiple used and the year. We regard this to be the result of differences in the business models and country and technology profiles.

Conclusion

We value ABO Energy at EUR 114 per share (DCF-based)

We value ABO Energy at a fair value of EUR 114 per share, based on a DCF model. The multiple-based pipeline valuation hints at a similar value (EUR 115.28), though is subject to uncertainties arising from the limited data-set. Peer-group multiples are inconclusive due to the small peer group and differences in business models.

However, if ABO Energy improves its reporting with regard to the segment split and pipeline data, we would consider changing our main valuation approach to the SotP model by using multiples to determine the value of project development and a DCF model to derive the value of the Service/O&M segment.

DCF model

Figures in EUR m	Detailed forecast period			Transitional period										Term. Value
	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	2036e	
Sales	329.7	379.3	441.5	512.2	589.0	671.4	758.7	849.8	934.8	1,009.5	1,070.1	1,112.9	1,146.3	
Sales change	10.0 %	15.0 %	16.4 %	16.0 %	15.0 %	14.0 %	13.0 %	12.0 %	10.0 %	8.0 %	6.0 %	4.0 %	3.0 %	2.5 %
EBIT	47.5	54.7	71.1	87.1	106.0	127.6	144.2	157.2	158.9	161.5	160.5	155.8	166.2	
EBIT-margin	14.4 %	14.4 %	16.1 %	17.0 %	18.0 %	19.0 %	19.0 %	18.5 %	17.0 %	16.0 %	15.0 %	14.0 %	14.5 %	
Tax rate (EBT)	35.6 %	35.4 %	35.1 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	
NOPAT	30.6	35.3	46.2	56.6	68.9	82.9	93.7	102.2	103.3	105.0	104.3	101.3	108.0	
Depreciation	16.4	17.5	18.6	20.5	20.6	20.1	19.0	17.0	14.0	14.1	15.0	15.6	16.0	
in % of Sales	5.0 %	4.6 %	4.2 %	4.0 %	3.5 %	3.0 %	2.5 %	2.0 %	1.5 %	1.4 %	1.4 %	1.4 %	1.4 %	
Changes in provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Change in Liquidity from														
- Working Capital	35.4	41.1	58.5	37.9	61.5	32.4	65.5	25.8	12.7	-1.9	-17.2	23.5	18.4	
- Capex	4.4	5.4	6.4	7.2	8.2	9.4	10.6	11.9	13.1	14.1	15.0	15.6	16.0	
Capex in % of Sales	1.3 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	
- Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Free Cash Flow (WACC Model)	7.2	6.3	-0.1	32.0	19.8	61.3	36.6	81.5	91.5	106.9	121.5	77.7	89.7	99
PV of FCF	7.1	5.8	-0.1	25.4	14.7	42.2	23.4	48.5	50.7	55.1	58.2	34.7	37.2	820
share of PVs	1.05 %			31.91 %										67.04 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	40.00 %	Financial Strength	1.20
Cost of debt (after tax)	3.9 %	Liquidity (share)	1.40
Market return	8.25 %	Cyclicality	1.50
Risk free rate	2.75 %	Transparency	1.40
		Others	1.00
WACC	7.50 %	Beta	1.30

Valuation (m)

Present values 2036e	403		
Terminal Value	820		
Financial liabilities	214		
Pension liabilities	0		
Hybrid capital	0		
Minority interest	0		
Market val. of investments	0		
Liquidity	47	No. of shares (m)	9.2
Equity Value	1,055	Value per share (EUR)	114.46

Sensitivity Value per Share (EUR)

Beta	WACC	Terminal Growth							Delta EBIT-margin								
		1.75 %	2.00 %	2.25 %	2.50 %	2.75 %	3.00 %	3.25 %	-1.5 pp	-1.0 pp	-0.5 pp	+0.0 pp	+0.5 pp	+1.0 pp	+1.5 pp		
1.60	8.5 %	81.31	83.57	86.02	88.66	91.54	94.68	98.12	1.60	8.5 %	75.15	79.66	84.16	88.66	93.17	97.67	102.17
1.45	8.0 %	91.20	94.00	97.04	100.36	104.00	108.00	112.42	1.45	8.0 %	85.49	90.45	95.41	100.36	105.32	110.28	115.24
1.38	7.8 %	96.78	99.92	103.33	107.07	111.19	115.73	120.79	1.38	7.8 %	91.42	96.64	101.85	107.07	112.29	117.51	122.72
1.30	7.5 %	102.87	106.38	110.23	114.46	119.14	124.34	130.15	1.30	7.5 %	97.95	103.46	108.96	114.46	119.97	125.47	130.97
1.22	7.3 %	109.52	113.48	117.84	122.65	128.00	133.97	140.70	1.22	7.3 %	105.19	111.01	116.83	122.65	128.47	134.29	140.11
1.15	7.0 %	116.83	121.31	126.26	131.76	137.91	144.83	152.67	1.15	7.0 %	113.24	119.42	125.59	131.76	137.94	144.11	150.28
1.00	6.5 %	133.80	139.63	146.14	153.46	161.76	171.25	182.19	1.00	6.5 %	132.42	139.44	146.45	153.46	160.47	167.49	174.50

- We assume steep revenue growth, based on the well-filled pipeline and expected market growth.
- Margins are expected to pick up and reach 19% in the mid-term.
- As a long-term margin, we use the average EBIT margin over the project cycle of 15%.
- Working capital is expected to remain high (>70%) in times of revenue growth and reach 55% in the terminal value.
- We apply a high beta of 1.3, reflecting the volatile earnings development and project development risks.

Company & Products

ABO Energy is a German-based renewable project developer, focusing on onshore wind, PV, battery storage and hydrogen. It ranks amongst the largest developers in Europe with a sound track record of more than 800 completed projects, totalling more than 5GW of installed capacity. Founded in Germany in 1996, ABO Energy quickly expanded its local footprint to 16 branches worldwide and has about 1,200 employees, developing a pipeline of >24 GW. Besides project development, ABO Energy offers services for renewable assets in operation such as technical and commercial plant management and construction supervision.

Product offering

ABO Energy generates a diversified revenue stream from different countries and technologies and covers the entire value chain of project development and asset servicing. Value accretion follows the development cycle, which usually takes several years, though revenues and margins are only generated as soon as a project reaches the final development stage. To even out the development of sales and margins from one period to another, ABO Energy established a number of different sales approaches, allowing the company to reveal the margin contribution prior to a project's commercial operation date (COD).

The company reports three segments, including;

- (I) **Planning and sale of rights:** When a project has been granted full permission, ABO Energy charges the project SPV for its development services and unveils the generated revenue and margin in its income statement, even though the SPV is usually fully owned by ABO Energy. As a corresponding balance sheet position, the charged services are shown as accounts receivable from subsidiaries. Also, if a project is sold during the development phase (project right sale), revenues are reported in this segment.
- (II) **Construction:** Following the development services, the final construction and associated services are charged when the project has been erected or has reached its COD. Usually, the revenues and margins shown are not generated before the sale of the SPV to third parties.
- (III) **Services:** Includes all O&M services for operating projects or other services performed for third-party projects, such as EPC or construction supervision.

The project pipeline of ABO Energy comprises projects in 16 countries, totalling 24.8GW. Historically, the company focused on onshore wind technology, though PV, battery storage and hydrogen projects have been established as additional growth pillars.

Wind parks

Worldwide, ABO Energy has developed and sold over 4,400 megawatts of wind parks, positioning it as one of the leading wind-park developers in Europe.

In the first phase of the development of a wind park, ABO Energy secures suitable land areas and ensures grid access. Once land is secured, the development phase commences, which involves the creation of assessments, analysis of wind and solar potential, economic viability calculations, selection of the wind turbines, and obtaining requisite approvals. Subsequently, financing is structured, tariffs are secured, credit agreements are finalized, and potential investors are approached. This process takes one to five years, depending on the country and technology.



Throughout the construction phase, ABO Energy establishes the grid connection, and all necessary infrastructure and supervises the erection of the turbine. Once all works are finalized, the turbines are tested until their commercial operation date (“COD”) is reached and the asset can be economically transferred to an investor. The construction phase takes six months to two years.

After the completion of the wind park, ABO Energy offers O&M services. This includes operations management, maintenance, and all assessments. Wind parks are usually operated for more than 20 years.

PV parks

For solar parks, ABO Energy oversees all aspects of project development within the solar sector. This entails managing planning and approval procedures for solar installations, sourcing essential components, and supervising the installation and commissioning of modules. Furthermore, ABO Energy actively promotes the integration of local energy cooperatives and other forms of community involvement to improve the probability of project-realisation.



ABO Energy has developed and sold over 1,000 MWp. As well as Germany, the company focuses on sunny regions in Europe, Africa, and Latin America.

Storage

ABO Energy operates its own specialized departments dedicated to storage projects. Additionally, the company tests concepts and business models for the system integration of renewable energies and storage technologies, without conducting its own research or development activities. Instead, ABO Energy utilizes market-available technology and incorporates it into concepts or specific projects.

Batteries play a crucial role in the energy transition by stabilizing power grids and facilitating the rapid expansion of renewable energy sources. With 100 MW already installed, ABO Energy manages all aspects of battery storage project-planning and

construction. The company collaborates closely with landowners, municipalities, grid operators, and reputable battery manufacturers.

In Germany, ABO Energy has established itself as a leader in the Federal Network Agency's innovation tenders for hybrid projects. Globally, ABO Energy is involved in numerous locations to implement hybrid energy projects. The company has already developed and constructed several standalone battery systems.

Hydrogen

ABO Energy has extensive experience in the hydrogen sector and recognizes the importance of green hydrogen from renewable sources in decarbonizing challenging industries like heavy industry and transportation.

ABO Energy's hydrogen business models focus on:

- Large-scale derivative production: Developing export projects in regions with favourable wind/solar conditions, involving the conversion, storage, and transportation of ammonia/methanol.
- Pipeline injection: Developing projects in regions with favourable wind/solar conditions, injecting hydrogen into H₂/natural gas pipelines for export or local use.
- Industrial hydrogen solutions: On-site production for energy-intensive industries like refineries, steelworks, chemical industries, or fertilizer production.
- Turnkey integrated hydrogen solutions: Combining renewable energy with electrolyzers, storage, and refuelling stations.

The company is actively driving the development of hydrogen projects in its core markets, collaborating with partners and key stakeholders. ABO Energy has a significant 20 GW project pipeline for green hydrogen in various countries including Canada, Argentina, Tunisia, South Africa, Spain, Germany, Finland, and the Netherlands.

Company history

ABO Energy has a long history as renewable energy developer and was founded in 1996 in Germany.

- 1996: Formation of the company “Planungsgesellschaft zur Nutzung der Windkraft & anderer regenerativer Energien” (planning entity for the use of wind power & other regenerative energies) in Germany.
- 1998: Construction of the first wind park
- 2000: Change of the legal entity and name to “ABO Wind AG”
- 2001: Establishment of the first subsidiary ABO Wind España S.A.U. in Spain
- 2005: Biogas projects are added to the product portfolio
- 2010: Stronger internationalization with projects worldwide
- 2013: Establishment of the Hydrogen department
- 2017: Core business expanded to PV
- 2017: Issuance of a convertible bond
- 2020: First battery project erected
- 2021: First hybrid project erected, market leader in innovation tender in Germany
- 2024: Change of legal entity to ABO Energy GmbH & Co. KGaA

Management

Executive Board

Dr. Karsten Schlageter (Business Development & Spokesman of the Board)



Dr. Karsten Schlageter, an industrial engineer, joined ABO Energy in 2013 and initially led the international business development. He became a board member in October 2018. Before joining ABO Energy, Dr. Schlageter developed renewable energy ventures for EnBW in Peru and worked in consulting.

Dr. Jochen Ahn (Business Development)



Dr. Jochen Ahn, holds a Ph.D. in physical chemistry and co-founded ABO Energy in 1996. Prior to that, Jochen Ahn worked as a wind energy specialist examiner at the Hessian Ministry of the Environment. Dr. Ahn's family holds 26% of the shares.

Alexander Reinicke (Finance)

Alexander Reinicke started out in the banking sector (M&A, microfinance - institutional building). He joined ABO Energy in 2006, and initially worked in project financing and sales. Then, he built up the company's controlling department and served as Head of Corporate Finance, Accounting, Controlling, and Human Resources for 12 years before becoming a managing director in 2022.

Matthias Hollmann (Technology)

The company's first employee in 1996 was fundamentally involved in building up the company. He was initially responsible for project development and contracts and later, set up the first foreign subsidiaries. He led the Technical Engineering Division including site assessments, construction, electrical engineering, and purchasing of wind turbines for many years before becoming a managing director in 2022.

Susanne von Mutius (Project Finance and Sales)

Susanne von Mutius started out in the banking sector (project financing and international leasing) and subsequently worked for a manufacturer of solar modules. She has been with ABO Energy since 2012, where her focus has been project financing and sales in Germany and several foreign markets. After leading the Financing Division for many years, she became the company's first female managing director in 2022.

Dr. Thomas Treiling (Business Development)

The geographer has worked at ABO Energy since 2009, first as a project manager, then as a team lead, and head of department. In 2018, he became General Manager and was responsible for the development of wind energy and photovoltaic projects in Germany, which is particularly important for the company's continued success. He was appointed as a managing director in April 2024, and is responsible for business and project development in Germany and France (wind & solar), IT, and energy markets & sales.

Supervisory Board

Dr. Alexander Thomas (Chairman)



Dr Alexander Thomas (born 1973) lives with his family near Munich. Professionally, he specialises in advising on stock corporation and capital market law. He prepares securities prospectuses, assists with IPOs and advises on general meetings. He joined the law firm GSK Stockmann in 2022. Previously, he spent several years as a partner at Pinsent Masons. From 2015 onwards, he regularly advised ABO Energy AG on stock exchange matters, and knows the company well. In April 2023, the Annual General Meeting elected him to the Supervisory Board.

Dr. Daniel Duben



The political scientist (born in 1985) has been working in the communications department of ABO Energy since 2016 - currently as team leader. Originally from Wiesbaden, he studied political science and wrote his doctoral thesis on strategies against right-wing extremism in football stadiums. In September 2023, his colleagues elected him to the Supervisory Board as an employee representative in accordance with the German One-Third Participation Act.

Martin Giehl



The engineer (born 1971) is Managing Director of the Frankfurt based utility Mainova AG, which holds 10% of the ABO Energy shares. He has been on the Supervisory Board of ABO Energy AG since 2022.

Natalie Hahner



The business economist and political scientist (born in 1988) lives in Mainz and has been working at ABO Energy since 2014. She initially worked in the Investor Relations and Public Relations department. Since 2017, she has been responsible for the financing and sales of German wind, photovoltaic and hybrid projects. She has been leading a team since mid-2021. Her colleagues elected her to the Supervisory Board as an employee representative in accordance with the German One-Third Participation Act.

Jürgen Koppmann

The banker and business economist (born 1968) was a member of the Management Board of Nürnberger Umweltbank for 19 years. He stepped down from the Board in December 2023. He now works as a freelance consultant for corporate and project financing. Jürgen Koppmann was already a member of the ABO Energy Supervisory Board from 2015 to 2017. He was reappointed to the company's Supervisory Board in August 2024.

Maike Schmidt

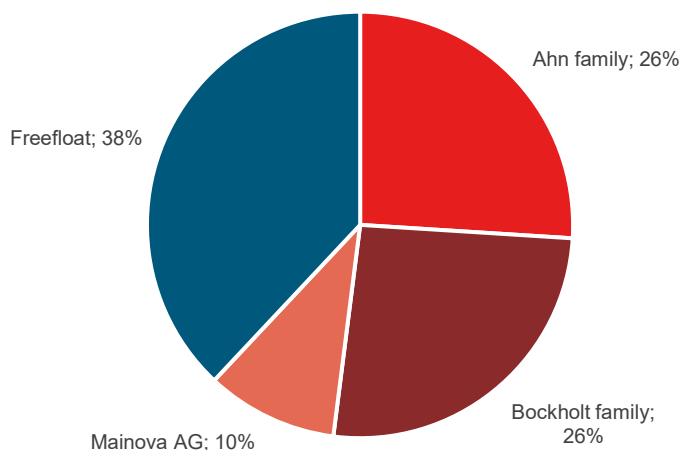
The scientist (born 1979) is head of the Systems Analysis Department at the Centre for Solar Energy and Hydrogen Research Baden-Wurttemberg. She has been a member of the Supervisory Board of ABO Energy AG since 2019.

Shareholder structure

ABO Energy has the legal form of a GmbH & Co. KGaA, in which the GmbH, owned by the founding families Bockholt & Ahn (Ahn & Bockholt Management GmbH), is the complementary with a total shareholding of 51% (26% per family).

The Mainova AG, a Frankfurt-based municipal utility (“Stadtwerke”) holds 10% in ABO Energy, the remaining 38% are ascribed to the freefloat.

Shareholder structure



Source: FactSet, ABO Energy, Warburg Research

Within the freefloat, several institutional accounts are represented, dominated by German investors.

Largest institutional investors (based on fund reporting; various dates)

Shareholder	Position %
GS&P Kapitalanlagegesellschaft SA	1.15%
Capricorn Partners Nv	0.72%
Capricorn Venture Partners NV (Investment Management)	0.44%
Value Partnership Management GmbH	0.39%
Murphy&Spitz Nachhaltige Vermögensverwaltung AG	0.27%
Deka Investment GmbH	0.26%
DWS Investment GmbH	0.22%
Spirit Asset Management SA	0.16%
NFS Capital AG	0.09%
SMS & Cie. Vermögensmanagement GmbH	0.04%

Source: FactSet, Warburg Research

DCF model

Figures in EUR m	Detailed forecast period			Transitional period										Term. Value
	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	2036e	
Sales	329.7	379.3	441.5	512.2	589.0	671.4	758.7	849.8	934.8	1,009.5	1,070.1	1,112.9	1,146.3	
Sales change	10.0 %	15.0 %	16.4 %	16.0 %	15.0 %	14.0 %	13.0 %	12.0 %	10.0 %	8.0 %	6.0 %	4.0 %	3.0 %	2.5 %
EBIT	47.5	54.7	71.1	87.1	106.0	127.6	144.2	157.2	158.9	161.5	160.5	155.8	166.2	
EBIT-margin	14.4 %	14.4 %	16.1 %	17.0 %	18.0 %	19.0 %	19.0 %	18.5 %	17.0 %	16.0 %	15.0 %	14.0 %	14.5 %	
Tax rate (EBT)	35.6 %	35.4 %	35.1 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	
NOPAT	30.6	35.3	46.2	56.6	68.9	82.9	93.7	102.2	103.3	105.0	104.3	101.3	108.0	
Depreciation	16.4	17.5	18.6	20.5	20.6	20.1	19.0	17.0	14.0	14.1	15.0	15.6	16.0	
in % of Sales	5.0 %	4.6 %	4.2 %	4.0 %	3.5 %	3.0 %	2.5 %	2.0 %	1.5 %	1.4 %	1.4 %	1.4 %	1.4 %	
Changes in provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Change in Liquidity from														
- Working Capital	35.4	41.1	58.5	37.9	61.5	32.4	65.5	25.8	12.7	-1.9	-17.2	23.5	18.4	
- Capex	4.4	5.4	6.4	7.2	8.2	9.4	10.6	11.9	13.1	14.1	15.0	15.6	16.0	
Capex in % of Sales	1.3 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	1.4 %	
- Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Free Cash Flow (WACC Model)	7.2	6.3	-0.1	32.0	19.8	61.3	36.6	81.5	91.5	106.9	121.5	77.7	89.7	99
PV of FCF	7.1	5.8	-0.1	25.4	14.7	42.2	23.4	48.5	50.7	55.1	58.2	34.7	37.2	820
share of PVs	1.05 %			31.91 %										67.04 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	40.00 %	Financial Strength	1.20
Cost of debt (after tax)	3.9 %	Liquidity (share)	1.40
Market return	8.25 %	Cyclicality	1.50
Risk free rate	2.75 %	Transparency	1.40
		Others	1.00
WACC	7.50 %	Beta	1.30

Valuation (m)

Present values 2036e	403		
Terminal Value	820		
Financial liabilities	214		
Pension liabilities	0		
Hybrid capital	0		
Minority interest	0		
Market val. of investments	0		
Liquidity	47	No. of shares (m)	9.2
Equity Value	1,055	Value per share (EUR)	114.46

Sensitivity Value per Share (EUR)

Beta	WACC	Terminal Growth							Delta EBIT-margin								
		1.75 %	2.00 %	2.25 %	2.50 %	2.75 %	3.00 %	3.25 %	-1.5 pp	-1.0 pp	-0.5 pp	+0.0 pp	+0.5 pp	+1.0 pp	+1.5 pp		
1.60	8.5 %	81.31	83.57	86.02	88.66	91.54	94.68	98.12	1.60	8.5 %	75.15	79.66	84.16	88.66	93.17	97.67	102.17
1.45	8.0 %	91.20	94.00	97.04	100.36	104.00	108.00	112.42	1.45	8.0 %	85.49	90.45	95.41	100.36	105.32	110.28	115.24
1.38	7.8 %	96.78	99.92	103.33	107.07	111.19	115.73	120.79	1.38	7.8 %	91.42	96.64	101.85	107.07	112.29	117.51	122.72
1.30	7.5 %	102.87	106.38	110.23	114.46	119.14	124.34	130.15	1.30	7.5 %	97.95	103.46	108.96	114.46	119.97	125.47	130.97
1.22	7.3 %	109.52	113.48	117.84	122.65	128.00	133.97	140.70	1.22	7.3 %	105.19	111.01	116.83	122.65	128.47	134.29	140.11
1.15	7.0 %	116.83	121.31	126.26	131.76	137.91	144.83	152.67	1.15	7.0 %	113.24	119.42	125.59	131.76	137.94	144.11	150.28
1.00	6.5 %	133.80	139.63	146.14	153.46	161.76	171.25	182.19	1.00	6.5 %	132.42	139.44	146.45	153.46	160.47	167.49	174.50

- We assume steep revenue growth, based on the well-filled pipeline and expected market growth.
- Margins are expected to pick up and reach 19% in the mid-term.
- As a long-term margin, we use the average EBIT margin over the project cycle of 15%.
- Working capital is expected to remain high (>70%) in times of revenue growth and reach 55% in the terminal value.
- We apply a high beta of 1.3, reflecting the volatile earnings development and project development risks.

Valuation	2020	2021	2022	2023	2024e	2025e	2026e
Price / Book	1.6 x	3.1 x	3.1 x	2.9 x	2.0 x	1.8 x	1.6 x
Book value per share ex intangibles	15.07	16.09	18.27	20.78	23.20	25.97	29.85
EV / Sales	1.6 x	4.2 x	2.7 x	2.4 x	2.0 x	1.8 x	1.6 x
EV / EBITDA	6.7 x	17.4 x	11.0 x	12.4 x	10.2 x	9.2 x	8.0 x
EV / EBIT	10.3 x	23.7 x	14.5 x	17.2 x	13.7 x	12.2 x	10.1 x
EV / EBIT adj.*	10.3 x	23.7 x	14.5 x	17.2 x	13.7 x	12.2 x	10.1 x
P / FCF	5.5 x	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
P / E	16.9 x	33.4 x	21.4 x	20.8 x	15.3 x	13.7 x	10.3 x
P / E adj.*	16.9 x	33.4 x	21.4 x	20.8 x	15.3 x	13.7 x	10.3 x
Dividend Yield	1.9 %	1.0 %	0.9 %	1.0 %	1.3 %	1.4 %	1.4 %
FCF Potential Yield (on market EV)	11.7 %	4.4 %	6.9 %	6.1 %	7.4 %	8.2 %	9.3 %

*Adjustments made for: -

Consolidated profit & loss

In EUR m	2020	2021	2022	2023	2024e	2025e	2026e
Sales	149.2	127.1	231.7	299.7	329.7	379.3	441.5
Change Sales yoy	18.1 %	-14.8 %	82.3 %	29.4 %	10.0 %	15.0 %	16.4 %
Increase / decrease in inventory	20.2	60.3	76.4	96.6	115.4	132.8	141.3
Own work capitalised	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Sales	169.4	187.5	308.1	396.3	445.1	512.1	582.8
Material expenses	72.6	78.3	148.8	210.3	229.2	269.9	296.1
Gross profit	96.8	109.2	159.3	186.0	215.9	242.2	286.7
<i>Gross profit margin</i>	<i>64.9 %</i>	<i>85.9 %</i>	<i>68.8 %</i>	<i>62.1 %</i>	<i>65.5 %</i>	<i>63.9 %</i>	<i>64.9 %</i>
Personnel expenses	50.8	63.4	77.7	98.2	110.0	120.0	135.0
Other operating income	6.4	5.1	5.1	10.5	5.0	5.0	2.0
Other operating expenses	17.6	20.4	29.7	39.0	47.0	55.0	64.0
Unfrequent items	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA	34.8	30.5	57.0	59.3	63.9	72.2	89.7
<i>Margin</i>	<i>23.3 %</i>	<i>24.0 %</i>	<i>24.6 %</i>	<i>19.8 %</i>	<i>19.4 %</i>	<i>19.0 %</i>	<i>20.3 %</i>
Depreciation of fixed assets	12.3	8.0	13.8	16.7	16.4	17.5	18.6
EBITA	22.5	22.4	43.1	42.6	47.5	54.7	71.1
Amortisation of intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Goodwill amortisation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBIT	22.5	22.4	43.1	42.6	47.5	54.7	71.1
<i>Margin</i>	<i>15.1 %</i>	<i>17.7 %</i>	<i>18.6 %</i>	<i>14.2 %</i>	<i>14.4 %</i>	<i>14.4 %</i>	<i>16.1 %</i>
EBIT adj.	22.5	22.4	43.1	42.6	47.5	54.7	71.1
Interest income	0.7	0.9	2.6	5.9	6.0	6.0	6.0
Interest expenses	2.2	2.2	5.6	7.3	10.1	12.2	12.9
Other financial income (loss)	0.3	0.3	3.9	3.1	1.5	1.5	1.5
EBT	20.7	21.0	38.2	41.8	43.9	49.0	64.8
<i>Margin</i>	<i>13.9 %</i>	<i>16.5 %</i>	<i>16.5 %</i>	<i>13.9 %</i>	<i>13.3 %</i>	<i>12.9 %</i>	<i>14.7 %</i>
Total taxes	7.6	7.2	13.7	14.5	15.6	17.4	22.7
Net income from continuing operations	13.1	13.8	24.6	27.2	28.3	31.7	42.0
Income from discontinued operations (net of tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income before minorities	13.1	13.8	24.6	27.2	28.3	31.7	42.0
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income	13.1	13.8	24.6	27.2	28.3	31.7	42.0
<i>Margin</i>	<i>8.8 %</i>	<i>10.9 %</i>	<i>10.6 %</i>	<i>9.1 %</i>	<i>8.6 %</i>	<i>8.4 %</i>	<i>9.5 %</i>
Number of shares, average	9.2	9.2	9.2	9.2	9.2	9.2	9.2
EPS	1.42	1.50	2.67	2.95	3.07	3.43	4.56
EPS adj.	1.42	1.50	2.67	2.95	3.07	3.43	4.56

*Adjustments made for:

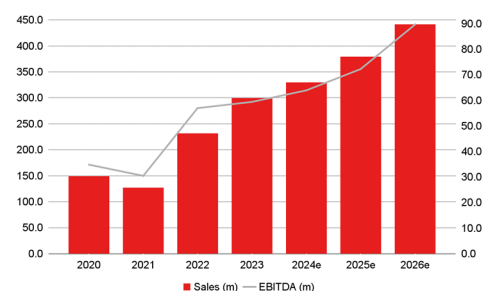
Guidance: 2024: Net income of EUR 25-31m

Financial Ratios

	2020	2021	2022	2023	2024e	2025e	2026e
Total Operating Costs / Sales	90.2 %	123.5 %	108.4 %	112.4 %	115.6 %	116.0 %	111.7 %
Operating Leverage	0.8 x	0.0 x	1.1 x	0.0 x	1.1 x	1.0 x	1.8 x
EBITDA / Interest expenses	15.7 x	14.0 x	10.2 x	8.2 x	6.3 x	5.9 x	7.0 x
Tax rate (EBT)	36.7 %	34.1 %	35.7 %	34.8 %	35.6 %	35.4 %	35.1 %
Dividend Payout Ratio	31.6 %	32.7 %	20.3 %	20.3 %	20.2 %	18.6 %	14.5 %
Sales per Employee	193,206	133,098	223,608	245,442	n.a.	n.a.	n.a.

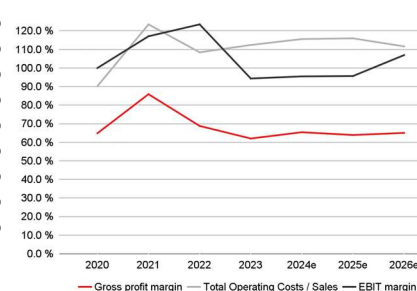
Sales, EBITDA

in EUR m

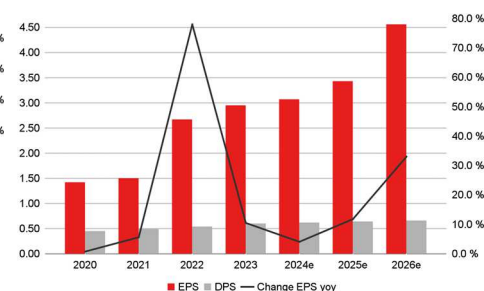


Operating Performance

in %



Performance per Share



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

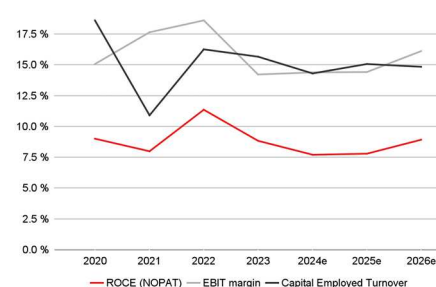
Consolidated balance sheet

In EUR m	2020	2021	2022	2023	2024e	2025e	2026e
Assets							
Goodwill and other intangible assets	1.2	1.5	1.6	1.1	1.5	1.9	2.3
thereof other intangible assets	1.2	1.5	1.6	1.1	1.5	1.9	2.3
thereof Goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property, plant and equipment	5.7	7.2	9.0	10.1	9.7	10.2	11.6
Financial assets	5.7	5.7	3.0	2.8	2.3	1.8	1.3
Other long-term assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fixed assets	12.5	14.5	13.6	14.0	13.5	13.9	15.2
Inventories	64.4	133.0	124.2	208.1	240.6	290.4	339.2
Accounts receivable	34.0	10.9	26.5	47.2	54.2	52.0	68.9
Liquid assets	62.1	30.2	95.9	46.7	75.4	38.5	29.4
Other short-term assets	76.2	108.6	191.1	178.0	217.2	215.6	242.3
Current assets	236.8	282.6	437.6	480.0	587.4	596.5	679.8
Total Assets	249.3	297.1	451.3	493.9	600.9	610.3	695.0
Liabilities and shareholders' equity							
Subscribed capital	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Capital reserve	45.5	45.5	45.5	45.5	45.5	45.5	45.5
Retained earnings	85.7	95.3	115.4	137.9	160.6	186.6	222.7
Other equity components	-0.3	-0.2	-0.1	0.1	0.1	0.1	0.1
Shareholders' equity	140.1	149.8	170.0	192.8	215.5	241.4	277.6
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total equity	140.1	149.9	170.1	192.8	215.5	241.5	277.6
Provisions	19.6	21.4	36.7	44.1	44.1	44.1	44.1
thereof provisions for pensions and similar obligations	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial liabilities (total)	72.8	99.6	194.0	213.8	293.8	270.8	312.1
Short-term financial liabilities	8.6	0.0	0.0	0.0	0.0	0.0	0.0
Accounts payable	7.1	14.0	19.1	18.5	22.6	29.1	36.3
Other liabilities	9.6	12.2	31.4	24.9	24.9	24.9	24.9
Liabilities	109.1	147.2	281.2	301.2	385.4	368.9	417.4
Total liabilities and shareholders' equity	249.3	297.1	451.3	493.9	600.9	610.3	695.0

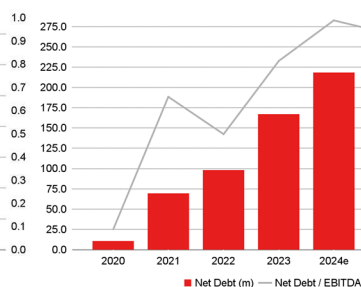
Financial Ratios

	2020	2021	2022	2023	2024e	2025e	2026e
Efficiency of Capital Employment							
Operating Assets Turnover	1.5 x	0.9 x	1.6 x	1.2 x	1.2 x	1.2 x	1.2 x
Capital Employed Turnover	1.0 x	0.6 x	0.9 x	0.8 x	0.8 x	0.8 x	0.8 x
ROA	104.5 %	95.5 %	180.3 %	194.8 %	210.0 %	228.5 %	277.3 %
Return on Capital							
ROCE (NOPAT)	9.0 %	8.0 %	11.4 %	8.8 %	7.7 %	7.8 %	8.9 %
ROE	10.8 %	9.5 %	15.4 %	15.0 %	13.8 %	13.9 %	16.2 %
Adj. ROE	10.8 %	9.5 %	15.4 %	15.0 %	13.8 %	13.9 %	16.2 %
Balance sheet quality							
Net Debt	10.7	69.5	98.1	167.1	218.4	232.3	282.7
Net Financial Debt	10.7	69.5	98.1	167.1	218.4	232.3	282.7
Net Gearing	7.6 %	46.3 %	57.7 %	86.7 %	101.3 %	96.2 %	101.8 %
Net Fin. Debt / EBITDA	30.8 %	227.9 %	172.3 %	281.6 %	341.8 %	321.8 %	315.0 %
Book Value / Share	15.2	16.2	18.4	20.9	23.4	26.2	30.1
Book value per share ex intangibles	15.1	16.1	18.3	20.8	23.2	26.0	29.9

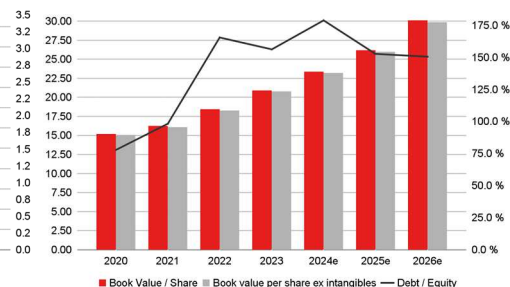
ROCE Development



Net debt in EUR m



Book Value per Share in EUR



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

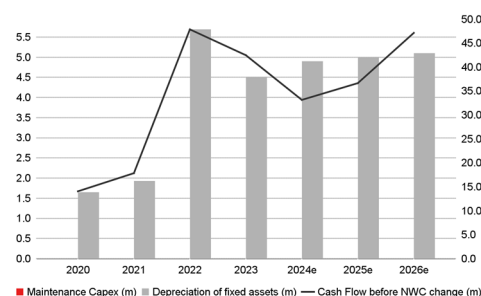
Consolidated cash flow statement

In EUR m	2020	2021	2022	2023	2024e	2025e	2026e
Net income	13.1	13.8	24.6	27.2	28.3	31.7	42.0
Depreciation of fixed assets	1.6	1.9	5.7	4.5	4.9	5.0	5.1
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Increase/decrease in long-term provisions	-9.8	4.5	9.7	4.9	0.0	0.0	0.0
Other non-cash income and expenses	9.1	-2.4	7.9	5.8	0.0	0.0	0.0
Cash Flow before NWC change	14.1	17.8	47.9	42.5	33.2	36.7	47.1
Increase / decrease in inventory	15.8	-67.4	8.8	-84.0	-32.5	-49.8	-48.8
Increase / decrease in accounts receivable	10.6	1.8	-83.3	-8.8	-7.0	2.2	-16.9
Increase / decrease in accounts payable	2.1	-3.0	12.8	-12.7	4.1	6.5	7.2
Increase / decrease in other working capital positions	0.0	0.0	0.0	0.0	-39.2	1.6	-26.7
Increase / decrease in working capital (total)	28.4	-68.6	-61.7	-105.5	-74.5	-39.5	-85.2
Net cash provided by operating activities [1]	42.5	-50.7	-13.9	-63.0	-41.4	-2.8	-38.0
Investments in intangible assets	-0.2	-0.4	-0.7	-0.8	-0.4	-0.4	-0.4
Investments in property, plant and equipment	-1.8	-2.9	-4.6	-4.5	-4.0	-5.0	-6.0
Payments for acquisitions	0.0	-1.8	0.0	0.0	0.0	0.0	0.0
Financial investments	-4.3	-0.1	0.0	0.0	0.0	0.0	0.0
Income from asset disposals	2.3	0.6	0.3	0.5	0.0	0.0	0.0
Net cash provided by investing activities [2]	-3.6	-3.9	-2.2	1.8	-4.4	-5.4	-6.4
Change in financial liabilities	-16.6	26.8	94.4	20.1	80.1	-23.0	41.3
Dividends paid	-3.6	-4.1	-4.5	-5.0	-5.5	-5.7	-5.9
Purchase of own shares	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital measures	27.1	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net cash provided by financing activities [3]	4.4	20.3	84.2	10.1	74.5	-28.7	35.4
Change in liquid funds [1]+[2]+[3]	43.3	-34.3	68.1	-51.1	28.7	-36.9	-9.0
Effects of exchange-rate changes on cash	-0.2	0.0	0.4	1.2	0.0	0.0	0.0
Cash and cash equivalent at end of period	52.8	18.5	87.0	37.2	65.9	29.0	19.9

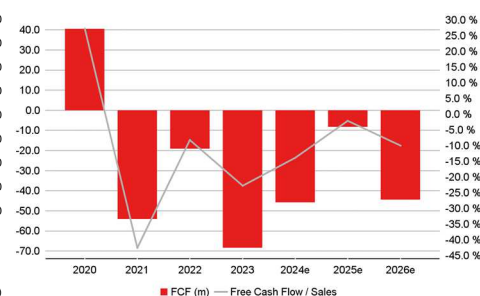
Financial Ratios

	2020	2021	2022	2023	2024e	2025e	2026e
Cash Flow							
FCF	40.5	-54.1	-19.1	-68.4	-45.8	-8.2	-44.4
Free Cash Flow / Sales	27.2 %	-42.5 %	-8.2 %	-22.8 %	-13.9 %	-2.2 %	-10.1 %
Free Cash Flow Potential	27.2	23.3	43.3	44.8	48.3	54.8	67.0
Free Cash Flow / Net Profit	309.0 %	-391.6 %	-77.7 %	-251.4 %	-162.0 %	-26.0 %	-105.7 %
Interest Received / Avg. Cash	1.6 %	2.0 %	4.0 %	8.2 %	9.8 %	10.5 %	17.7 %
Interest Paid / Avg. Debt	2.7 %	2.5 %	3.8 %	3.6 %	4.0 %	4.3 %	4.4 %
Management of Funds							
Investment ratio	1.3 %	2.6 %	2.3 %	1.8 %	1.3 %	1.4 %	1.4 %
Maint. Capex / Sales	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Capex / Dep	15.8 %	41.3 %	37.9 %	32.1 %	26.8 %	30.9 %	34.4 %
Avg. Working Capital / Sales	60.9 %	87.0 %	56.4 %	61.5 %	77.2 %	77.2 %	77.6 %
Trade Debtors / Trade Creditors	480.4 %	77.4 %	138.9 %	255.6 %	239.8 %	178.7 %	189.8 %
Inventory Turnover	1.1 x	0.6 x	1.2 x	1.0 x	1.0 x	0.9 x	0.9 x
Receivables collection period (days)	83	31	42	57	60	50	57
Payables payment period (days)	36	65	47	32	36	39	45
Cash conversion cycle (Days)	371	586	299	387	407	403	430

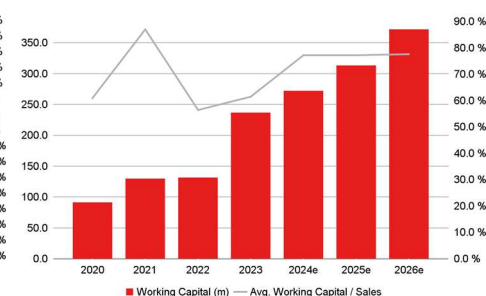
CAPEX and Cash Flow
in EUR m



Free Cash Flow Generation



Working Capital



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

LEGAL DISCLAIMER

This research report ("investment recommendation") was prepared by the Warburg Research GmbH, a fully owned subsidiary of the M.M.Warburg & CO (AG & Co.) KGaA and is passed on by the M.M.Warburg & CO (AG & Co.) KGaA. It is intended solely for the recipient and may not be passed on to another company without their prior consent, regardless of whether the company is part of the same corporation or not. It contains selected information and does not purport to be complete. The investment recommendation is based on publicly available information and data ("information") believed to be accurate and complete. Warburg Research GmbH neither examines the information for accuracy and completeness, nor guarantees its accuracy and completeness. Possible errors or incompleteness of the information do not constitute grounds for liability of M.M.Warburg & CO (AG & Co.) KGaA or Warburg Research GmbH for damages of any kind whatsoever, and M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH are not liable for indirect and/or direct and/or consequential damages. In particular, neither M.M.Warburg & CO (AG & Co.) KGaA nor Warburg Research GmbH are liable for the statements, plans or other details contained in these investment recommendations concerning the examined companies, their affiliated companies, strategies, economic situations, market and competitive situations, regulatory environment, etc. Although due care has been taken in compiling this investment recommendation, it cannot be excluded that it is incomplete or contains errors. M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH, their shareholders and employees are not liable for the accuracy and completeness of the statements, estimations and the conclusions derived from the information contained in this investment recommendation. Provided a investment recommendation is being transmitted in connection with an existing contractual relationship, i.e. financial advisory or similar services, the liability of M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH shall be restricted to gross negligence and wilful misconduct. In case of failure in essential tasks, M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH are liable for normal negligence. In any case, the liability of M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH is limited to typical, expectable damages. This investment recommendation does not constitute an offer or a solicitation of an offer for the purchase or sale of any security. Partners, directors or employees of M.M.Warburg & CO (AG & Co.) KGaA, Warburg Research GmbH or affiliated companies may serve in a position of responsibility, i.e. on the board of directors of companies mentioned in the report. Opinions expressed in this investment recommendation are subject to change without notice. The views expressed in this research report accurately reflect the research analyst's personal views about the subject securities and issuers. Unless otherwise specified in the research report, no part of the research analyst's compensation was, is, or will be directly or indirectly related to the specific recommendations or views contained in the research report. All rights reserved.

COPYRIGHT NOTICE

This work including all its parts is protected by copyright. Any use beyond the limits provided by copyright law without permission is prohibited and punishable. This applies, in particular, to reproductions, translations, microfilming, and storage and processing on electronic media of the entire content or parts thereof.

DISCLOSURE ACCORDING TO §85 OF THE GERMAN SECURITIES TRADING ACT (WPHG), MAR AND MIFID II INCL. COMMISSION DELEGATED REGULATION (EU) 2016/958 AND (EU) 2017/565

The valuation underlying the investment recommendation for the company analysed here is based on generally accepted and widely used methods of fundamental analysis, such as e.g. DCF Model, Free Cash Flow Value Potential, NAV, Peer Group Comparison or Sum of the Parts Model (see also <http://www.mmwarburg.de/disclaimer/disclaimer.htm#Valuation>). The result of this fundamental valuation is modified to take into consideration the analyst's assessment as regards the expected development of investor sentiment and its impact on the share price.

Independent of the applied valuation methods, there is the risk that the price target will not be met, for instance because of unforeseen changes in demand for the company's products, changes in management, technology, economic development, interest rate development, operating and/or material costs, competitive pressure, supervisory law, exchange rate, tax rate etc. For investments in foreign markets and instruments there are further risks, generally based on exchange rate changes or changes in political and social conditions.

This commentary reflects the opinion of the relevant author at the point in time of its compilation. A change in the fundamental factors underlying the valuation can mean that the valuation is subsequently no longer accurate. Whether, or in what time frame, an update of this commentary follows is not determined in advance.

Additional internal and organisational arrangements to prevent or to deal with conflicts of interest have been implemented. Among these are the spatial separation of Warburg Research GmbH from M.M.Warburg & CO (AG & Co.) KGaA and the creation of areas of confidentiality. This prevents the exchange of information, which could form the basis of conflicts of interest for Warburg Research GmbH in terms of the analysed issuers or their financial instruments.

The analysts of Warburg Research GmbH do not receive a gratuity – directly or indirectly – from the investment banking activities of M.M.Warburg & CO (AG & Co.) KGaA or of any company within the Warburg-Group.

All prices of financial instruments given in this investment recommendation are the closing prices on the last stock-market trading day before the publication date stated, unless another point in time is explicitly stated.

M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH are subject to the supervision of the Federal Financial Supervisory Authority, BaFin. M.M.Warburg & CO (AG & Co.) KGaA is additionally subject to the supervision of the European Central Bank (ECB).

SOURCES

All **data and consensus estimates** have been obtained from FactSet except where stated otherwise.

The **Warburg ESG Risk Score** is based on information © 2020 MSCI ESG Research LLC. Reproduced by permission. Although Warburg Research's information providers, including without limitation, MSCI ESG Research LLC and its affiliates (the "ESG Parties"), obtain information (the "Information") from sources they consider reliable, none of the ESG Parties warrants or guarantees the originality, accuracy and/or completeness, of any data herein and expressly disclaim all express or implied warranties, including those of merchantability and fitness for a particular purpose. The Information may only be used for your internal use, may not be reproduced or disseminated in any form and may not be used as a basis for, or a component, of any financial instruments or products indices. Further, none of the Information can in and of itself be used to determine which securities to buy or sell or when to buy or sell them. None of the ESG Parties shall have any liability for any errors or omissions in connection with any data herein, or any liability for any direct, indirect, special, punitive, consequential or any other damage (including lost profits) even if notified of the possibility.

Additional information for clients in the United States

1. This research report (the "Report") is a product of Warburg Research GmbH, Germany, a fully owned subsidiary of M.M.Warburg & CO (AG & Co.) KGaA, Germany (in the following collectively "Warburg"). Warburg is the employer of the research analyst(s), who have prepared the Report. The research analyst(s) reside outside the United States and are not associated persons of any U.S. regulated broker-dealer and therefore are not subject to the supervision of any U.S. regulated broker-dealer.
2. The Report is provided in the United States for distribution solely to "major U.S. institutional investors" under Rule 15a-6 of the U.S. Securities Exchange Act of 1934 by CIC.
3. CIC (Crédit Industriel et Commercial) and M.M.Warburg & CO have concluded a Research Distribution Agreement that gives CIC Market Solutions exclusive distribution in France, the US and Canada of the Warburg Research GmbH research product.
4. The research reports are distributed in the United States of America by CIC ("CIC") pursuant to a SEC Rule 15a-6 agreement with CIC Market Solutions Inc ("CICI"), a U.S. registered broker-dealer and a related company of CIC, and are distributed solely to persons who qualify as "Major U.S. Institutional Investors" as defined in SEC Rule 15a-6 under the Securities Exchange Act of 1934.
5. Any person who is not a Major U.S. Institutional Investor must not rely on this communication. The delivery of this research report to any person in the United States of America is not a recommendation to effect any transactions in the securities discussed herein, or an endorsement of any opinion expressed herein.

Reference in accordance with section 85 of the German Securities Trading Act (WpHG) and Art. 20 MAR regarding possible conflicts of interest with companies analysed:

- 1- Warburg Research, or an affiliated company, or an employee of one of these companies responsible for the compilation of the research, hold a **share of more than 5%** of the equity capital of the analysed company.
- 2- Warburg Research, or an affiliated company, within the last twelve months participated in the **management of a consortium** for an issue in the course of a public offering of such financial instruments, which are, or the issuer of which is, the subject of the investment recommendation.
- 3- Companies affiliated with Warburg Research **manage financial instruments**, which are, or the issuers of which are, subject of the investment recommendation, in a market based on the provision of buy or sell contracts.
- 4- MMWB, Warburg Research, or an affiliated company, reached an agreement with the issuer to provide **investment banking and/or investment services** and the relevant agreement was in force in the last 12 months or there arose for this period, based on the relevant agreement, the obligation to provide or to receive a service or compensation - provided that this disclosure does not result in the disclosure of confidential business information.
- 5- The company compiling the analysis or an affiliated company had reached an **agreement on the compilation of the investment recommendation** with the analysed company.
- 6a- Warburg Research, or an affiliated company, holds a **net long position of more than 0.5%** of the total issued share capital of the analysed company.
- 6b- Warburg Research, or an affiliated company, holds a **net short position of more than 0.5%** of the total issued share capital of the analysed company.
- 6c- The issuer holds shares of more than 5% of the total issued capital of Warburg Research or an affiliated company.
- 7- The company preparing the analysis as well as its affiliated companies and employees have **other important interests** in relation to the analysed company, such as, for example, the exercising of mandates at analysed companies.

This report has been made accessible to the company analysed.

Company	Disclosure	Link to the historical price targets and rating changes (last 12 months)
ABO Energy	3, 4, 5	https://www.mmwarburg.com/disclaimer/disclaimer_en/DE0005760029.htm

INVESTMENT RECOMMENDATION

Investment recommendation: expected direction of the share price development of the financial instrument up to the given price target in the opinion of the analyst who covers this financial instrument.

-B-	Buy:	The price of the analysed financial instrument is expected to rise over the next 12 months.
-H-	Hold:	The price of the analysed financial instrument is expected to remain mostly flat over the next 12 months.
-S-	Sell:	The price of the analysed financial instrument is expected to fall over the next 12 months.
“-“	Rating suspended:	The available information currently does not permit an evaluation of the company.

WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING

Rating	Number of stocks	% of Universe
Buy	142	71
Hold	43	22
Sell	10	5
Rating suspended	5	3
Total	200	100

WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING ...

... taking into account only those companies which were provided with major investment services in the last twelve months.

Rating	Number of stocks	% of Universe
Buy	42	75
Hold	10	18
Sell	2	4
Rating suspended	2	4
Total	56	100

PRICE AND RATING HISTORY ABO ENERGY AS OF 26.09.2024



Markings in the chart show rating changes by Warburg Research GmbH in the last 12 months. Every marking details the date and closing price on the day of the rating change.

EQUITIES

Matthias Rode +49 40 3282-2678
Head of Equities mrode@mmwarburg.com

RESEARCH

Michael Heider +49 40 309537-280
Head of Research mheider@warburg-research.com

Henner Rüschemeyer +49 40 309537-270
Head of Research hrueschmeier@warburg-research.com

Stefan Augustin +49 40 309537-168
Cap. Goods, Engineering saugustin@warburg-research.com

Jan Bauer +49 40 309537-155
Renewables jbauer@warburg-research.com

Christian Cohrs +49 40 309537-175
Industrials & Transportation ccohrs@warburg-research.com

Dr. Christian Ehmann +49 40 309537-167
BioTech, Life Science cehmann@warburg-research.com

Felix Ellmann +49 40 309537-120
Software, IT fellmann@warburg-research.com

Jörg Philipp Frey +49 40 309537-258
Retail, Consumer Goods jfrey@warburg-research.com

Marius Fuhrberg +49 40 309537-185
Financial Services mfuhrberg@warburg-research.com

Fabio Hölscher +49 40 309537-240
Automobiles, Car Suppliers fhoelscher@warburg-research.com

Philipp Kaiser +49 40 309537-260
Real Estate, Construction pkaiser@warburg-research.com

Thilo Kleibauer +49 40 309537-257
Retail, Consumer Goods tkleibauer@warburg-research.com

Hannes Müller +49 40 309537-255
Software, IT hmueller@warburg-research.com

Andreas Pläsier +49 40 309537-246
Banks, Financial Services aplaesier@warburg-research.com

Malte Schaumann +49 40 309537-170
Technology mschaumann@warburg-research.com

Oliver Schwarz +49 40 309537-250
Chemicals, Agriculture oschwarz@warburg-research.com

Simon Stippig +49 40 309537-265
Real Estate, Telco sstippig@warburg-research.com

Marc-René Tonn +49 40 309537-259
Automobiles, Car Suppliers mtonn@warburg-research.com

Robert-Jan van der Horst +49 40 309537-290
Technology rvanderhorst@warburg-research.com

Andreas Wolf +49 40 309537-140
Software, IT awolf@warburg-research.com

INSTITUTIONAL EQUITY SALES

Klaus Schilling +49 69 5050-7400
Head of Equity Sales, Germany kschilling@mmwarburg.com

Tim Beckmann +49 40 3282-2665
United Kingdom tbeckmann@mmwarburg.com

Jens Buchmüller +49 69 5050-7415
Scandinavia, Austria jbuchmueller@mmwarburg.com

Matthias Fritsch +49 40 3282-2696
United Kingdom, Ireland mfritsch@mmwarburg.com

Rudolf Alexander Michaelis +49 40 3282-2649
Germany rmichaelis@mmwarburg.com

Roman Alexander Niklas +49 69 5050-7412
Switzerland, Poland, Italy rniklas@mmwarburg.com

Sascha Propp +49 40 3282-2656
France spropp@mmwarburg.com

Antonia Möller +49 69 5050-7417
Roadshow/Marketing amoeller@mmwarburg.com

Charlotte Wernicke +49 40 3282-2669
Roadshow/Marketing cwernicke@mmwarburg.com

Juliane Niemann +49 40 3282-2694
Roadshow/Marketing jniemann@mmwarburg.com

SALES TRADING

Oliver Merkel +49 40 3282-2634
Head of Sales Trading omerkel@mmwarburg.com

Rico Müller +49 40 3282-2685
Sales Trading rmueller@mmwarburg.com

Bastian Quast +49 40 3282-2701
Sales Trading bquast@mmwarburg.com

DESIGNATED SPONSORING

Marcel Magiera +49 40 3282-2662
Designated Sponsoring mmagiera@mmwarburg.com

Sebastian Schulz +49 40 3282-2631
Designated Sponsoring sschulz@mmwarburg.com

Jörg Treptow +49 40 3282-2658
Designated Sponsoring jtreptow@mmwarburg.com

MACRO RESEARCH

Carsten Klude +49 40 3282-2572
Macro Research cklude@mmwarburg.com

Dr. Christian Jasperneite +49 40 3282-2439
Investment Strategy cjasperneite@mmwarburg.com

Our research can be found under:

Warburg Research research.mmwarburg.com/en/index.html
Bloomberg RESP MMWA GO
FactSet www.factset.com

LSEG www.lseg.com
Capital IQ www.capitaliq.com

For access please contact:

Andrea Schaper +49 40 3282-2632
Sales Assistance aschaper@mmwarburg.com

Kerstin Muthig +49 40 3282-2703
Sales Assistance kmuthig@mmwarburg.com