

THE FUTURE OF ENERGY

THE INTANGLIBLES

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Table of Abbreviations

Abbreviation	Explanation	Abbreviation	Explanation
AG	Aktiengesellschaft	IP	Intellectual Property
AI	Artificial Intelligence	JV	Joint Venture
B	Billion	MPDE	Multi-Party Data Exchanges
CAGR	Compound Annual Growth Rate	MW	Megawatt
COGS	Cost of Goods Sold	OPEX	Operating Expenses
DCF	Discounted Cash Flow	PAT	Profit After Tax
DSO	Distribution System Operator	R&D	Research & Development
EBIAT	Earnings Before Interest After Tax	SDG	Sustainable Development Goals
EBIT(DA)	Earnings before Interest, Taxes (Depreciation & Amortization)	Solar PV	Solar Photovoltaic
EUR	Euro €	SG&A	Selling, General & Administration
EV	Enterprise Value or Electric Vehicle (based on context)	SG(RE)	Siemens Gamesa (Renewable Energy)
FX	Foreign Exchange	TTM	Trailing Twelve Months
FY	Financial Year	TWh	Terawatt Hour
GIV™	Grid Integrated Vehicle	USD	US Dollar \$
GP	Gas & Power	V2B	Vehicle-to-Business
GW	Gigawatt	V2G	Vehicle-to-Grid
GWh	Gigawatt Hour	V2H	Vehicle-to-Home
HHI	Herfindahl-Hirschman-Index	WACC	Weighted Average Cost of Capital
IoT	Internet of Things	YoY	Year-over-Year



EXECUTIVE SUMMARY

Siemens' Course of Action



Executive Summary

Should Siemens acquire Vestas?

Siemens should not acquire

The Vestas logo, featuring the word "Vestas" in a blue, bold, sans-serif font with a registered trademark symbol.

- Vestas **does not align with Siemens' strategic focus**, since they decided to spin off their energy business in 2020 and focus on their core competencies
- The investment is **not financially feasible**, since it would be by far the largest acquisition in history for Siemens, contradicting their conservative financial policies
- The capital market currently **overvalues Vestas by 27%**
- The acquisition cost of **~€37.5 billion**, a 42% premium on Siemens' implied purchase price for Vestas, leads to **a loss of ~€11 billion**

Siemens should acquire

The Nuvve logo, featuring the word "NUVVE" in a green, stylized, blocky font.

- Nuvve's acquisition is **in line with Siemens' strategic priorities** and will enable them to bolster their DEGREE framework while enhancing their charging infrastructure
- Integrating **Nuvve's Vehicle-to-Grid technology** into Siemens' Smart Infrastructure positions Siemens to drive the transition to renewable energy through EV batteries
- The capital market currently **undervalues Nuvve by 41%**
- The all-cash acquisition of Nuvve for **~€30.5 million** is **financially feasible, strategic and accretive**

The background image shows a vast offshore wind farm at sunset or sunrise. Numerous wind turbines with blue blades and yellow bases stand in a grid pattern across a dark blue sea under a sky filled with dramatic, colorful clouds.

INDUSTRY ANALYSIS

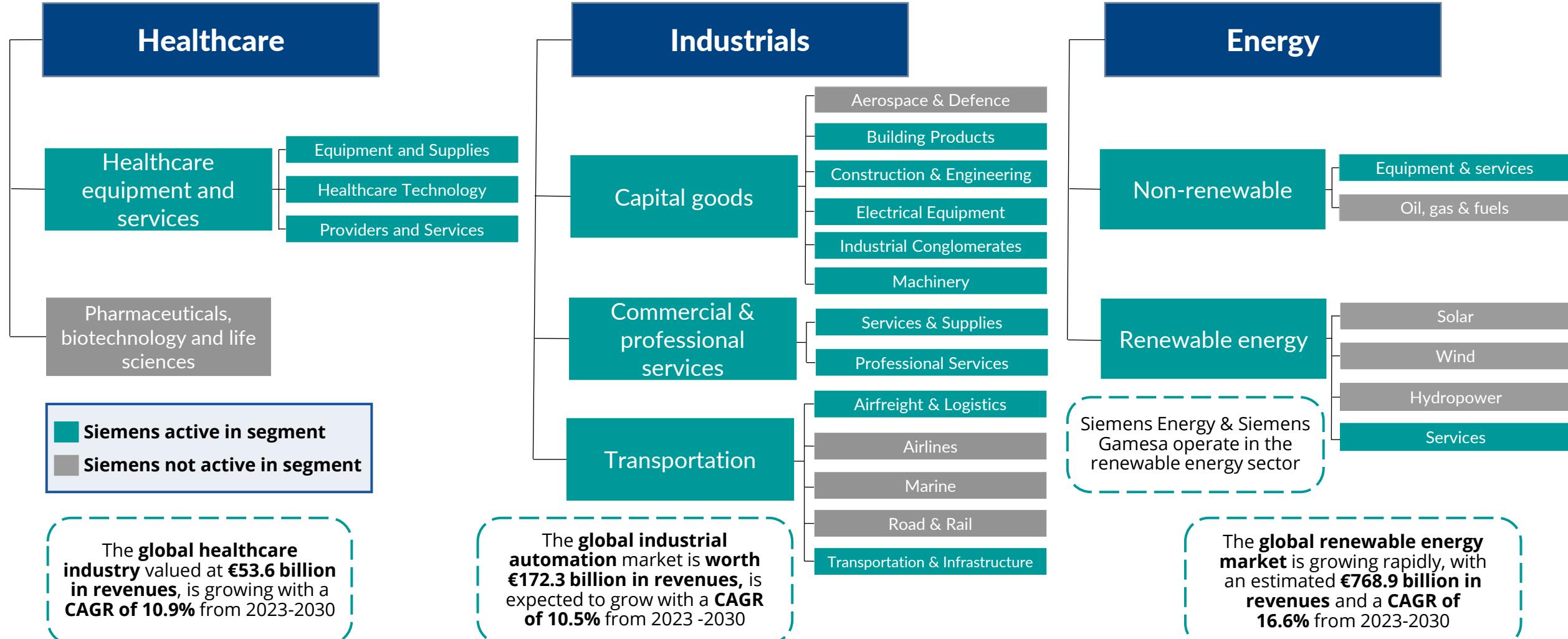
Powering the Future



Industry Breakdown

SIEMENS

Siemens has diverse operations in Healthcare, Industrials and Energy sectors with a strong foothold in many industries



Source: MSCI (n.d.), Statista (2023b), Fidelity (2023), (Grand View Research, 2023) | Note: US\$ converted to EUR (€) at \$1 = €1



Energy Sector Overview

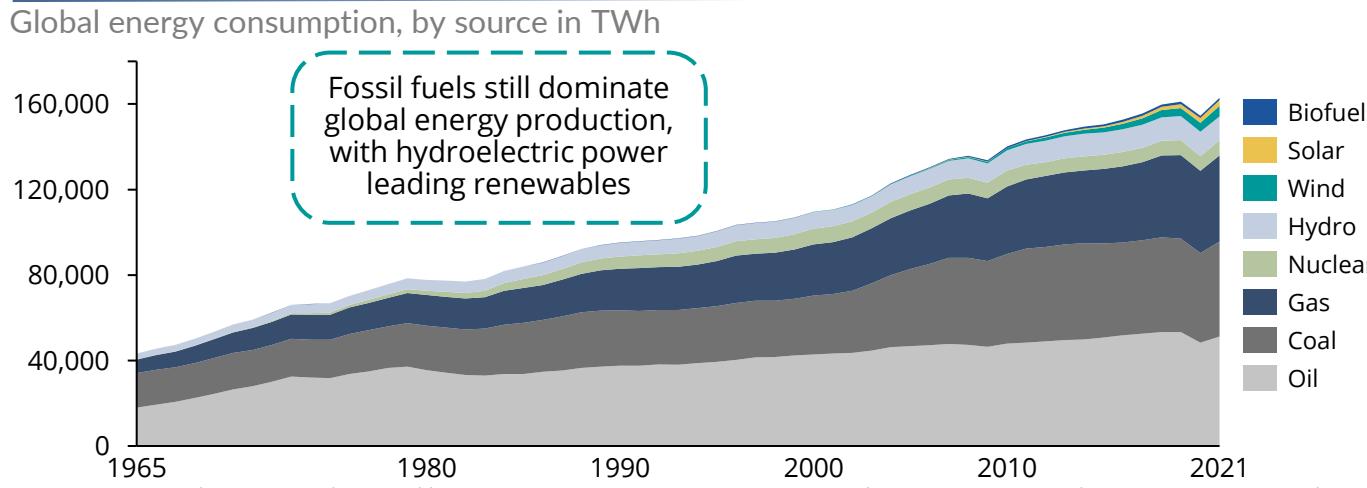
SIEMENS

Against the backdrop of an economically and politically challenging year, the energy industry witnessed a surge in renewable energy adoption

The current state of the energy market

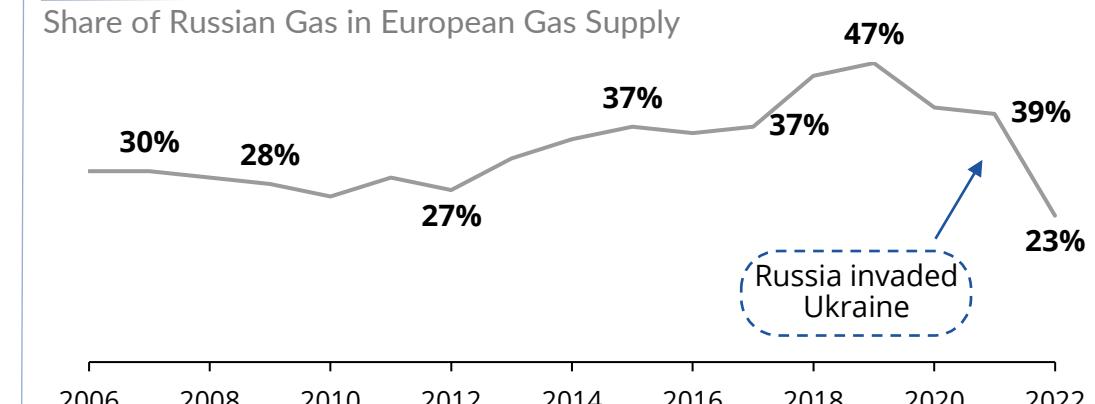
- **Europe faced a triple energy crisis** in 2022: Pressure from the Russia-Ukraine war, low hydro and nuclear levels, as well as low electricity demand from mild weather & affordability issues
- However, in the US, the energy sector outperformed all other sectors in the S&P 500 in 2022 with a enterprise value of the Energy Equipment & Services of ~ €39.2 billion and revenue growth of 33% (TTM vs prior TTM) as of Feb 2023
- **Renewable energy is accelerating at an 85% higher rate than in the previous five years**, driven by economic attractiveness and energy security, and with a **30% upward revision in growth forecast** due to swift policy and market reforms
- As of February 2023, a total of 194 parties, representing over **98% of global greenhouse gas emissions**, have signed the Paris Agreement to reduce emissions by 43% by 2030

In the past 60 years, renewables have grown to meet rising electricity demand

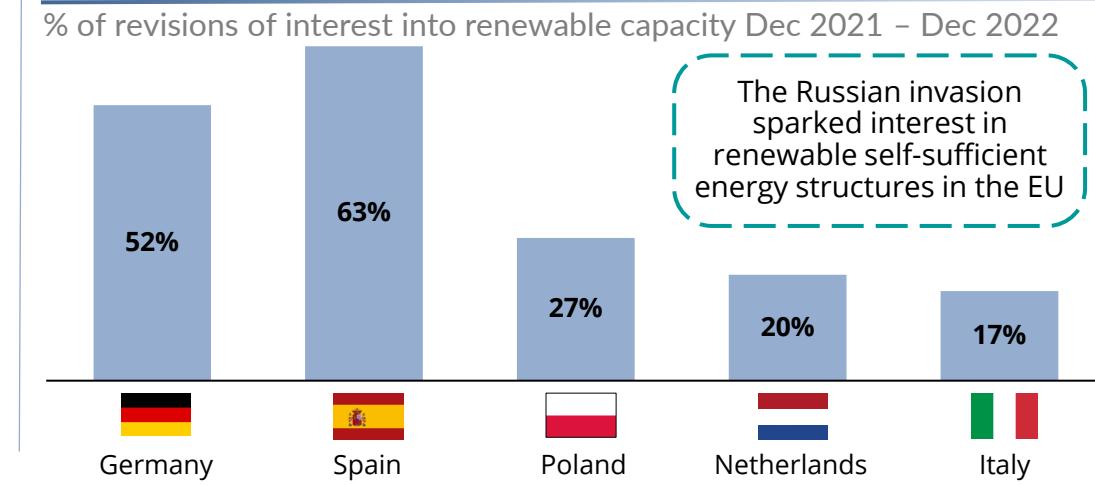


Source: Statista (2022b, 2023c, 2023d), IBISworld (2022), Energy Monitor (2023), S&P Dow Jones Indices (2023), International Energy Agency (2022), Ritchie & Roser (2022) Note: US\$ converted to EUR (€) at \$1 = €1

Europe's reliance on Russian gas decreased significantly in 2022



... which accelerated interest for renewables





Renewable Energy Sector Overview

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Despite facing challenges, the renewable energy sector is expected to be the fastest-growing energy segment globally

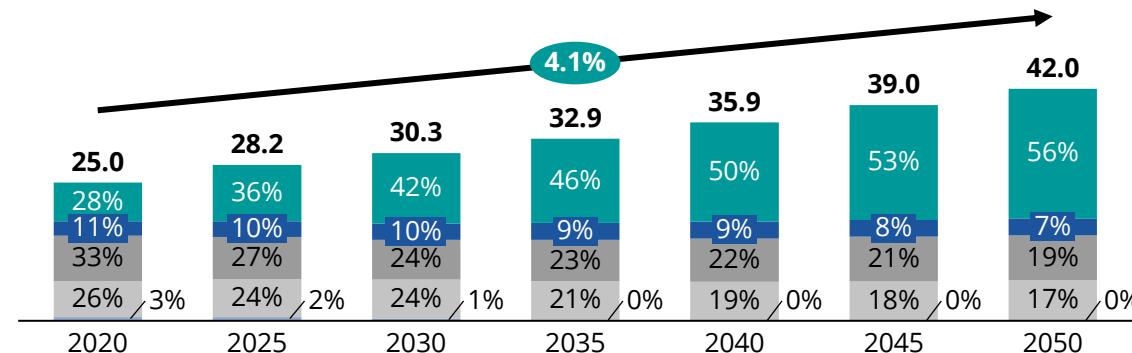
Renewable energy sector boosts competitiveness, despite challenges

- The **global market size of renewable energy is €768.9 billion in revenues** and is expected to reach **€2.97 trillion by 2030**, growing at a **CAGR of 16.6%**
- Despite **the increase in costs for new solar PV and wind installations**, which goes against a decade-long trend of cost reduction, **the faster rise in natural gas, oil, and coal prices** has made **renewable electricity even more competitive**
- However, **renewable electricity generation remains comparatively less reliable** than fossil fuels due to unpredictable weather conditions
- While **wind and solar energy** are the **fastest-growing renewable sources globally**, they make up only 5% of energy consumption in the US compared to 28% worldwide

Renewables sector set to outpace all other sectors

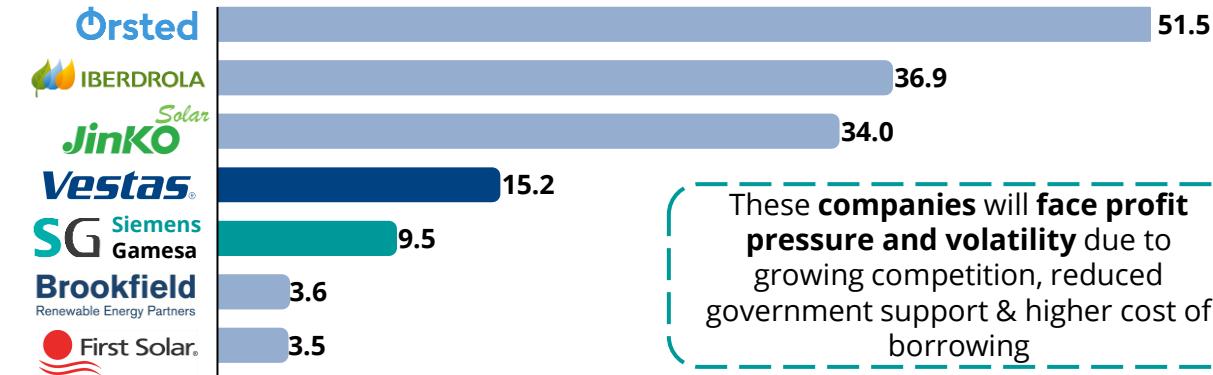
Projected energy generation per source in 1,000 terawatt-hours

Liquid fuels Natural gas Coal Nuclear Renewables



Vestas & Siemens both in the top ranking companies, by revenue

Leading renewable energy companies worldwide 2021, by revenue in EUR (billion)

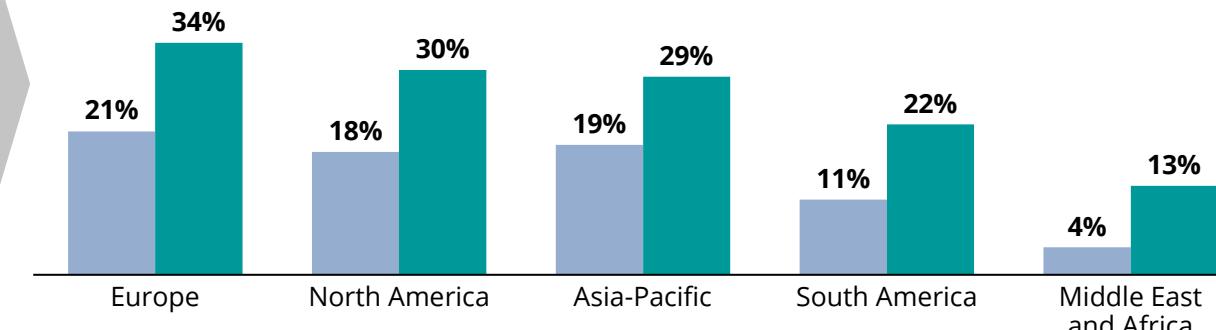


These companies will face profit pressure and volatility due to growing competition, reduced government support & higher cost of borrowing

Renewable energy estimated to grow in all regions

Projected renewable energy generation shares worldwide 2021-2027

2021 2027





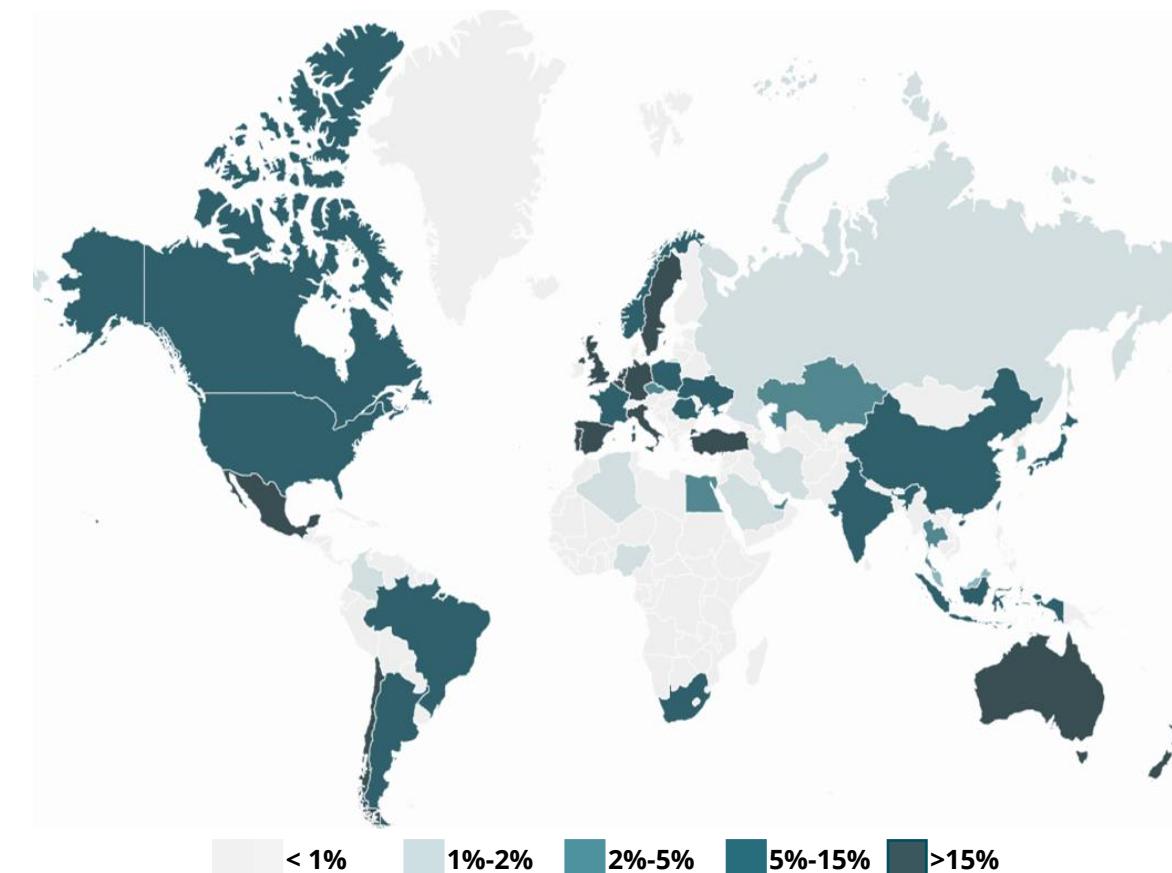
Wind and Solar Milestones

SIEMENS

Wind and solar power reach 10.7% of global energy mix, with a promising outlook for 2030

Wind and solar reached 10.7% of global power mix in 2021

% Share of Wind & Solar in electricity production



... made possible by global breakthroughs and achievements

2009

- US & China invest heavily in renewables
- Achieved a world record solar cell efficiency of 40.8%

2015

- New annual solar and wind installations match fossil fuels for the first time
- Paris Agreement established

2019

- Perovskite solar cells achieved a new world record for efficiency at 25.2%

2021

- Renewable energy cheaper than existing coal power for the first time

2022

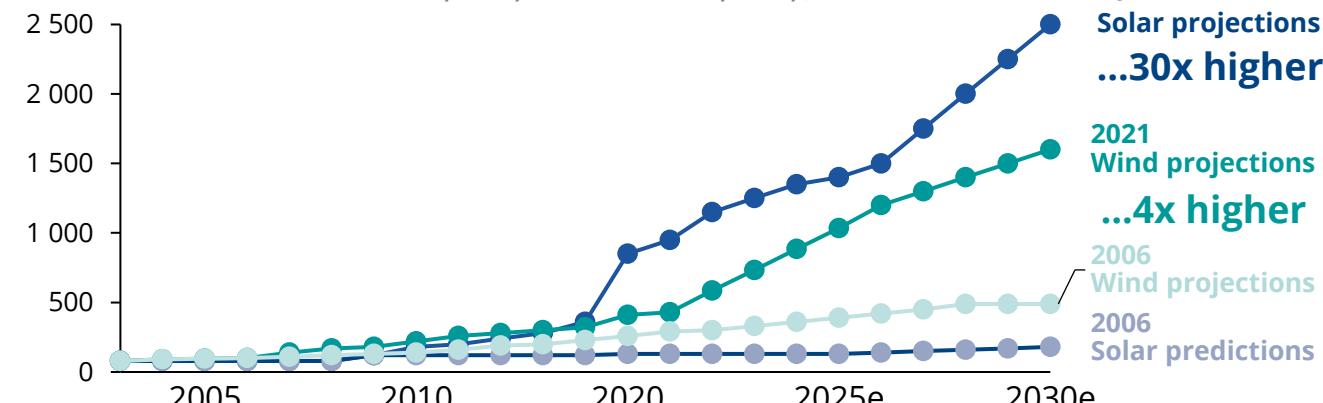
- Wind & Solar surpass gas in Europe

Wind and solar energy costs dropped significantly from 2006 to 2021, with wind down by over 70% and solar by over 90%

Energy storage breakthroughs enabled renewable energy integration & backup using lithium-ion batteries & pumped hydro storage

... with wind & solar projections in 2021 far surpassing prior expectations

Global forecast of Solar PV capacity and Wind Capacity, GW



Source: Enerdata (2022), Jaeger (2021), McKinsey & Company (2022)



Wind Industry - Global Perspective (1/2)

SIEMENS

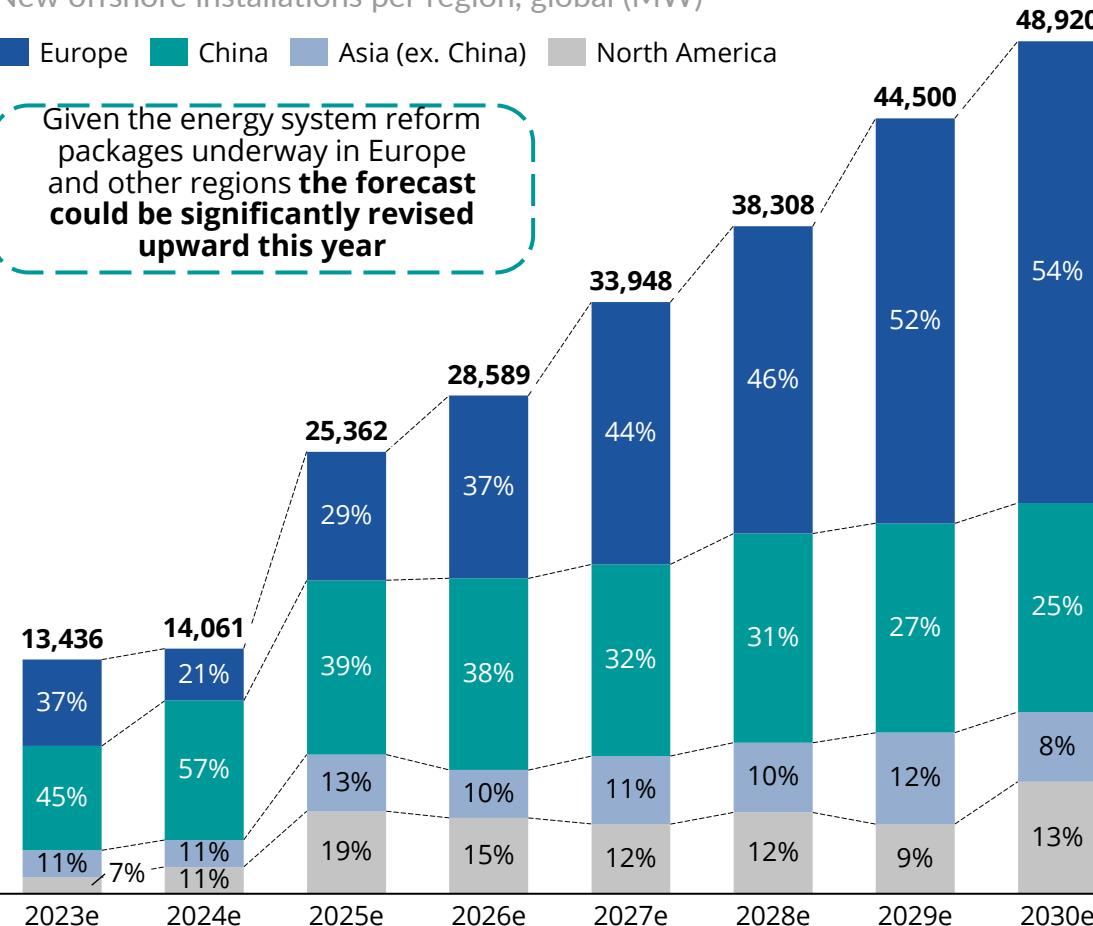
Global onshore wind capacity is significantly higher than offshore, but offshore wind is predicted to have higher growth, with China leading the industry

Outlook for global offshore market shows promising growth ahead

New offshore installations per region, global (MW)

Europe China Asia (ex. China) North America

Given the energy system reform packages underway in Europe and other regions the forecast could be significantly revised upward this year



Source: Global Wind Energy Council. (2022)

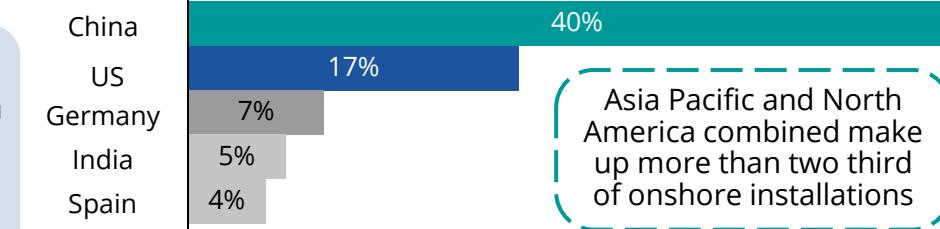
Onshore wind accounts for 92.7% of the industry

Total capacity onshore & offshore (GW)



China accounts for almost half of onshore installations

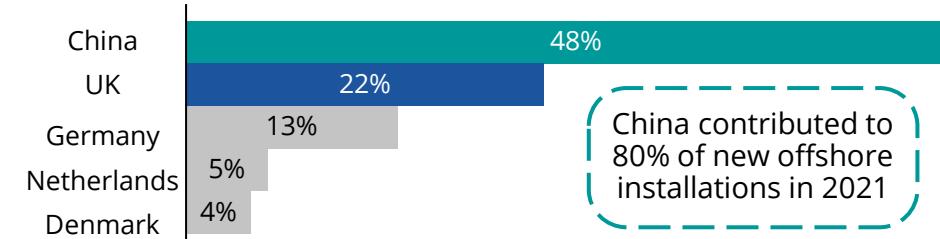
% of total onshore installations of top countries in 2021



Asia Pacific and North America combined make up more than two thirds of onshore installations

... while China also leads in offshore installations

% of total offshore installations of top countries in 2021



China contributed to 80% of new offshore installations in 2021



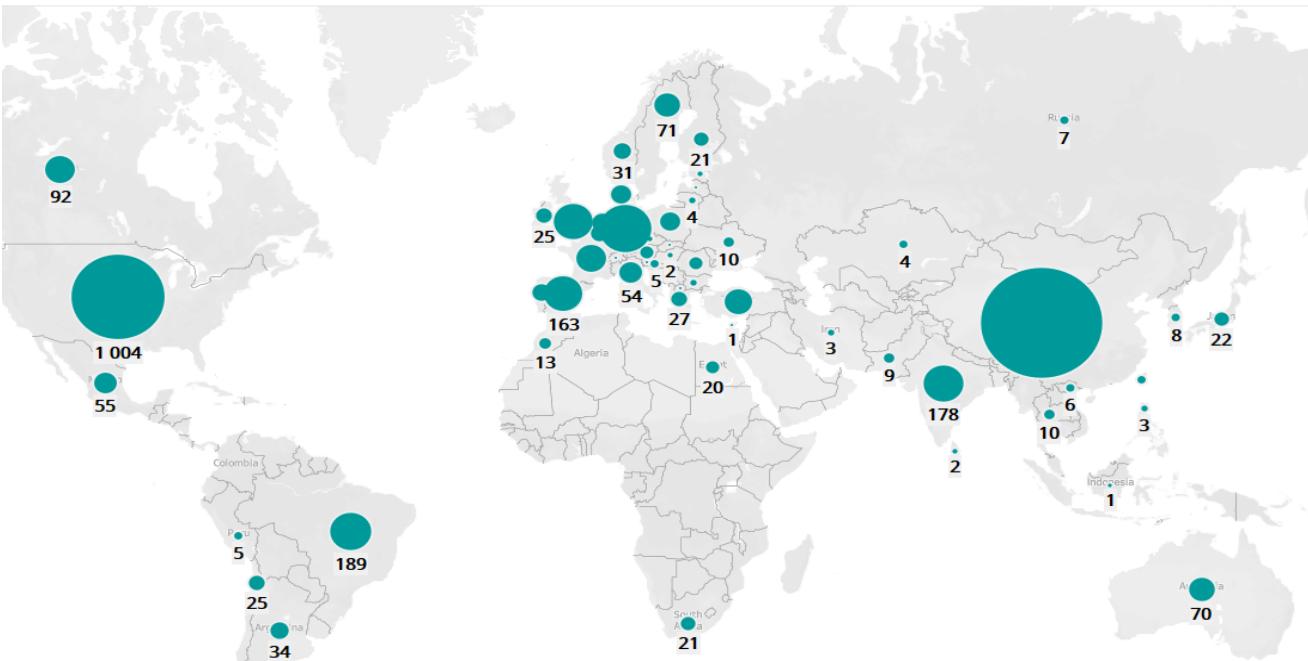
Wind Industry - Global Perspective (2/2)

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China, US, and Germany are at the forefront of wind energy, with Chinese companies, Vestas, GE, and Siemens Gamesa leading the market

China, US & Germany leading the way in wind energy

Global wind energy consumption in 2021, in TWh

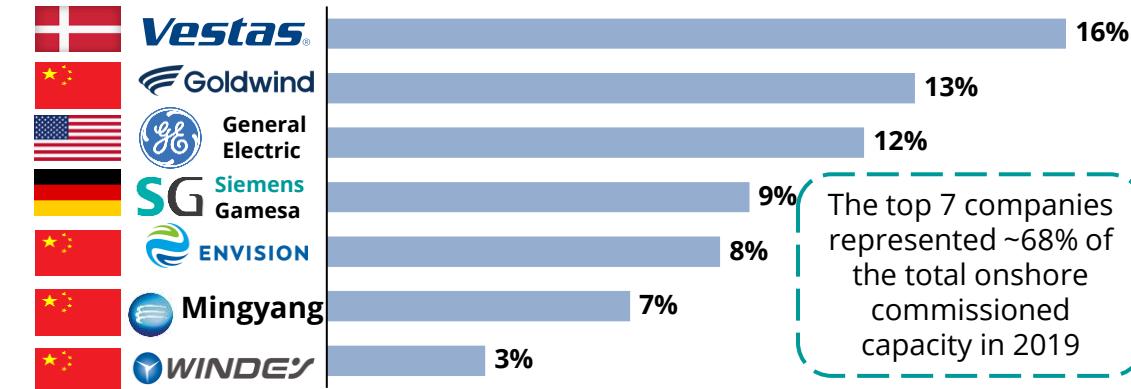


"Energy remains at the epicentre of geopolitics. Trust and cooperation between countries and communities will be ever more important for an effective response to climate change. If countries and communities work against each other, the transition to clean energy will be slow and disorderly." - Head of Policy and Projects, Global Wind Energy Council

Source: Statista (2023h, 2023i), Ritchie & Roser (2022)

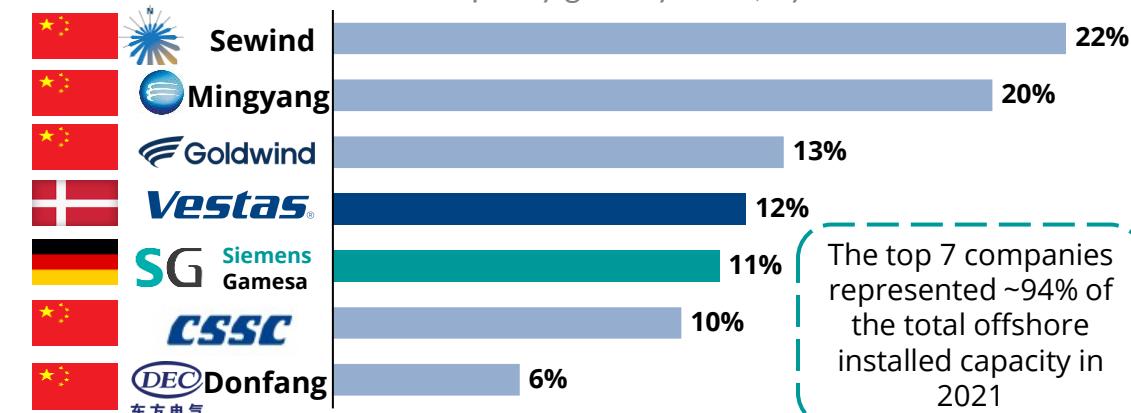
Vestas, Goldwind, and GE lead onshore commissioned capacity

% of onshore commissioned capacity globally 2019, by turbine manufacturer



Sewind, Mingyang & Goldwind lead offshore installed capacity

% of annual offshore installed capacity globally 2021, by turbine manufacturer





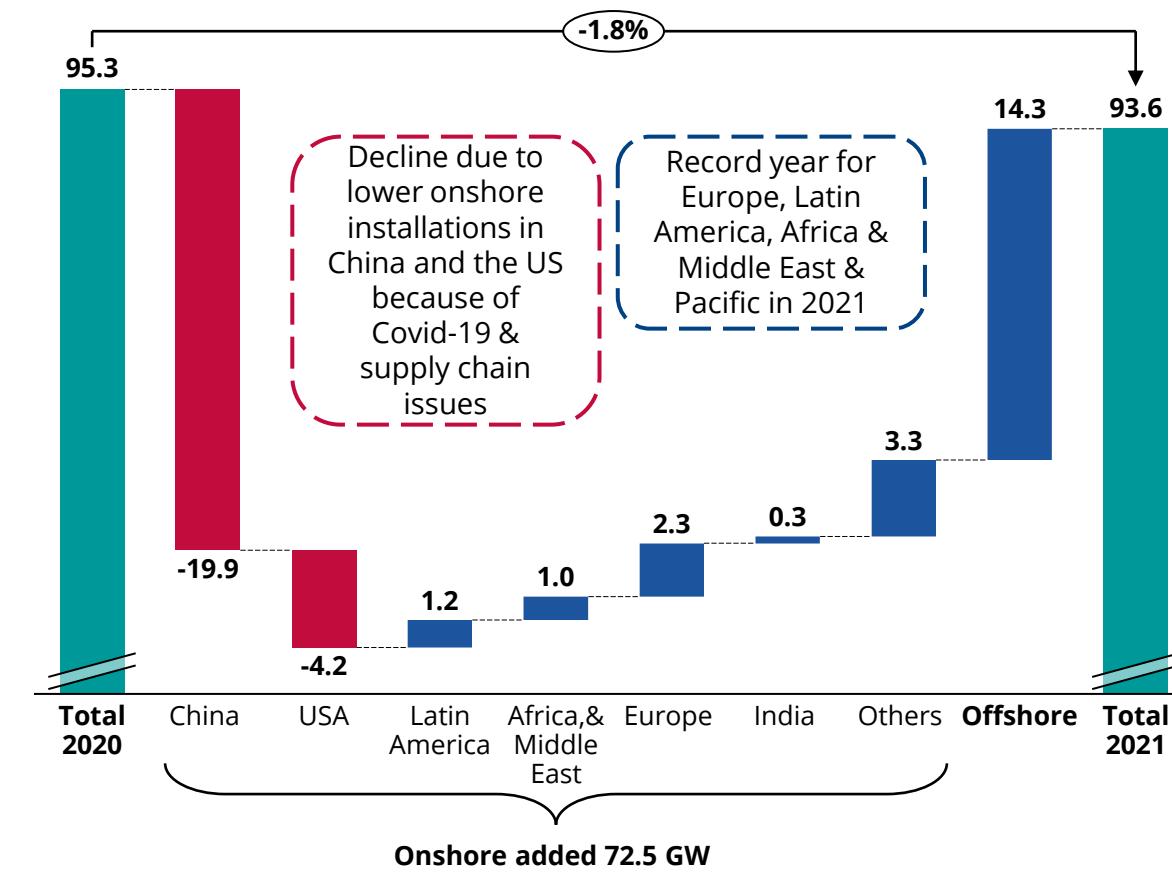
Wind Industry Developments

SIEMENS

Most regions witnessed industry growth, mainly driven by net-zero goals & reduced installation costs, yet faster progress is needed to reach these goals by 2050

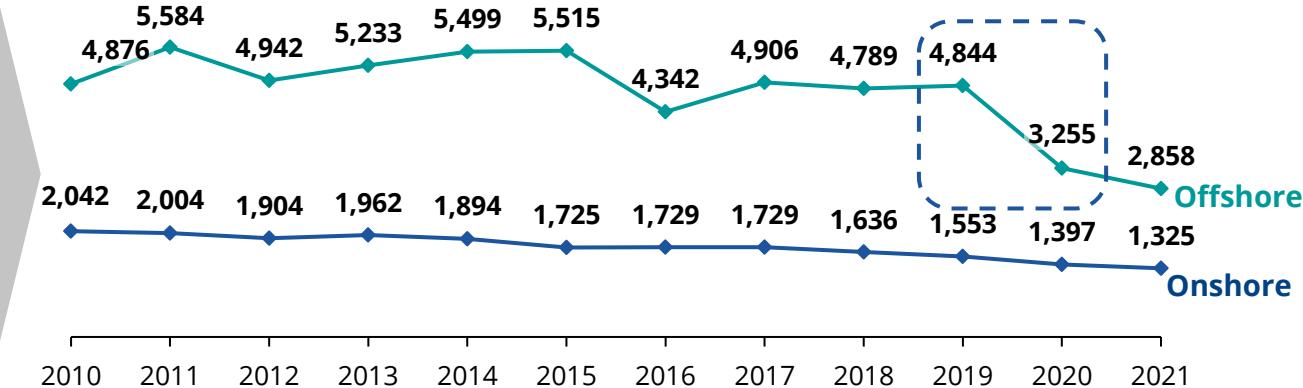
New installation grew in all regions, except Asia and North America

Changes in new installations 2020 to 2021 in GW, onshore & offshore



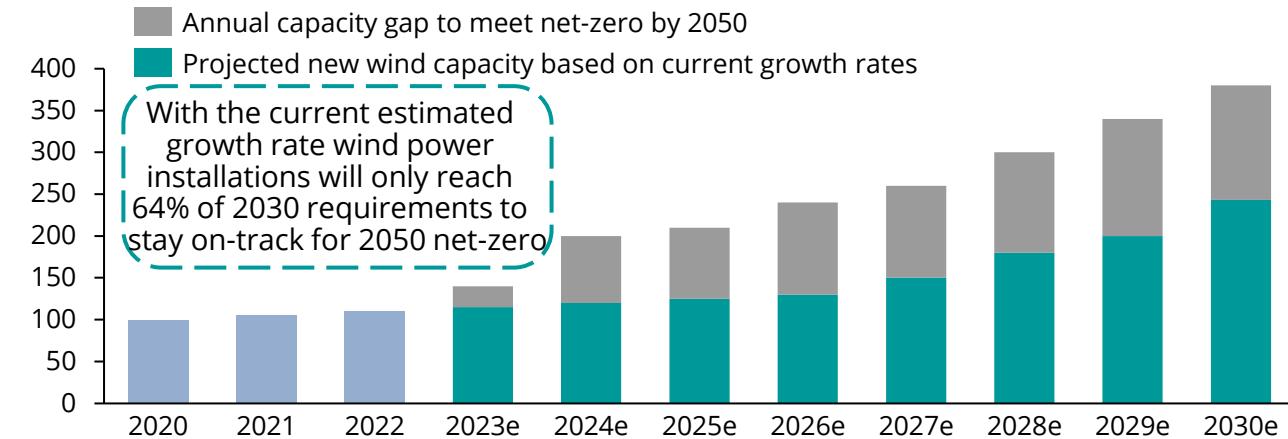
... due to global offshore installation costs decreasing by 33% in 2019

Global average cost of installed offshore & onshore wind projects (In EUR per kilowatt)



... but installations need to grow 4x faster to be able to meet 2050 net-zero

Lagging growth of new wind energy installations (GW)



Source: IBISWorld (2022b), Global Wind Energy Council (2022) | Note: US\$ converted to EUR (€) at \$1 = €1

COMPANY ANALYSIS



SIEMENS



VESTAS



STRATEGIC FIT



Siemens Company Overview

SIEMENS

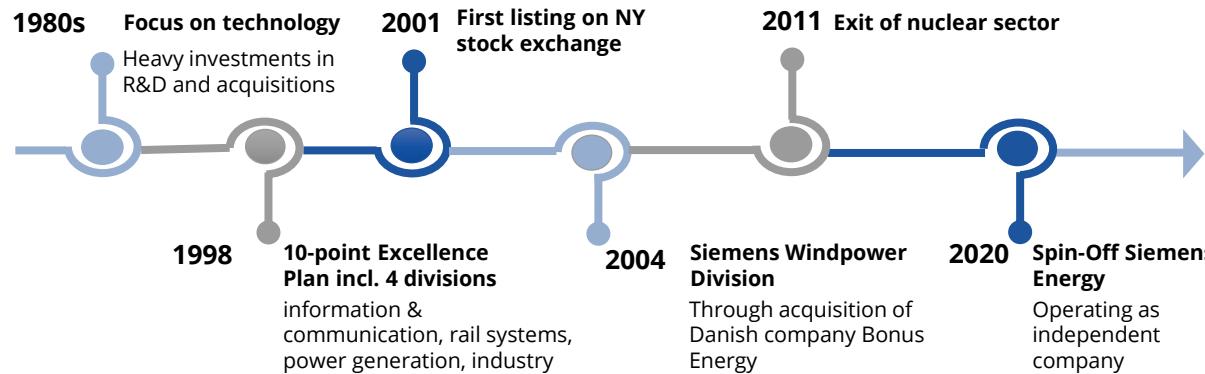
With a history of over 175 years Siemens has developed a strong position in the world market by constantly innovating and expanding their reach

Siemens is a leading global tech company from Germany

- Siemens AG is a multinational company headquartered in Munich, Germany operating in various industries, including industrials, healthcare, and energy
- Known for its innovative technology and digital solutions, such as its IoT platforms & MindSphere
- With a **revenue** of almost **€72 billion** and 311,000 employees in 2022, Siemens is the **world's 5th largest conglomerate**

... with over 175 years of experience

- In **1847**, Siemens & Halske was founded manufacturing telegraphic systems
- In **1892**, they first expanded to the US
- In **1897**, they went public
- In **1966**, Siemens AG was founded as parent company of subsidiaries



Source: Agut, Moreno & Casserra (2013), Siemens (2022a)

Executive Summary

Industry Analysis

Company Analysis

Financial Analysis

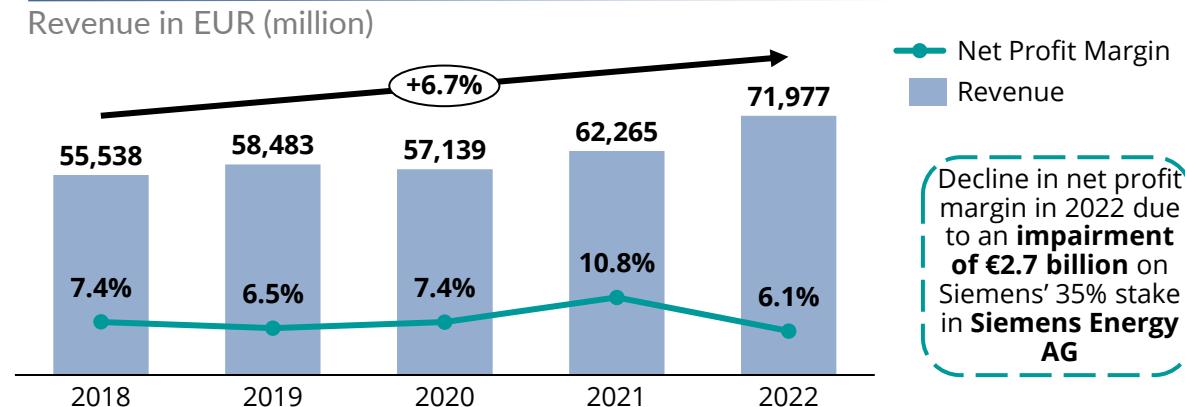
Acquisition Feasibility

Alternative Solutions

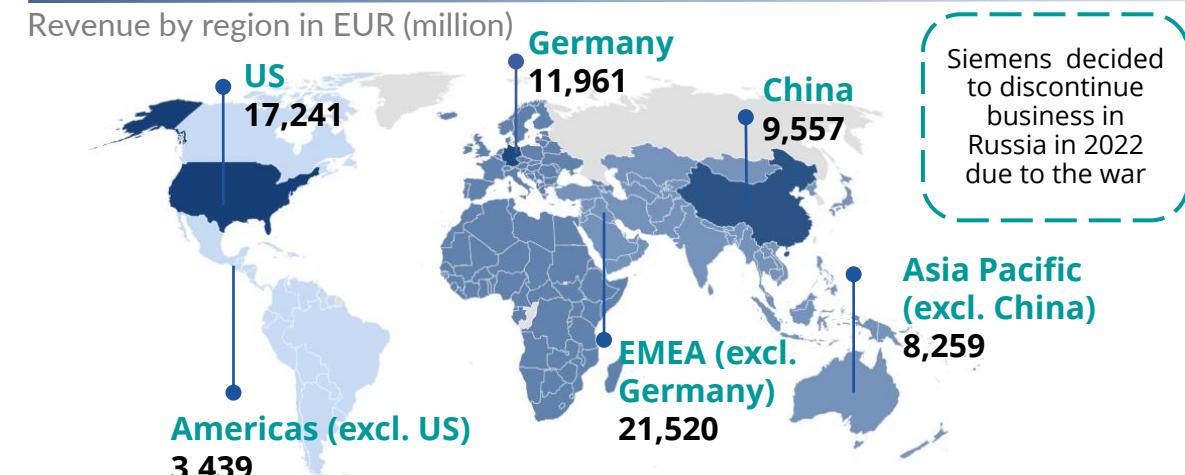
Conclusion

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Revenues have increased with a 6.7% CAGR since 2018



Operating globally with most revenue in the US, Germany & China





Siemens Organizational Structure

SIEMENS

Siemens' matrix organizational structure drives innovation and specialization across their four industrial businesses

Siemens is made up of four industrial businesses

Siemens Healthineers

Transforming care delivery, patient experience, and digitalizing healthcare with a product and service portfolio **continuously developed with AI-supported applications and digital technologies**

Digital Industries

Merging the real and digital worlds through a continuous flow of data, utilizing cutting-edge technologies to **efficiently use finite resources and make the industry more sustainable**

Smart Infrastructure

Enhance people's lives and significantly **improve efficiency and sustainability across energy systems, buildings, and industries**

Mobility

Enables mobility operators worldwide to increase sustainability, enhance passenger experience, and guarantee availability by making trains and infrastructure intelligent

Services

Siemens Financial Services

Siemens Real Estate

Global Business Services

Other

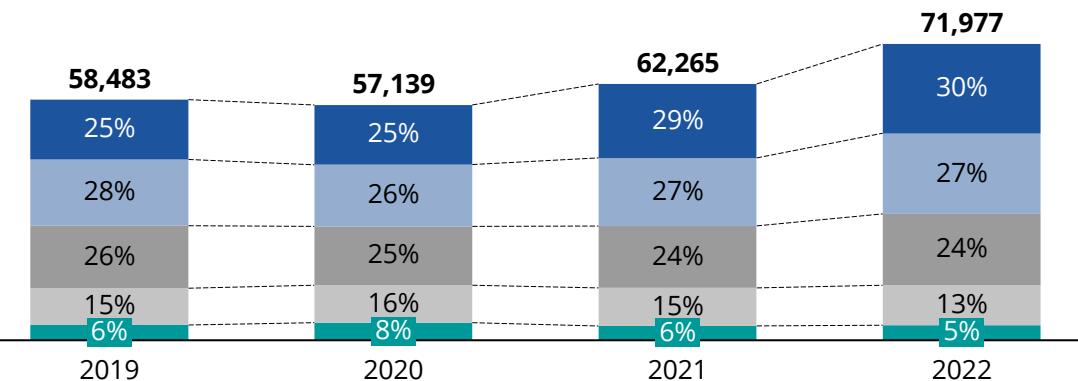
Portfolio Companies

Siemens Advanta

... with Siemens Healthineers generating the highest revenues

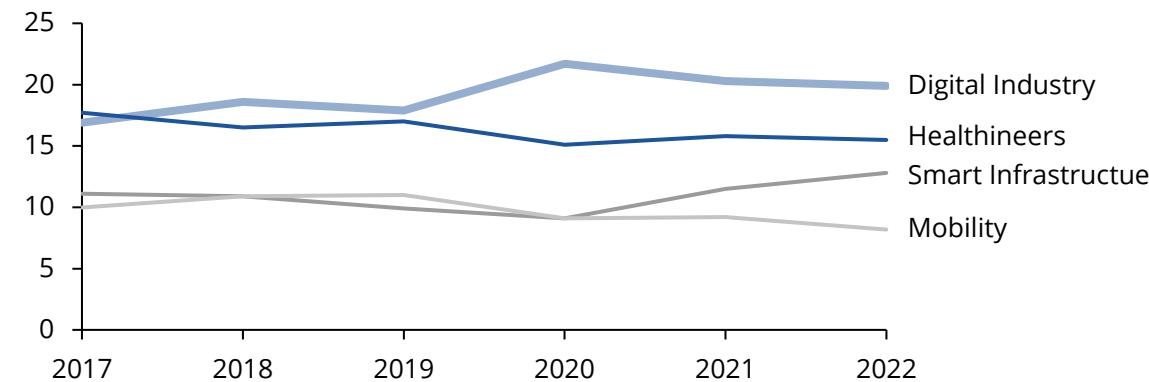
Revenue in EUR (million)

Healthineers Digital Industries Smart Infrastructure Mobility Other



... and Digital Industries being their most profitable business unit

Profit Margin (%) by segment



Source: Siemens (2023a)



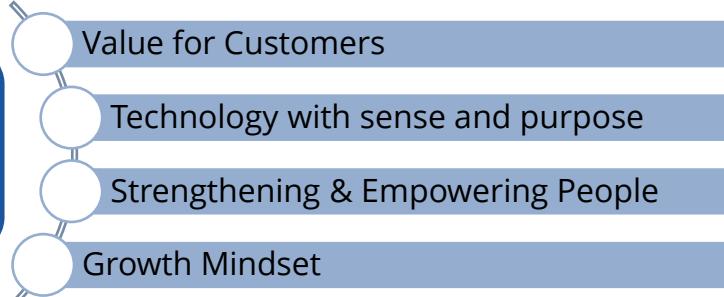
Siemens Strategic Ambitions and Goals

SIEMENS

Siemens is further positioning itself as a technology company focusing on innovation and sustainability by investing into acquisitions and R&D aligned with their core competencies

Strategic priorities are aligned with core competencies

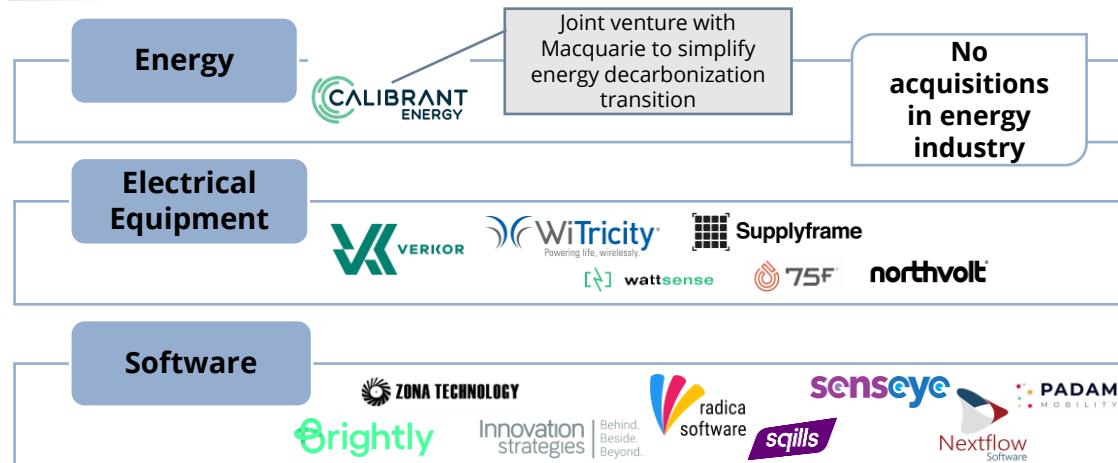
Vision 2020+ Strategy:
focus on electrification,
digitalization &
automation



With a strong focus on sustainability in their DEGREE framework

- Decarbonization: net zero operations by 2030, net zero supply chain by 2050
- Ethics: training of all employees on Business Conduct Guidelines every 3 years
- Governance: long-term incentives based on ESG criteria
- Resource Efficiency: zero landfill waste by 2030
- Equity: 30% female share in top-level management by 2025
- Employability: increase digital learning hours to 25h

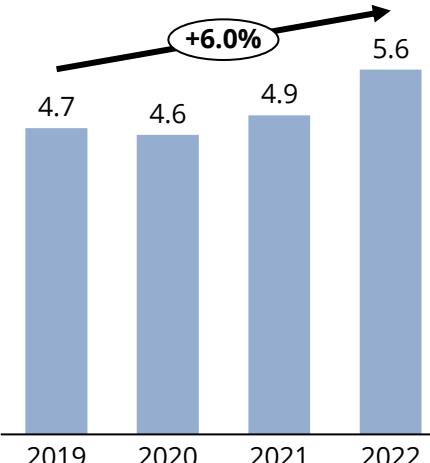
Recent acquisitions ('21-'23) are driving software development



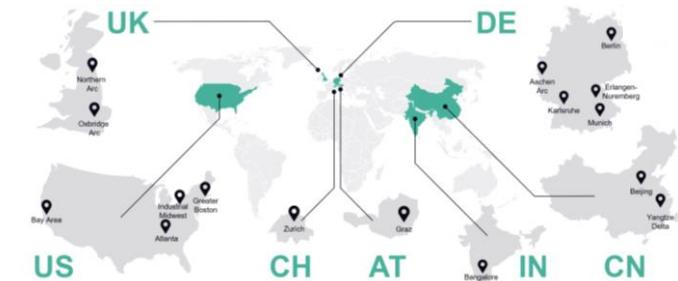
Serving portfolio optimization as **focused technology company**

... and simultaneously continue heavy investments in R&D

R&D expenses in EUR (billion)



- More than **40,000 patents** granted
- 45% of the active patent families relate to at least one SDG
- Goal of R&D: **developing innovative, sustainable solutions**
- 16 global R&D locations (see below)



Source: Chiffey (2021), Siemens (2020a), Siemens (2022a), Pitchbook (2023a)

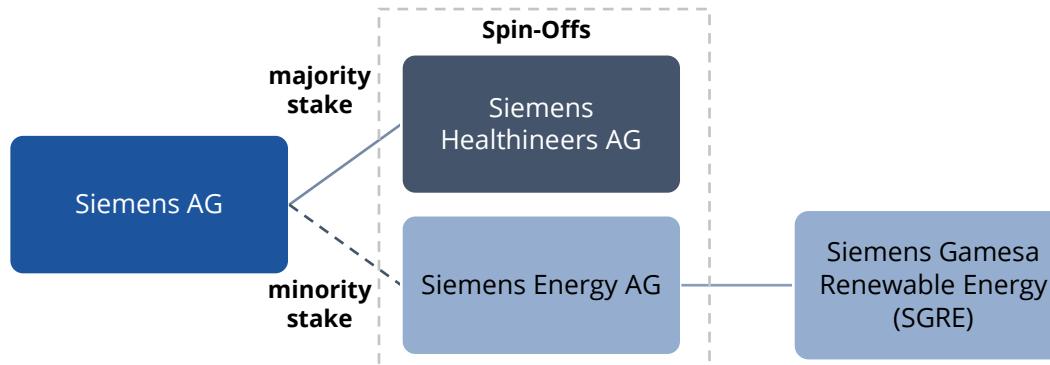


Siemens Brand

SIEMENS

The diverse Siemens brand umbrella includes Siemens AG, Siemens Healthineers, Siemens Energy AG & Siemens Gamesa

A powerhouse of diverse companies driving innovation



- Siemens has built a **strong brand** that **holds a significant intangible value**
- The "Siemens" name and brand is **widely recognized** for its attributes such as quality, value, innovation, technological excellence, trustworthiness, reliability, and integrity

➤ **Siemens Energy AG** was founded on April 1st, 2020
➤ Created out of Siemens' **previous gas and power unit & Siemens Gamesa**

Deeper insights on next slide

➤ **SGRE** is a top-tier producer of wind turbines for renewable energy generation
➤ Offers sustainable **solutions and services** for onshore and offshore wind power projects

Source: Siemens Gamesa (2023), Siemens Energy (2022a), Siemens (2020b), Eckl-Dorna (2023)

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Acquisition Feasibility

Alternative Solutions

Conclusion

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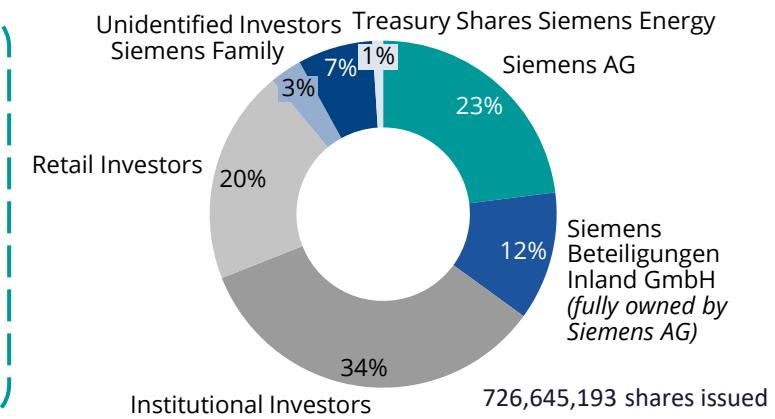
Strategic objectives for Siemens Energy spin-off

- **Changing Market Environment**
- **Freedom of Decision for Shareholders and Conglomerate Discount**
- **Avoiding Internal Competition for Financing Sources**
- **Better Transparency and Strengthening of Internal and External Identity**
- To be more agile and responsive to short-term market and industry trends, especially the transition towards renewable energy
- Better Framework Conditions for Implementing Each Company's Own Strategy
- Siemens AG targets growth in automation, digitization, and intelligent infrastructure markets to reinforce its market position

Siemens AG remains major shareholder of Siemens Energy

Siemens AG intended to **reduce its 35% stake in Siemens Energy within 12-18 months**, but the plan was delayed due to the poor performance of Siemens Energy

However, "With Siemens Energy's share price rising of late, Siemens is likely to start its selldown within the next 12 to 18 months." – Phil Buller, Analyst in January 2023



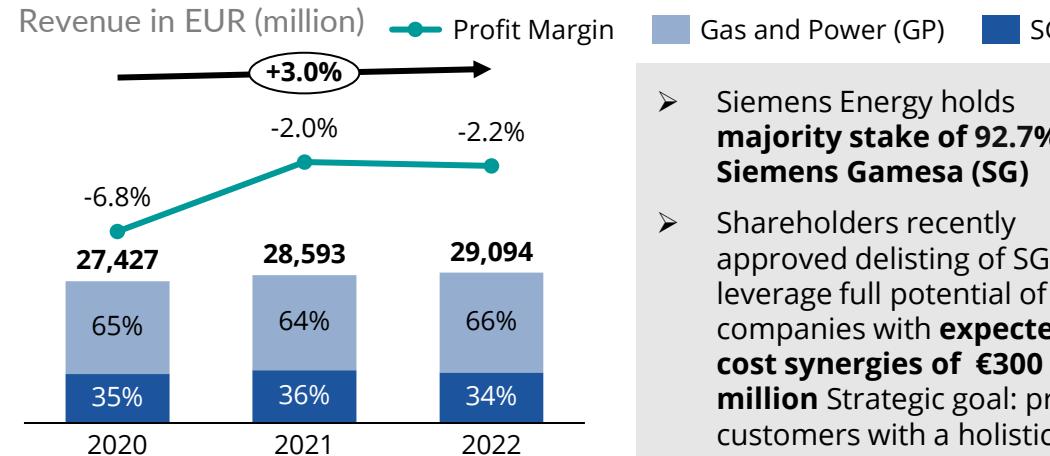


Siemens Energy Overview

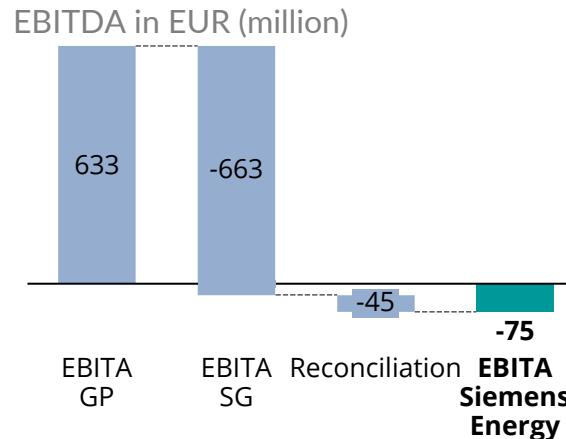
SIEMENS

Siemens Energy has fully integrated Siemens Gamesa despite negative impact on profitability to provide a more holistic energy supply solution

Siemens Energy has yet to reach profitability



... due to SG's negative influence

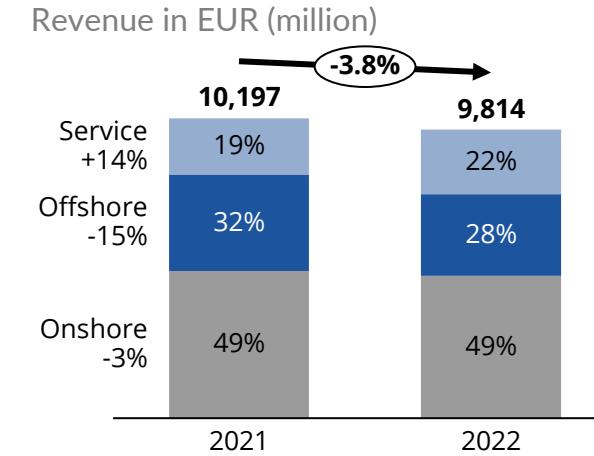


- Siemens Energy holds **majority stake of 92.7% in Siemens Gamesa (SG)**
- Shareholders recently approved delisting of SG to leverage full potential of joint companies with **expected cost synergies of €300 million** Strategic goal: provide customers with a holistic approach **towards achieving greater sustainability**

- New organizational structure including four segments:
 1. Gas Services
 2. Grid Technologies
 3. Transformation of Industry
 4. SGRE

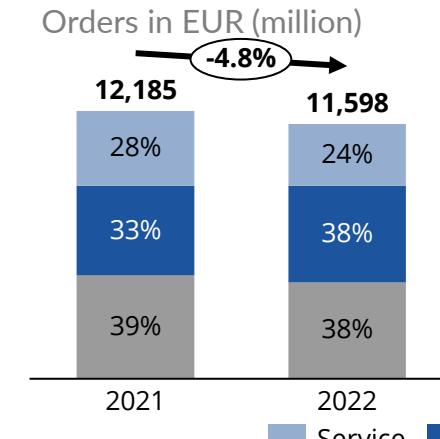
Despite strong performance in the GP business, **it cannot compensate for the losses incurred by Siemens Gamesa**

While Siemens Gamesa is facing declining revenues

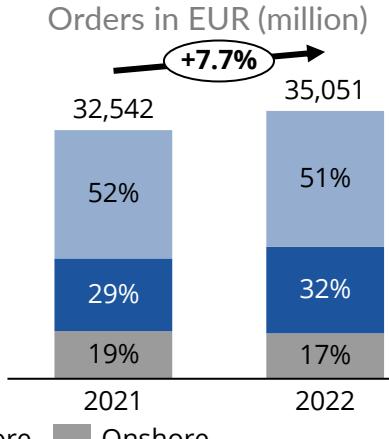


Revenue decline attributed to **reduced manufacturing and project execution, supply chain disruptions**, and challenges with the SG 5.X platform launch

... and decreasing order intake



... SG maintains order backlog growth



Largest orders received in offshore business, including a contract of €1.2 billion in US in 2022

Source: Siemens Energy (2022b, 2022c), Siemens Gamesa (2022)



Siemens in the Renewable Energy Industry

SIEMENS

Although Siemens decided to spin off their energy business, their strong focus on sustainability still connects them with the renewable energy industry

Recent partnerships of Siemens prioritize renewable energies



Portfolio focuses on integrating renewable energy into power grid



Enable utilities to reach net-zero by leveraging DERs



Net zero operations by 2030

Swinburne University
Joint project between industry and research to accelerate path to net zero



100% green electricity by 2030



Advance low-carbon, highly efficient energy solutions

SIEMENS

Siemens Energy is setting ambitious sustainable goals



Price parity with fossil-based hydrogen

Onshore: 2030
Offshore: 2035



Climate-neutral by 2030 for Scope 1+2



100% green electricity by 2030

Siemens Gamesa commissioned the **world's first green hydrogen project from wind**, a strategic step towards **large-scale green hydrogen production from mid-2020s**

Siemens is leading one of the pioneer projects in green hydrogen

Wunsiedel Energy Park

Green Hydrogen generation plant supplying a whole city



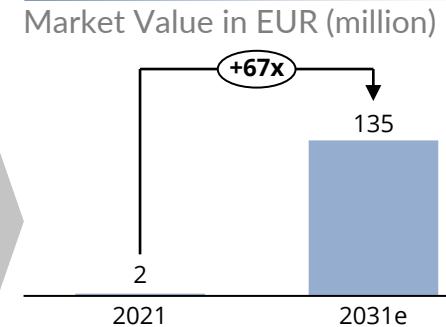
Cooperation of Siemens Smart Infrastructure and WUN H2

SIEMENS
energy

1,350 tons

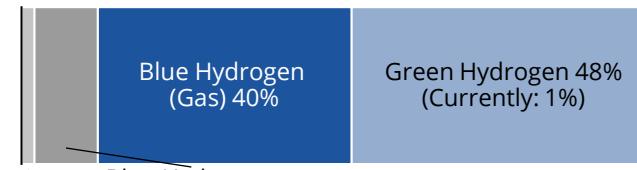
green hydrogen annually from renewable solar & wind power

Green hydrogen is gaining importance globally



Expected growth will require between 1,000 GW and 4,000 GW of renewable capacity by 2050

Global hydrogen production by technology in 2050e



Source: Statista (2022a, 2023a), Siemens (2022b, 2023b, 2023c) | Note: US\$ converted to EUR (€) at \$1 = €1

COMPANY ANALYSIS



SIEMENS



VESTAS



STRATEGIC FIT



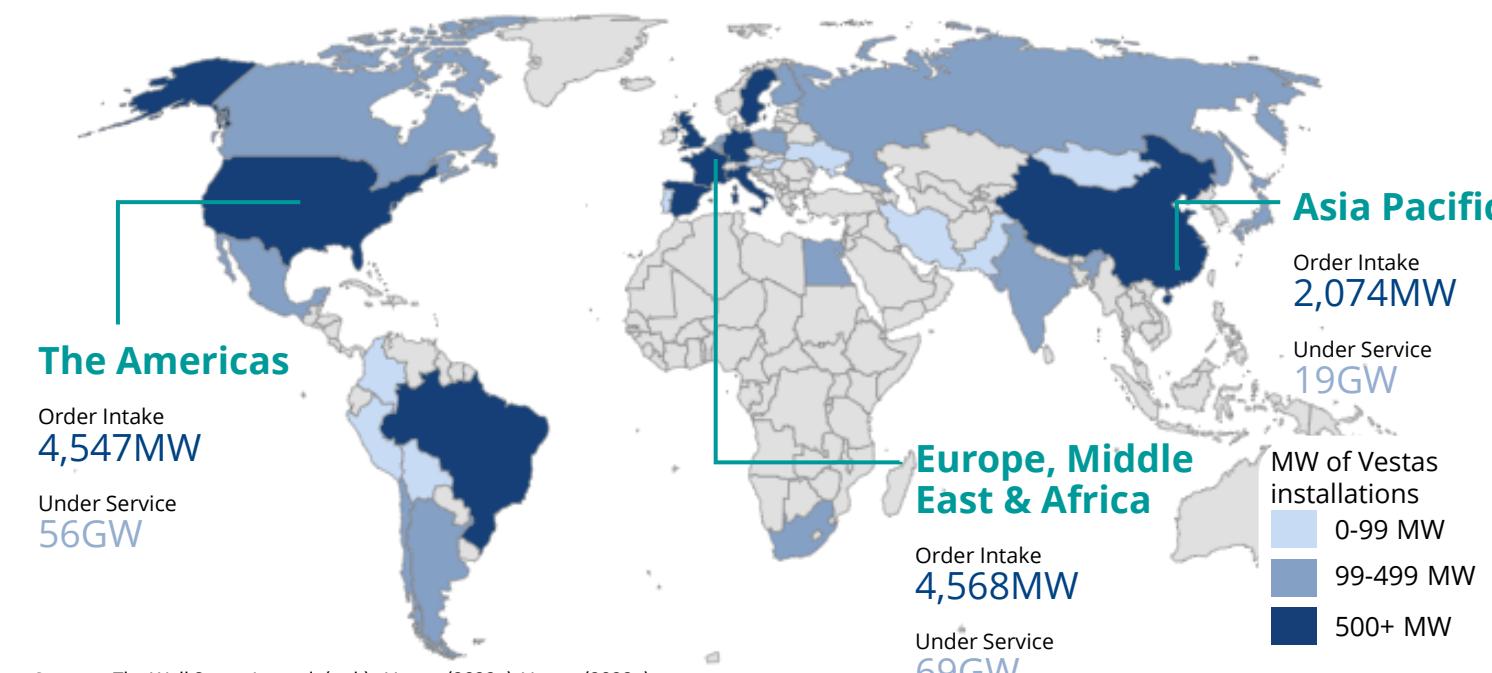
Vestas Company Overview

SIEMENS

A global company offering sustainable energy solutions by creating innovative wind turbines

Vestas has created a solid brand with a global presence

- Vestas is the **top wind energy manufacturer**, with a **sustainability focus**
- Main activities: **onshore/offshore turbines** production and **turbine service**
- **Complete in-house production** to cope with supply chain challenges
- **Acquisition of Mitsubishi Heavy Industries** enters Vestas into **offshore market** with a **15 MW prototype**
- Vestas **continues innovating** with bigger and better turbines



Sources: The Wall Street Journal. (n.d.), Vestas (2022a), Vestas (2023a)

Onshore is providing the main revenue stream

Average revenue from 2020-2022 by segment EUR (billion)

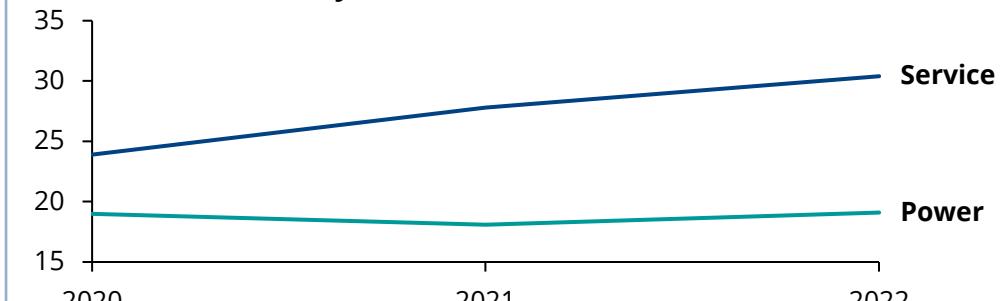
Onshore	Offshore	Service
11 (75%)	1 (8%)	3 (17%)

Average revenue for 2020-2022: €15 billion

A backlog of over €49.5 billion shows a secure future

Order backlog in EUR (billion)

- Backlog has been **increasing 8% YoY**, indicating steady growth in demand
- The power backlog remains constant due to **efficient production and placement**
- The service division has **quadrupled** in size to achieve service demand
- However, **if prices rise drastically** a backlog of this size **could become a liability**





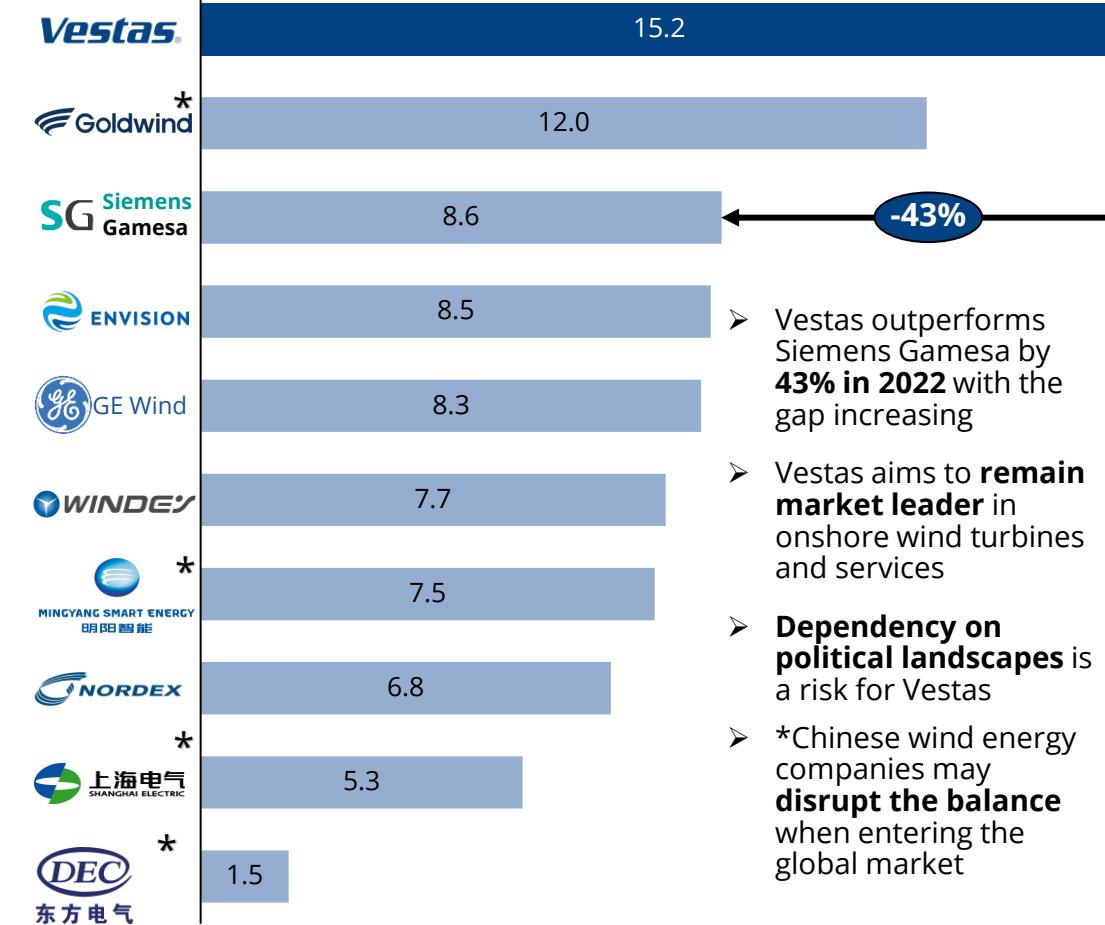
Vestas Market Position

SIEMENS

Utilizing its dominant place in the market, Vestas continuously grows in a dynamic landscape

Vestas leads an increasingly competitive global industry

Commissioned capacity per competitor (GW) in 2021



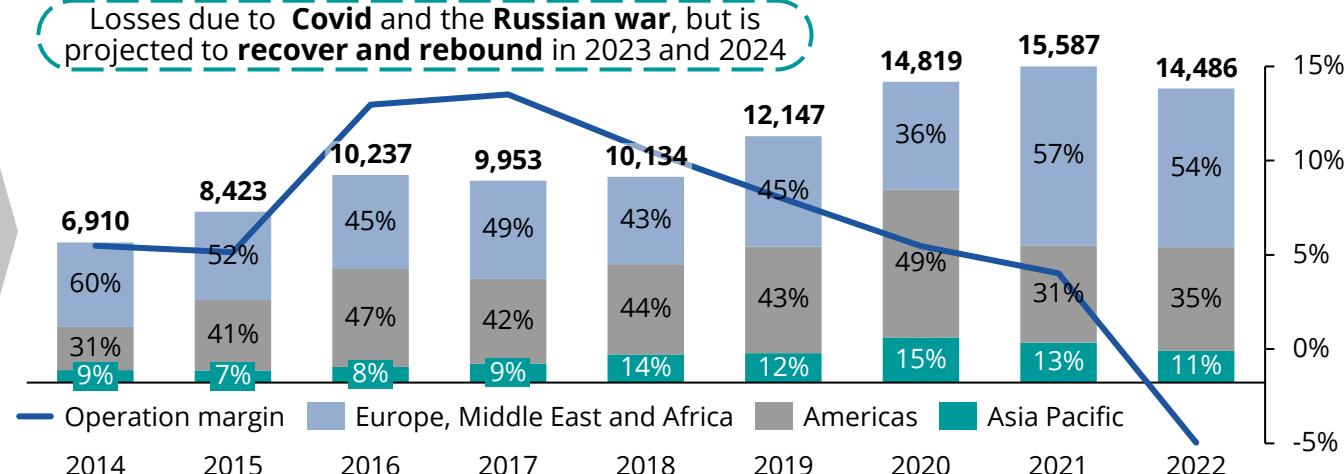
Executive Summary

Industry Analysis

Company Analysis

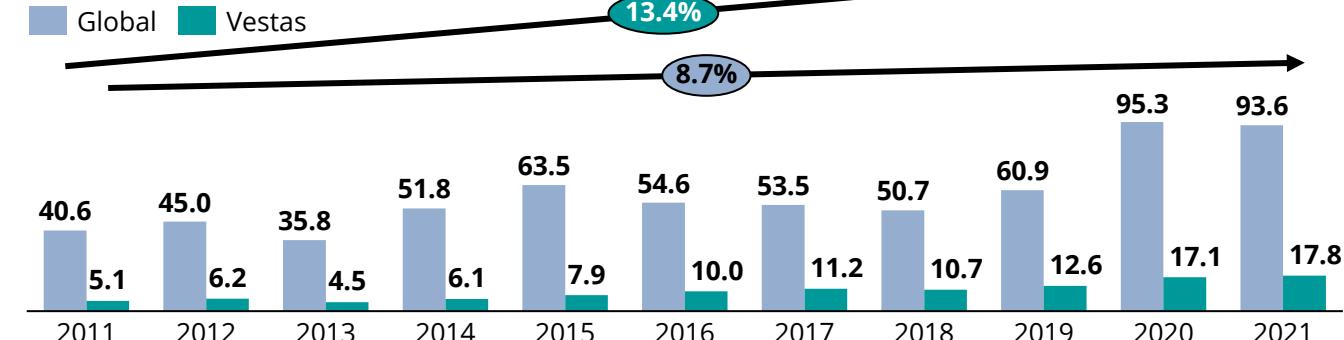
... while slowly entering the highly competitive Asian markets

Revenue per region in EUR (million), operating margin (%)



Vestas is growing with a CAGR of 13.4% and outpacing the market by 4.7%

Capacity produced & installed in GigaWatts (GW)



Financial Analysis

Acquisition Feasibility

Alternative Solutions

Conclusion



Vestas Opportunities and Challenges

SIEMENS

To maintain their current position, Vestas must prioritize two key aspects: expanding in the offshore market and enhancing its maturity

Vestas faces many challenges

- Expand into the highly competitive offshore market
- The onshore market is becoming increasingly competitive
- Dependency on countries budgets allowing renewable energy expansion
- Changes in rules and regulations that affect renewable energy

... and has unique opportunities

- Use low energy production costs to mature the industry
- Trusted technology that could be used in the offshore market
- Expansion of the smart grid technology, applied to wind turbines
- Can take the lead in the sector and lead to maturity

Vestas entered the offshore market via their JV buyout in 2020

Acquisitions per year and acquisition value in EUR¹ (billion)

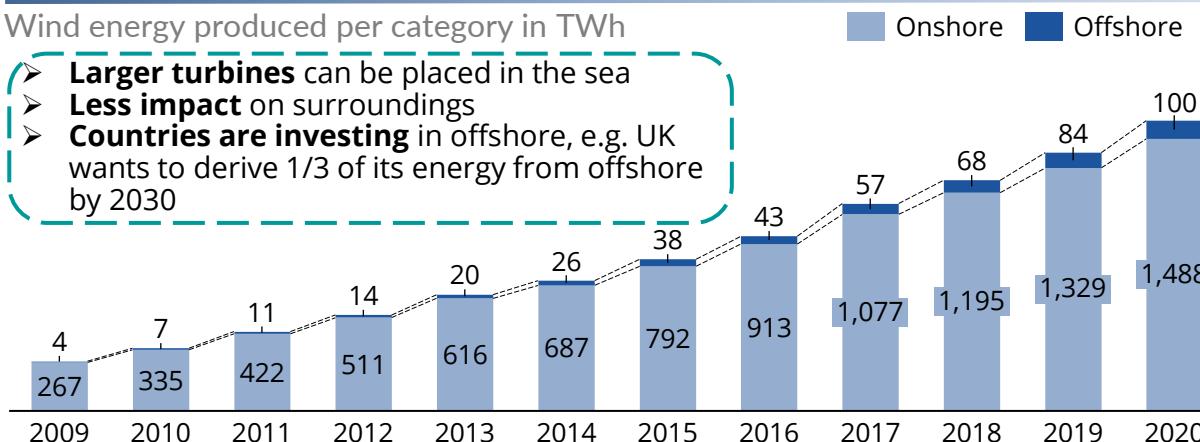


Vestas entered the offshore market in 2020 by buying out MHI
Vestas Offshore, a joint venture created in 2014. It is projected to generate 3B in revenue by 2025

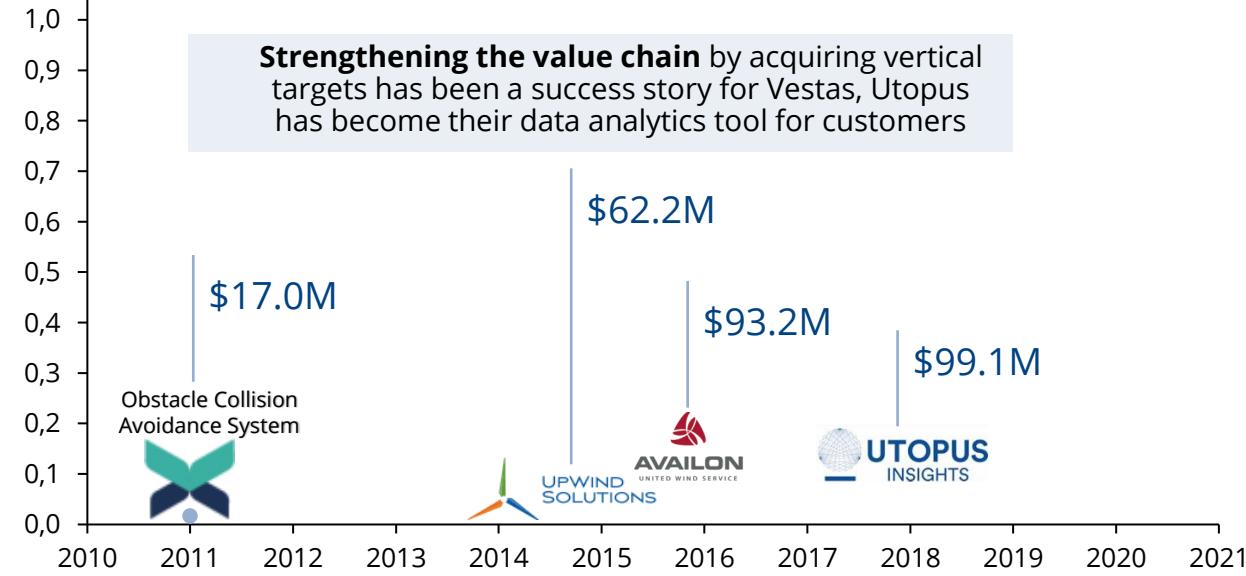
Vestas is expanding to keep up with the future of wind energy

Wind energy produced per category in TWh

- Larger turbines can be placed in the sea
- Less impact on surroundings
- Countries are investing in offshore, e.g. UK wants to derive 1/3 of its energy from offshore by 2030



Strengthening the value chain by acquiring vertical targets has been a success story for Vestas, Utopus has become their data analytics tool for customers



Source: Fitzgerald M. (2021), MBA Skool (n.d.), Statista; Richter, F. (2022) | Note: 1. US\$ converted to EUR (€) at \$1 = €1

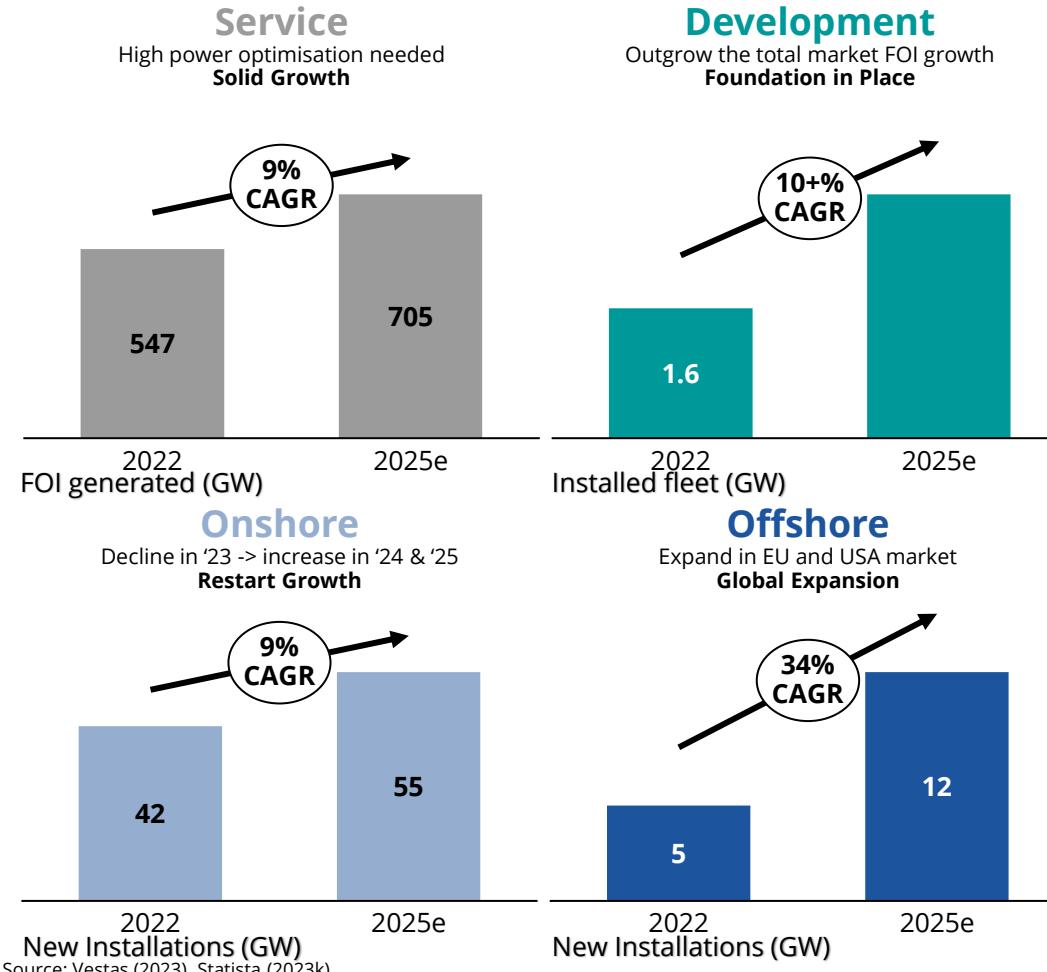


Vestas Ambitions and Goals

SIEMENS

Restoring profitability in the turbine segment remains the focus while simultaneously striving to build industry discipline and maturity

Four pillars will help Vestas reach their 2025 goals

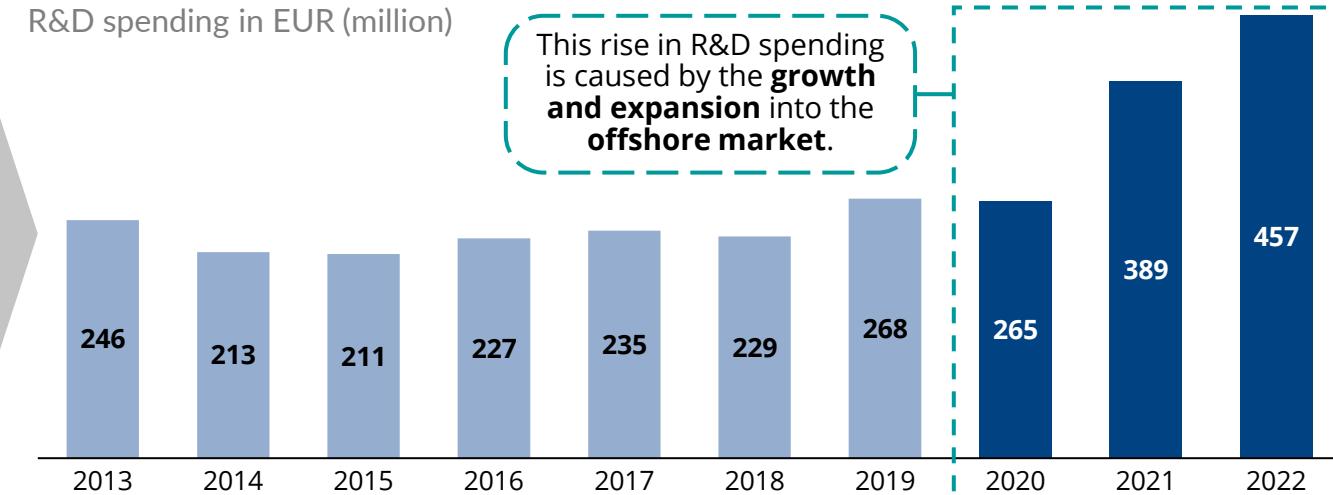


Executive Summary

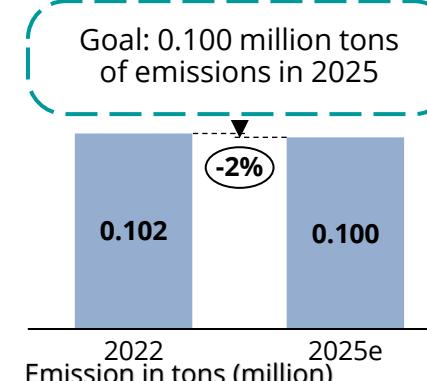
Industry Analysis

Company Analysis

This development is driven by Vestas' strong R&D spending



Sustainability and emissions are key strategic goals



- Vestas aims to be **carbon neutral** by **2030** without offsets
- Lead in the market to **promote sustainability**
- New wind turbines offset **CO2 production cost** in **5 months**
- Target of **10% EBIT margin** by **2025** is achievable

Financial Analysis

Acquisition Feasibility

Alternative Solutions

Conclusion

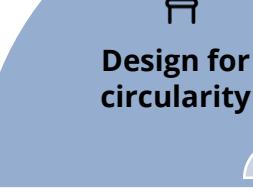
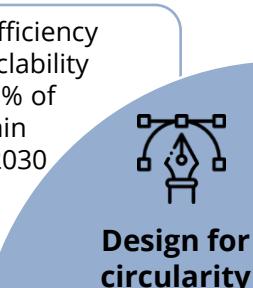
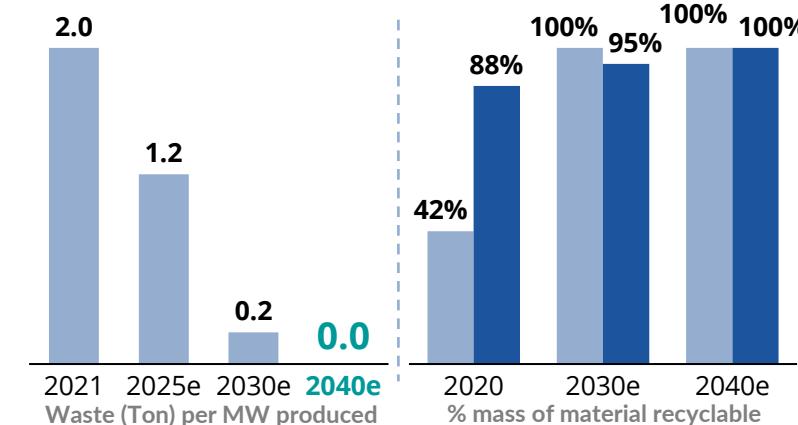


Vestas Sustainability

SIEMENS

Ambitious goals backed by concrete plans and roadmaps drive Vestas towards a more sustainable future

By designing for circularity Vestas solves the waste problem at the root



Expanding the resources by recycling old blades with new technology

*"Once this new technology is implemented at scale, legacy **blade material currently sitting in landfill**, as well as blade material in active windfarms, can be **disassembled, and re-used**. This **signals a new era for the wind industry**"*

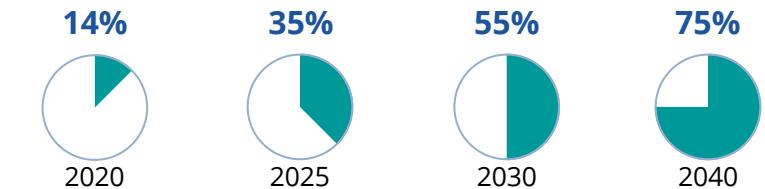
- Lisa Ekstrand, Vice President and Head of Sustainability

By partnering with **Stena Recycling and Epoxy manufacturer Olin**, this technology was realised



Using refurbished materials to increase profit

% refurbished components utilization rate (# of components)



- Creating new **repair loops** for **minor components**
- Achieved **2% YoY improvement** in the last 3 years
- 70%** of component materials are now being **reused**
- 45% less CO₂** is emitted when **refurbishing** instead of manufacturing something new

Source: Vestas (2022b), Vestas (2023a), Vestas (2023b)

Operational circularity



- Repair
- Reuse
- Refurbish

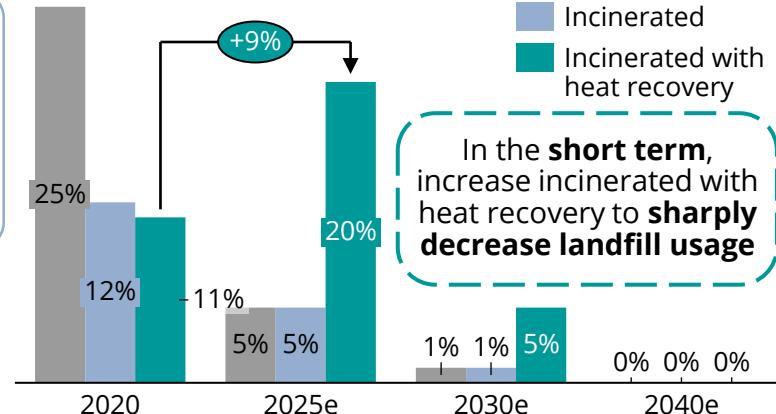
Material recovery



- Reduce landfill & incineration
- Increase recycling

Moving towards total recyclability

% of waste of Vestas' operations



- Landfilled
- Incinerated
- Incinerated with heat recovery

In the **short term**, increase incinerated with heat recovery to **sharply decrease landfill usage**



COMPANY ANALYSIS



SIEMENS



VESTAS



STRATEGIC FIT



Strategic Fit Overview

SIEMENS

Siemens and Vestas are both innovative and sustainability-focused, however, Vestas does not align with Siemens' strategic focus

Sustainability:

While Vestas and Siemens share similar goals, their approaches differ significantly. Siemens has broader plans that focus on their supply chain and the DEGREE system, while Vestas is primarily focused on improving their wind turbines with specific goals and concrete plans.

Sustainability and R&D



Research & Development:

Vestas and Siemens invest heavily in R&D for innovation. Siemens, not interested in the energy generation industry, will have limited benefits from Vestas' accumulated knowledge. Both companies prioritize R&D to drive progress, we will explore this further in the next slide.

Siemens Strategy:

Siemens has decided to focus on core competencies of automation, digitization and technology, which does not align with the strategic focus of Vestas.

Vestas



SIEMENS

Strategic Focus



Siemens Energy Spin-Off:

Siemens decided in 2020 to restructure their business units and operate their energy segment as an independent company. Therefore, acquiring Vestas would contradict this strategy and potentially harm their brand.

SIEMENS
ENERGY

Product:

Siemens provides a broad range of products including automation, digital platforms, and industrial electrical devices. In contrast, Vestas exclusively focuses on producing sustainable wind turbines. Although Vestas offers a diverse range of turbines, they are not compatible with Siemens' product lines.

Product & Network



Network:

Siemens and Vestas have global production facilities and suppliers, but no direct overlap. Vestas could benefit from Siemens' stable and expansive supply chain, reducing the volatility of their own supply chain issues and improving profitability.

● Goodness of fit

Source: Siemens (2020b), Vestas (2023), Chopping (2022), Team Analysis

Scenario-Analysis: Insights on Strategic Fit of Siemens Energy and Vestas in Appendix



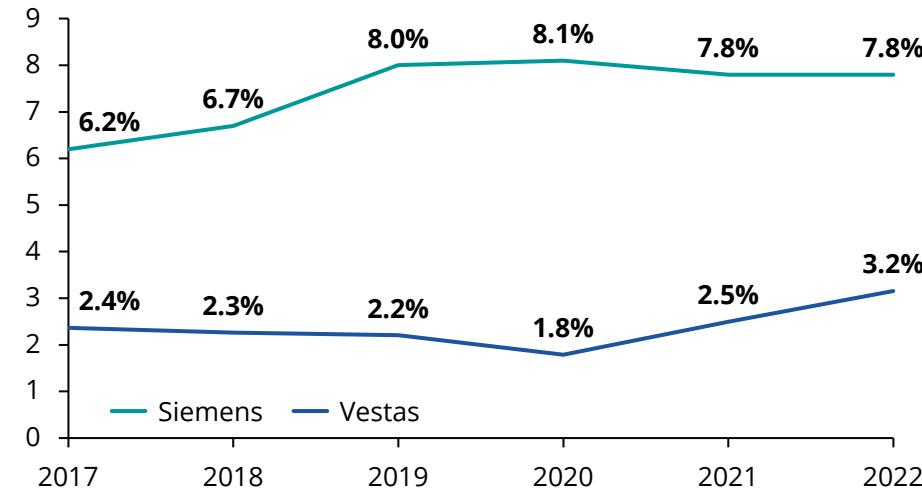
Research & Development and Sustainability

SIEMENS

Siemens and Vestas share common efforts in R&D and sustainability, but in different markets, which decreases the potential for combined efforts

Siemens places emphasis on innovation through R&D

% of R&D spending compared to revenue



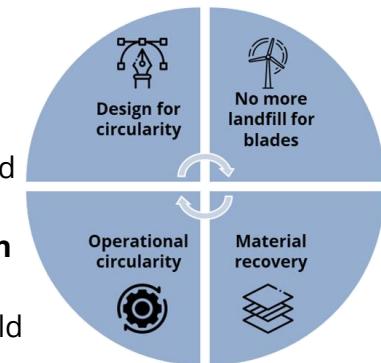
R&D

Strategic Focus

- Siemens invests heavily in R&D, however energy research is handled by Siemens Energy, causing a disconnect with Vestas' R&D
- Vestas can benefit from Siemens' expertise in grid management
- **Sustainability goals overlap**, but their strategic connectivity is limited due to **differing products and methods**

Siemens and Vestas share goals, but in different markets

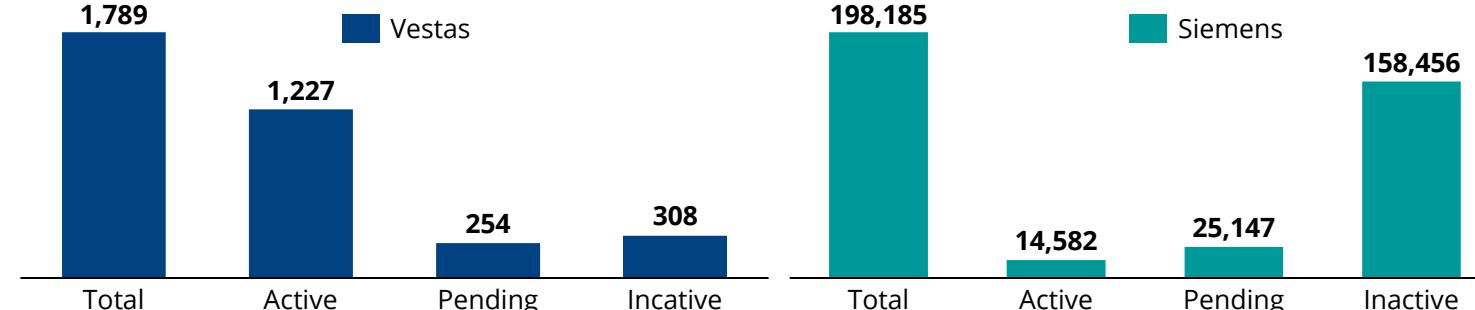
Vestas



- Shared goals: carbon neutrality, net zero supply chains & zero waste operations
- Siemens wants to **produce hydrogen using 100% green energy**
- Siemens focuses on recycling Li-ion batteries while Vestas recycles their wind turbines
- Siemens could leverage Vestas' **in-depth circularity system**
- **Siemens lacks clear projects** that would help them reach sustainability goals within the company and supply chain

While Vestas holds many wind turbine patents, they are of low value to Siemens

Amount of patents per category



Source: PitchBook (2023a, 2023c), Vestas (2022a), Siemens (2022a)

SIEMENS

Framework to sustainability

Decarbonization

- Net zero operations by 2030, net zero supply chain by 2050

Ethics

- Training all employees on Business Conduct Guidelines every 3 years

Governance

- Long-term incentives based on ESG criteria

Resources

- Zero landfill waste by 2030

Equity

- 30% female share in top-level management by 2025

Employability

- Increase digital learning hours to 25h



Strategic Focus

SIEMENS

Siemens has shifted their focus away from the energy industry towards their core competencies in automation, digitization, and technology

Siemens strategically adjusted organizational structure

R&D

Strategic Focus

Vestas

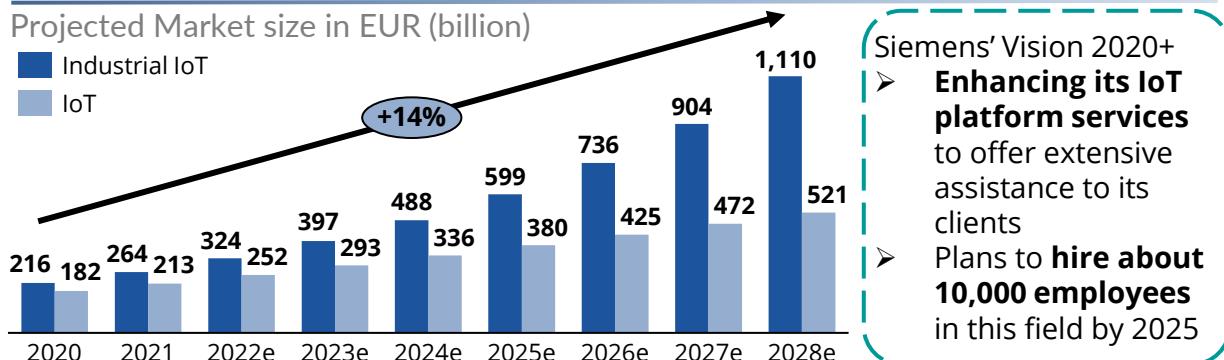
SIEMENS

- In **Siemens' Vision 2020+** they decided to restructure their company's business units to **create a leaner management** and allow for more flexibility
- Strong focus on ownership culture
- In course of this: **decided on Siemens Energy Spin-Off**
 - To focus on own core competencies (automation, digitization, technology)
 - Optimize resource allocation
 - Transferred ownership in Siemens Gamesa

Siemens efforts in renewable energy generation are limited

- Siemens is involved in **green hydrogen production** in their **pioneer project** in Wunsiedel (Germany), **for which they require supply of renewable energy** in form of wind or solar
- Siemens Energy is providing the necessary facilities

Instead, they are focusing heavily on IoT technology



They share common goals

Emphasize sustainability by reducing carbon footprint and creating innovative solutions for a sustainable future

Prioritize understanding customer needs and providing tailored solutions

But are not a 'perfect match'

Siemens made a strategic decision to no longer be involved in operational business of the energy sector

Siemens needs renewable energy for operations and strategic goals, but no longer produces it directly

Vestas does not add value to Siemens' focus on digitization and automation

"When selecting the business areas to be separated, Siemens AG's managing board has been guided by the concept that the **Future Siemens Group will focus more strongly on its core competencies.**" – Siemens about Siemens Energy Spin-Off

SIEMENS
ENERGY

Therefore, acquiring Vestas does not align with their strategic focus and could potentially negatively impact their brand image since Vestas' direct competitor Siemens Energy carries the brand name.

Source: Statista (2022c, 2023l), Siemens (2018a, 2018b, 2020b) | Note: US\$ converted to EUR (€) at \$1 = €1



FINANCIAL ANALYSIS



COMPARABLES



DISCOUNTED
CASH FLOW



SYNERGIES



Vestas Potential Peer Groups

SIEMENS

Identified peer groups based on Vestas' common touchpoints – Wind Turbine Manufacturing, Grid Management, Recycling/Circularity & Renewable Energy Companies

Wind Turbine Manufacturing

As Vestas' primary market, the wind turbine manufacturing industry is considered a key peer group



01

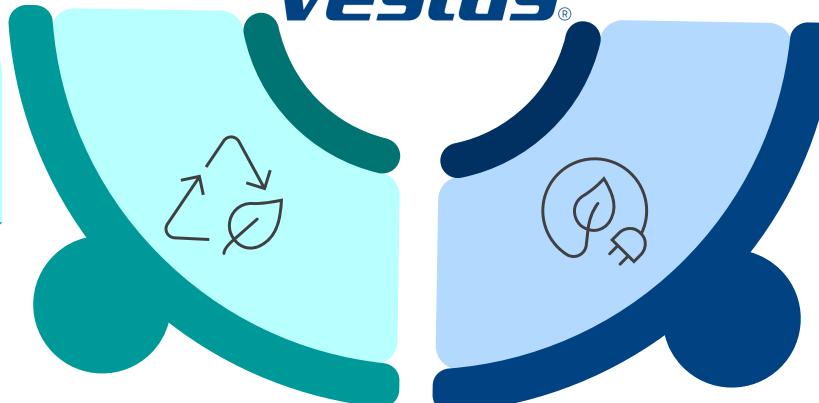


Recycling/Circularity

Vestas is constantly innovating with a strong focus on sustainability and creating circularity by fully recycling their wind blades



03



Energy Grid Management

Next to their primary business, Vestas offers services that include the management of their turbine grids



02

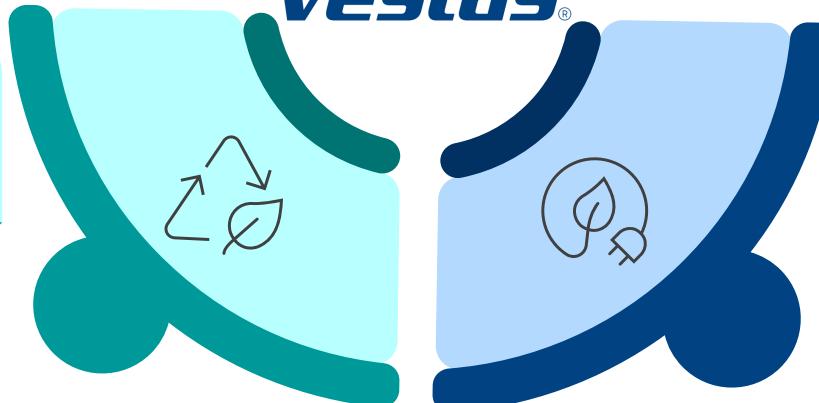


Renewable Energy Companies

As a wind turbine manufacturer, Vestas competes in a growing market of renewable energy companies



04



Source: Vestas (2022a)



Vestas Peer Segment Relevance Analysis

SIEMENS

Vestas' major revenue stream is generated by sales of wind turbines, which has the biggest overlap with the wind turbine manufacturing industry

	Market Size ¹ & CAGR	Brand Relevance	Revenue Drivers	Cost Drivers	Implication
Vestas	€14.5 billion ('22) 15.5% CAGR ('22-'27)		<input checked="" type="checkbox"/> Service <input checked="" type="checkbox"/> Installation <input checked="" type="checkbox"/> Manufacturing	<input checked="" type="checkbox"/> Production <input checked="" type="checkbox"/> R&D <input checked="" type="checkbox"/> Logistics <input checked="" type="checkbox"/> Materials	-
Wind Turbine Manufacturing 	€77.8 billion ('22) 9.4% CAGR ('22-'30)		<input checked="" type="checkbox"/> Service <input checked="" type="checkbox"/> Installation <input checked="" type="checkbox"/> Manufacturing	<input checked="" type="checkbox"/> Production <input checked="" type="checkbox"/> R&D <input checked="" type="checkbox"/> Logistics <input checked="" type="checkbox"/> Materials	As a market leader in wind turbine manufacturing, Vestas has the largest overlap with this peer group
Energy Grid Management 	€40.7 billion ('22) 13.3% CAGR ('23-'30)		<input checked="" type="checkbox"/> Service <input type="checkbox"/> Installation <input type="checkbox"/> Manufacturing	<input type="checkbox"/> Production <input checked="" type="checkbox"/> R&D <input type="checkbox"/> Logistics <input type="checkbox"/> Materials	Vestas is operating turbine grid management, which is only a fraction of the overall grid management industry
Recycling/Circularity 	€457.1 billion ('20) 7.8% CAGR ('21-'27)		<input checked="" type="checkbox"/> Service <input type="checkbox"/> Installation <input type="checkbox"/> Manufacturing	<input checked="" type="checkbox"/> Production <input checked="" type="checkbox"/> R&D <input checked="" type="checkbox"/> Logistics <input type="checkbox"/> Materials	The peer group has the least brand relevance and revenue driver overlap for Vestas
Renewable Energy Companies 	€1,030.9 billion ('22) 9.1% CAGR ('22-'30)		<input checked="" type="checkbox"/> Service <input checked="" type="checkbox"/> Installation <input checked="" type="checkbox"/> Manufacturing	<input checked="" type="checkbox"/> Production <input checked="" type="checkbox"/> R&D <input checked="" type="checkbox"/> Logistics <input checked="" type="checkbox"/> Materials	Revenue and cost drivers are similar to Vestas but the peer group is less relevant for Vestas' brand

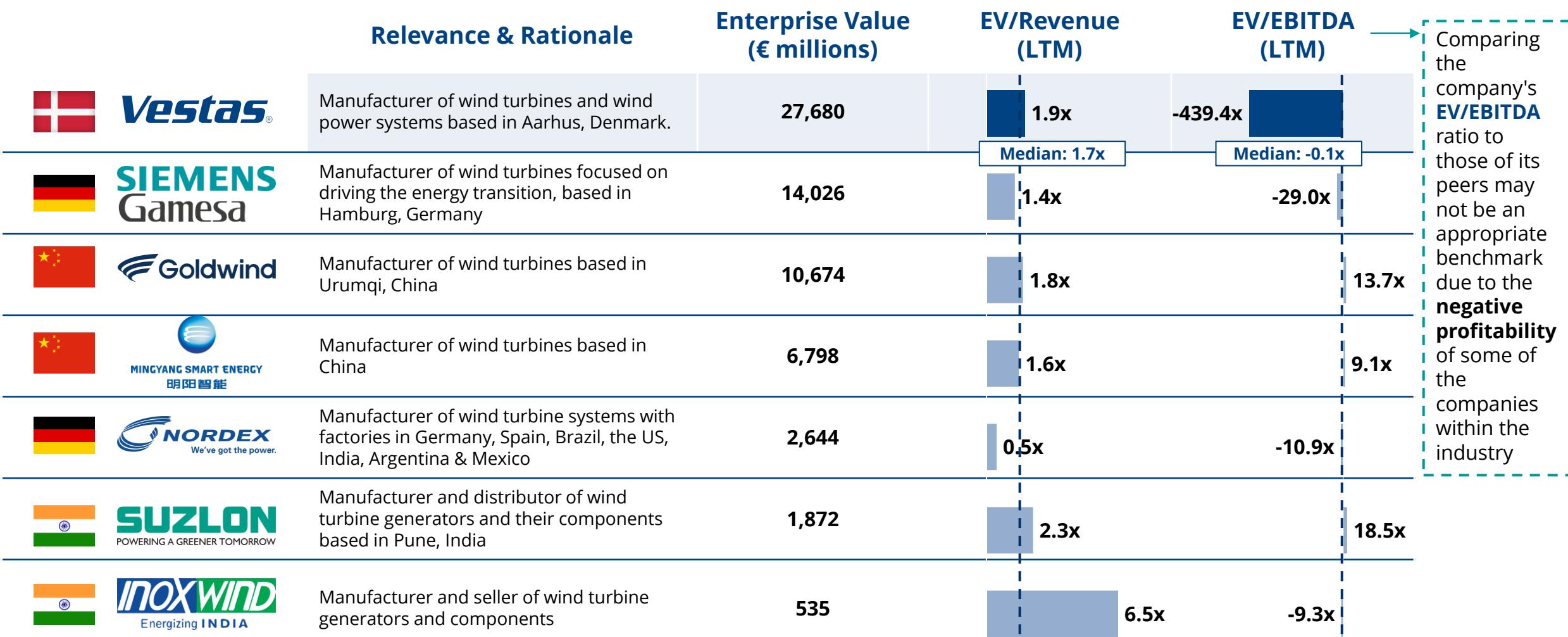
Source: Vestas (2022a), Pitchbook (2023c), Yahoo Finance (2023) Note: 1. US\$ converted to EUR (€) at \$1 = €1



Peer Group Trading Multiples

SIEMENS

Vestas' EV/Revenue multiple of 1.9x is slightly above the peer median, which implies that Vestas is overvalued



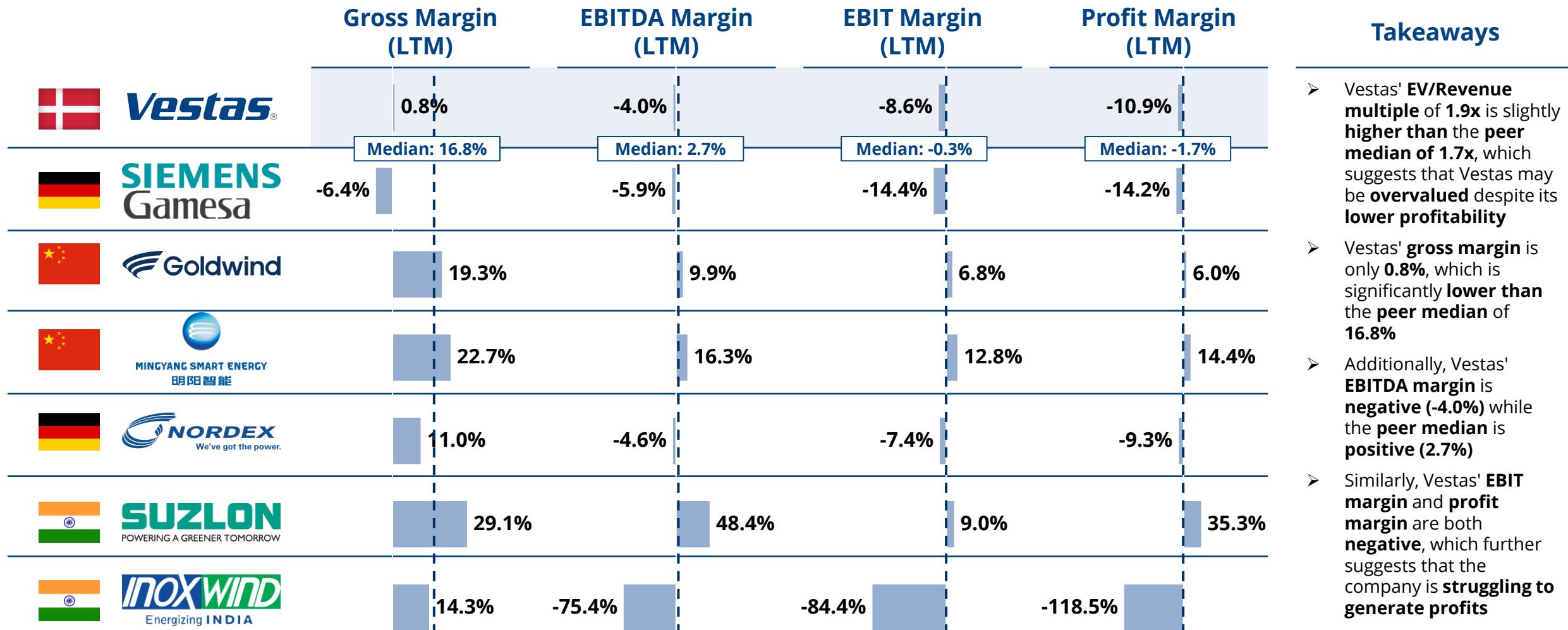
Source: Vestas (2022a), Pitchbook (2023c), Yahoo Finance (2023), Own Team Analysis



Peer Group Margin Analysis

SIEMENS

Vestas' profitability is impacted by supply chain disruptions and higher warranty provisions, causing it to underperform as compared to the peer median



Source: Vestas (2022a), Pitchbook (2023c), Yahoo Finance (2023), Own Team Analysis



Equity Value Based on Comparables

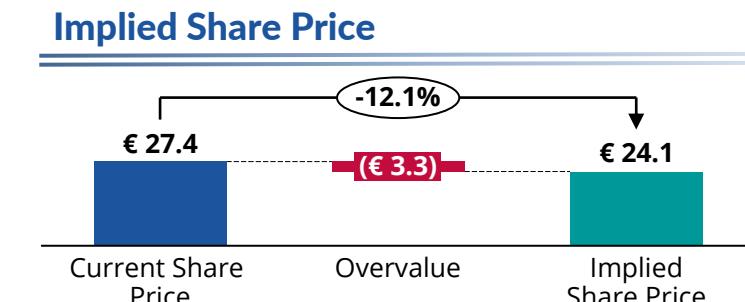
SIEMENS

The comparable analysis for Vestas implies a share price of €24.1, overvalued by ~12% as compared to the current share price of €27.4

Ticker	Company Name	(€) Current Price	(€ mm) Enterprise Value	Revenue Growth		EBITDA Margin		Profit Margin		Trading Multiples			
				'21-'22	'22-'23	'22	LTM	'22	LTM	'22	LTM	'22	LTM
CSE:VWS	Vestas Wind Systems	27.4	27,680	(7%)	6%	(0%)	(0%)	(11%)	(11%)	1.9x	1.9x	-439.4x	-439.4x
MAD:SGRE	Siemens Gamesa		14,026	(4%)	2%	(0%)	(5%)	(10%)	(14%)	1.4x	1.4x	-29.0x	-14.0x
SHE:002202	Xinjiang Goldwind Science & Technology	1.5	10,674	(7%)	(5%)	18%	13%	7%	6%	1.6x	1.8x	8.9x	13.7x
SHG:601615	MingYang Smart Energy Group	3.5	6,798	25%	15%	18%	17%	11%	15%	1.9x	1.6x	10.7x	9.1x
ETR:NDX1	Nordex (Hamburg)	14.0	2,644	17%	1%	1%	(5%)	(4%)	(9%)	0.5x	0.5x	49.2x	-10.9x
BOM:532667	Suzlon Energy	0.1	1,872	98%		15%	12%	(3%)	35%	2.5x	2.3x	17.1x	18.5x
BOM:539083	INOX Wind	1.2	535	(12%)	39%	(48%)	(70%)	(68%)	(118%)	7.4x	6.5x	-15.4x	-9.3x
Mimuminum				(12%)	(5%)	(48%)	(70%)	(68%)	(118%)	0.5x	0.5x	-15.4x	-51.9x
Mean				19%	10%	1%	(6%)	(11%)	(14%)	2.6x	2.3x	14.1x	-8.7x
Median				7%	2%	8%	4%	(4%)	(2%)	1.8x	1.7x	10.7x	-0.1x
Maximum				98%	39%	18%	17%	11%	35%	7.4x	6.5x	49.2x	18.5x

Revenue, LTM	14,486
EV / Revenue Multiple	1.7x
Enterprise Value	24,288
+ Cash	2,378
- Debt	2,427
Equity Value	24,239
Shares	1,006
Implied Share Price	€ 24.1

Sensitivity Analysis					
EV / Revenue					
Enterprise Value	0.5x	1.2x	1.7x	2.2x	2.7x
7,243	17,045	24,288	31,531	38,774	
7,194	16,996	24,239	31,482	38,725	
€ 7.1	€ 16.9	€ 24.1	€ 31.3	€ 38.5	



- Based on the **comparables** analysis method, **Vestas' implied share price is €24.1** using a median EV/Revenue exit multiple of 1.7x. We avoided using EV/EBITDA multiple due to the potential distortion caused by negative EBITDA values.
- However, comparable analysis can be affected by peer group selection. To mitigate resulting potential biases in comparables analysis, **we will incorporate the DCF valuation method** to determine a **more precise estimation** of Vestas' equity value

Values in EUR (million) unless otherwise specified

Source: Vestas (2022a), Pitchbook (2023c), Yahoo Finance (2023), Own Team Analysis



FINANCIAL ANALYSIS

1

COMPARABLES

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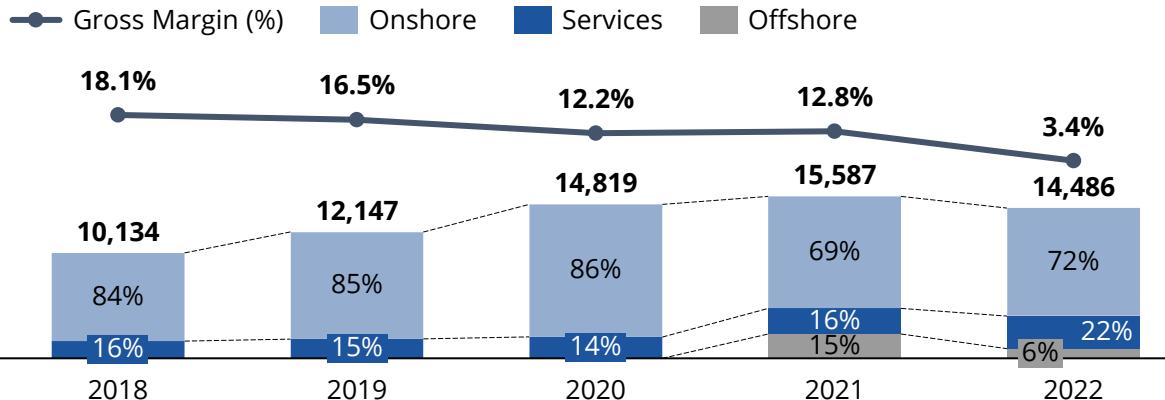
Vestas Financial Performance

SIEMENS

Vestas is struggling to maintain profitability in the wind turbine industry due to intense competition and extended lead times

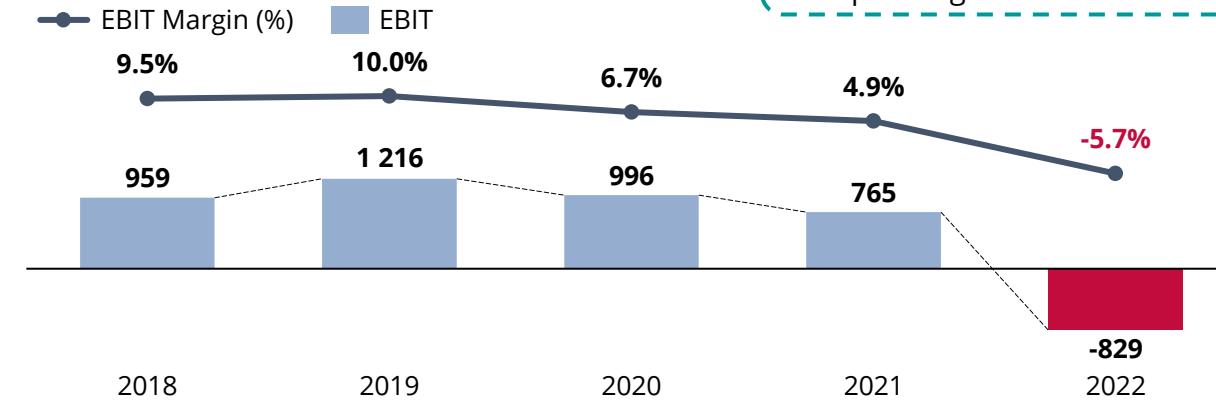
Revenue & Gross Profit

in EUR (million), Revenue grew at a CAGR of ~9% from 2018 to 2022



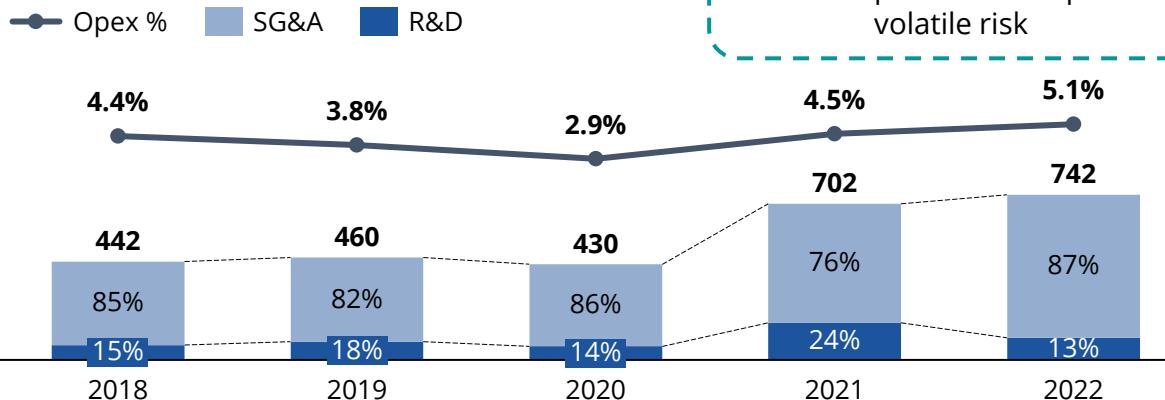
EBIT & EBIT Margin

in EUR (million) and EBIT as a (%) of Total Revenue



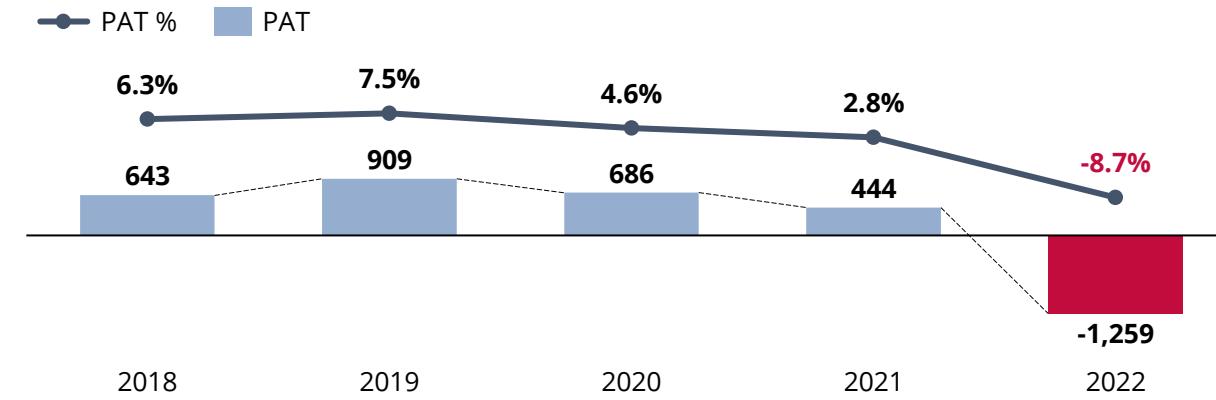
Operating Expenses - SG&A and R&D

In EUR (million) and Opex as a % of Total Revenue



PAT & PAT Margin

In EUR (million) and PAT as a (%) of Total Revenue



Source: Vestas (2022a), Pitchbook (2023c), Yahoo Finance (2023), Morningstar (2023), Own Team Analysis



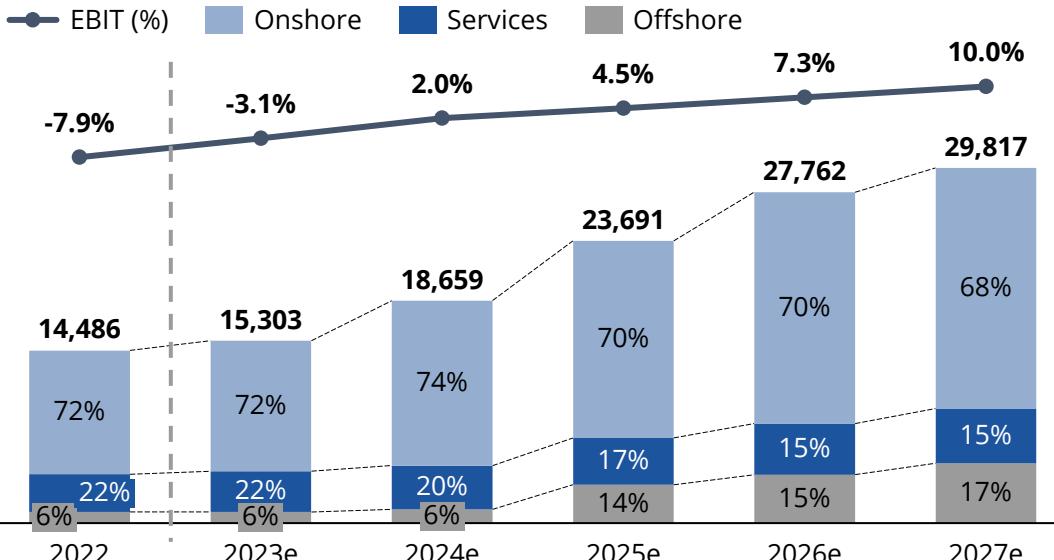
Vestas Revenue Growth Projection

SIEMENS

Revenue is forecasted to reach ~€30 billion by 2027, with ~57% of revenues stemming from Europe, the Middle East & Africa

Vestas' Revenue & EBIT projections by segment

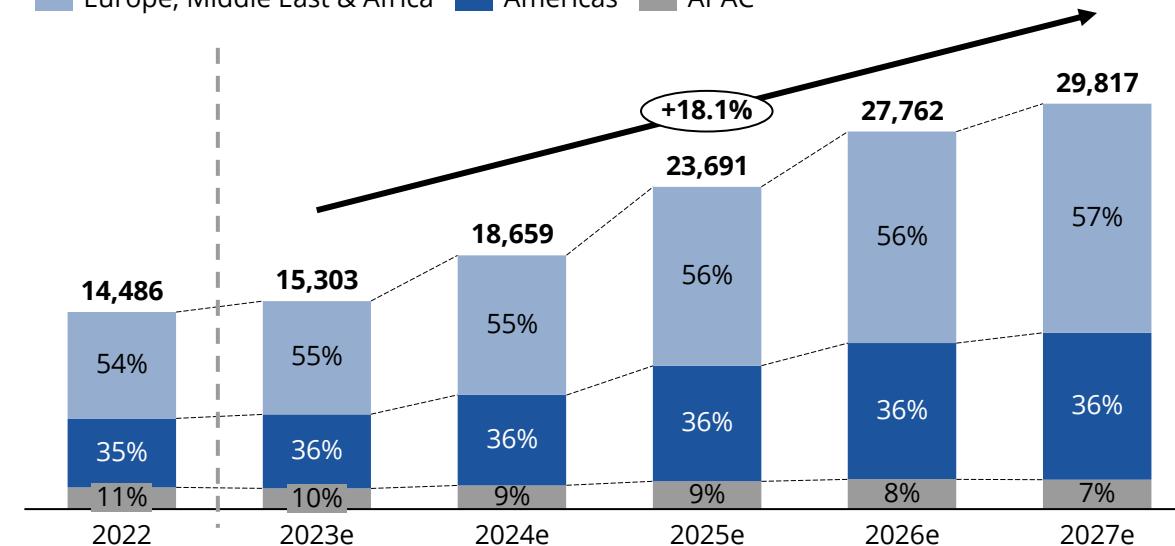
in EUR (million), Projected to grow at a CAGR of 18.1% from 2023 to 2027



Revenue projections by geography

in EUR (million)

Europe, Middle East & Africa Americas APAC



- Vestas derives all its profits from the **sale and servicing of wind turbines** and as the world transitions to wind energy, Vestas is well-positioned to benefit from this trend
- The company **has a leading position in the onshore wind turbine market** and is working to improve its competitiveness in the faster-growing offshore wind segment. The recent buyout of their joint venture with Mitsubishi Heavy Industries will increase their investment capability in this area
- Vestas is targeting **€3 billion in revenue** from **offshore turbines** by **2025**, which will require significant effort to achieve given the level of competition in the market
- Vestas aims to **achieve an EBIT margin** of at least **10%** but faces challenges from **competitive rivalry** among participants and the **threat of Chinese entrants**
- The **inflationary environment has negatively impacted Vestas' profitability**, with key materials like **steel and copper experiencing high volatility**. Prices for wind turbines are locked in several years in advance, which limits their pricing power and ability to pass on cost increases to customers

Source: Vestas (2022a), Pitchbook (2023c), Yahoo Finance (2023), Morningstar (2023), Own Team Analysis



Vestas Intrinsic Value

SIEMENS

According to our DCF valuation, Vestas' intrinsic value per share is estimated at €19.3, indicating an overvaluation of ~30%

Street Case DCF

DCF	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027 CAGR ('18-'22)	CAGR ('23-'27)
Revenue	10,134	12,147	14,819	15,587	14,486	15,303	18,659	23,691	27,762	29,817	9.3% 18.1%
% growth	19.9%	22.0%	5.2%	-7.1%	5.6%	21.9%	27.0%	17.2%	7.4%		
EBIT	1,013	1,118	1,165	704	(1,142)	(473)	378	1,068	2,014	2,982	
% margin	10.0%	9.2%	7.9%	4.5%	-7.9%	-3.1%	2.0%	4.5%	7.3%	10.0%	
Taxes	227	209	163	81	-124	-57	152	286	501	686	
EBIAT	786	909	1,002	623	(1,018)	(416)	226	782	1,513	2,296	
D&A	426	546	630	921	899	937	1,077	1,288	1,310	1,193	
CapEx	312	451	379	476	371	612	658	843	910	895	
Change in NWC	169	437	588	(9)	192	267	326	413	485	520	
Unlevered FCF	731	567	665	1,077	(682)	(358)	319	814	1,428	2,074	
Present Value of FCF						(325)	262	606	964	1,269	
Terminal Value										27,205	
Present Value of Terminal Value										16,654	
Enterprise Value	19,432										
WACC											
+ Cash											
- Debt											
Equity Value	19,383										
Shares	1,006										
Implied Share Price	€ 19.3										

Deeper insights in appendix

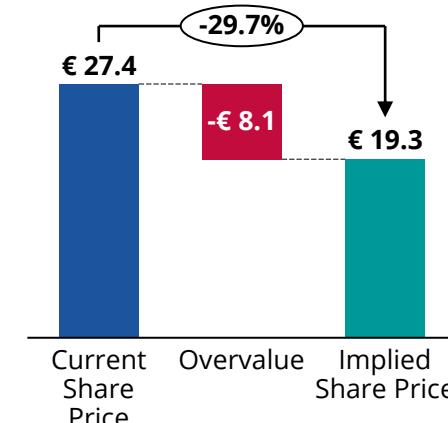
WACC	€ mm Basis of Consideration
Market Value of Debt	2,427
% Debt	8.1%
Cost of Debt	3.2% Company Reports
Tax Rate	22.0% Company Reports
Market Capital	27,589, as on 05 March, 2023
% Equity	92%
Cost of Equity	10.9%
Risk Free Rate	4.1% US Treasury 10Y Note, 02 Mar, 2023
Beta	1.2 Yahoo Finance 5 Year Estimate
Market Risk Premium	5.9% Damodaran NY Stern, 05 Jan, 2023
Debt + Equity	30,016
WACC	10.3%

Vestas Sensitivity Analysis

WACC	Enterprise Value				
	1.5%	2.0%	2.5%	3.0%	3.5%
9.3%	20,151	21,422	22,879	24,567	26,546
9.8%	18,689	19,787	21,035	22,466	24,124
10.3%	17,398	18,353	19,432	20,657	22,062
10.8%	16,249	17,087	18,025	19,084	20,287
11.3%	15,220	15,959	16,782	17,704	18,744

WACC	Implied Share Price				
	1.5%	2.0%	2.5%	3.0%	3.5%
9.3%	€ 20.0	€ 21.2	€ 22.7	€ 24.4	€ 26.3
9.8%	€ 18.5	€ 19.6	€ 20.9	€ 22.3	€ 23.9
10.3%	€ 17.2	€ 18.2	€ 19.3	€ 20.5	€ 21.9
10.8%	€ 16.1	€ 16.9	€ 17.9	€ 18.9	€ 20.1
11.3%	€ 15.1	€ 15.8	€ 16.6	€ 17.5	€ 18.6

Implied Share Price



The sensitivity analysis ranges the implied share price for Vestas between €15.1 and €26.3 and the model estimates the implied share price to be €19.3

Values in EUR (million) unless otherwise specified

Source: Pitchbook (2023c), Yahoo Finance (2023c), Damodaran (2023), Morningstar (2023), Own Team Analysis

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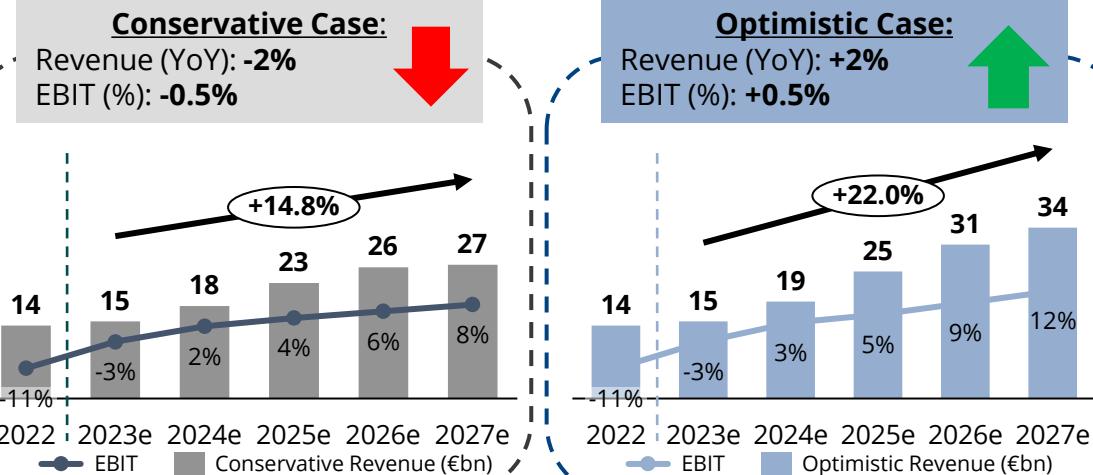
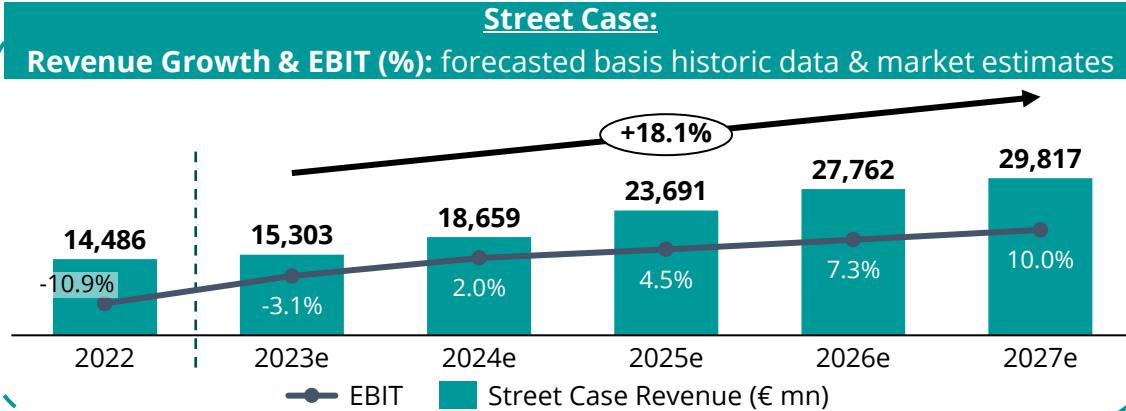


DCF Scenario Analysis

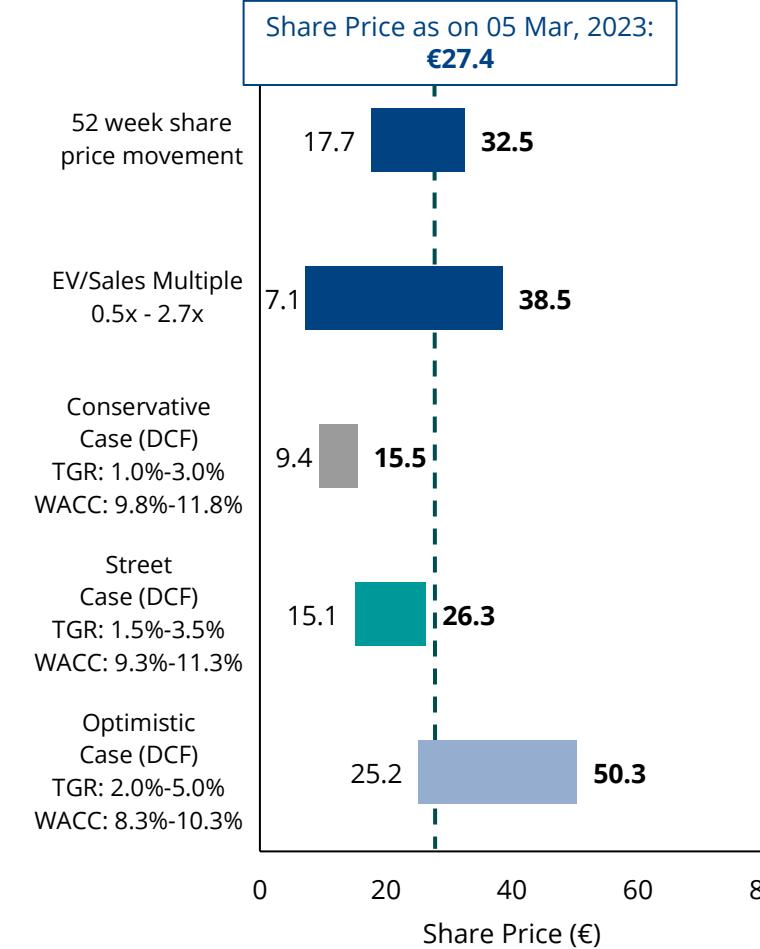
SIEMENS

DCF valuation range is between €9.4 and €50.3 for the Conservative Case and Optimistic Case scenario, suggesting potential for significant variation in valuation

Revenue & EBIT (%) Projections

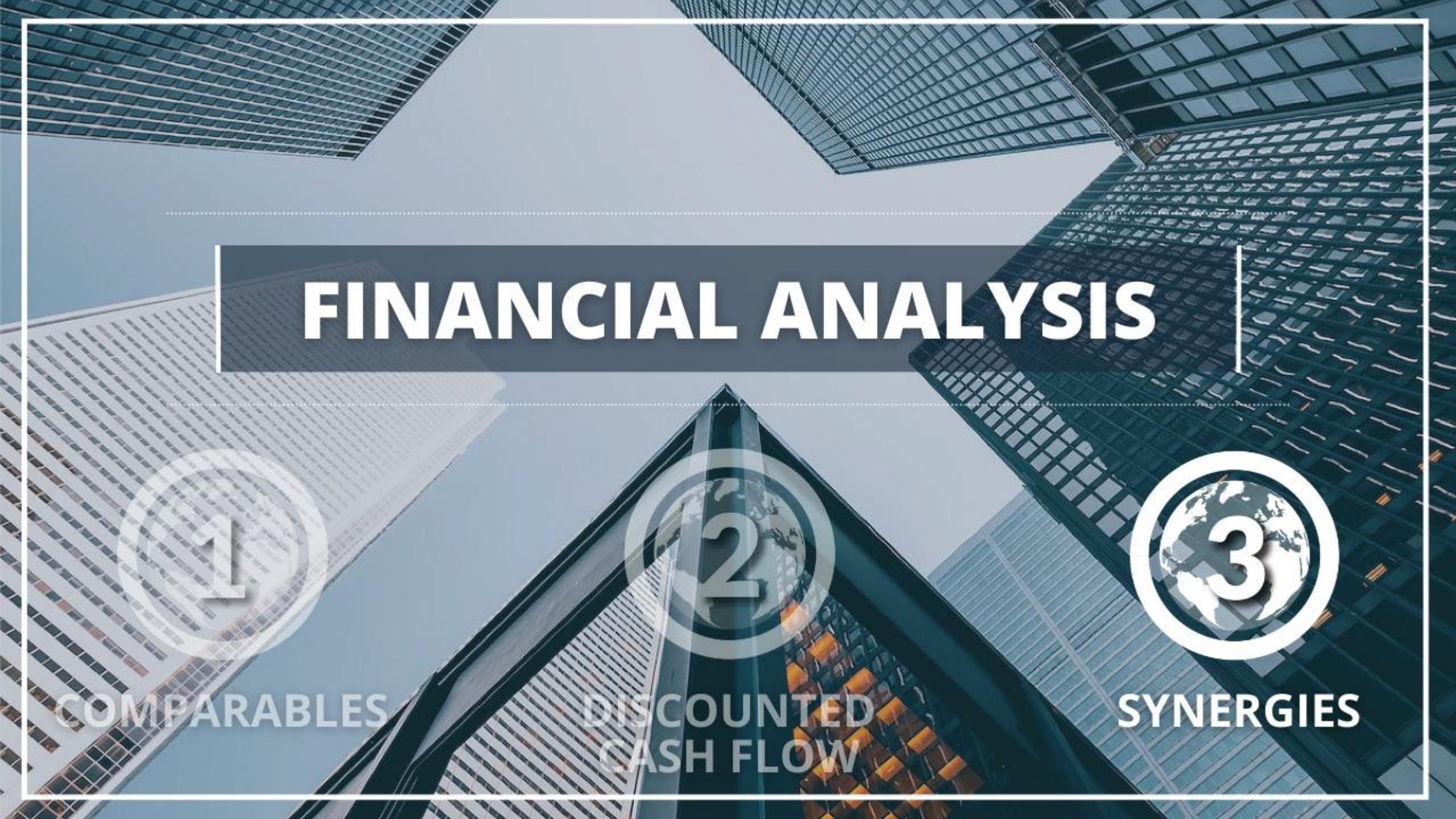


Vestas' Implied Share Price Comparisons



- Current share price of €27.4 falls within the 52-week range of €17.7 to €32.5, indicating some level of **stability**
- EV/Sales multiple valuation range is **between €7.1 and €38.5**
- The estimated share price of €19.3 implies that the stock is **overvalued** by ~30%
- Optimistic DCF case implies a potential for significant upside if financial performance improves or market conditions become more favorable
- However, conservative and street case ranges imply that Vesta's stock is overvalued

Source: Pitchbook (2023c), Yahoo Finance (2023c), Damodaran (2023), Morningstar (2023), Own Team Analysis

The background of the slide is a photograph of several modern skyscrapers, likely office buildings, taken from an aerial perspective. The buildings have a grid-like pattern of windows and are set against a clear blue sky.

FINANCIAL ANALYSIS



COMPARABLES



DISCOUNTED
CASH FLOW



SYNERGIES



Overview of Potential Synergies

SIEMENS

Siemens-Vestas acquisition could potentially lead to synergies in three categories – Increase in Revenue, reduction in COGS and Operating Expenses

Parameters	Possible Synergies	Implication	Timeline	Value-Add
Revenue Generation	<ul style="list-style-type: none">➤ Increase in revenue from reaching new markets➤ Improved product offerings	The combination of Siemens and Vestas could create a dominant player in the wind energy industry, with a larger market share and greater pricing power	0-5 years	
Reduction in COGS	<ul style="list-style-type: none">➤ Procurement savings➤ Manufacturing optimization	Greater bargaining power with suppliers and ability to negotiate better prices for raw materials and components	0-5 years	
Efficiencies in Operating Expenses	<ul style="list-style-type: none">➤ Reduction in headcount➤ R&D efficiencies➤ Consolidating buildings	The companies could achieve significant cost savings by combining their research and development efforts, as well as their manufacturing and distribution networks	0-5 years	

Source: Pitchbook (2023c), Yahoo Finance (2023c), Own Team Analysis

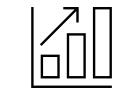


Quantified Synergies

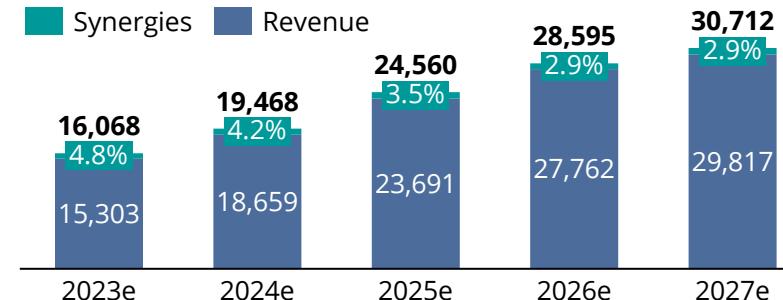
SIEMENS

While the potential cost savings are substantial, integration of both companies and realization of synergies may face obstacles such as cultural & operational differences

In EUR (millions)



Revenue Generation

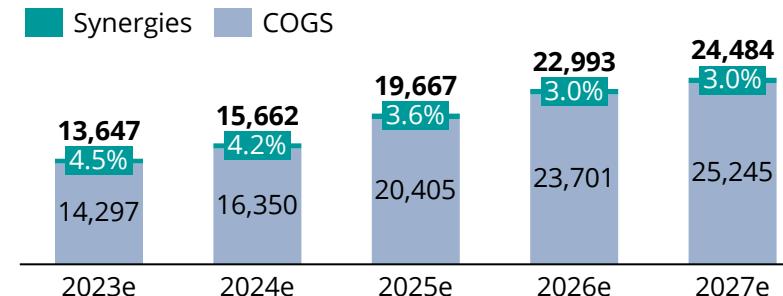


- Develop **new and improved wind turbine products**, capture market share, and increase revenue by leveraging each other's strengths and expertise
- **Expand geographic reach** and better serve customers in new and emerging wind energy markets
- Create a stronger, more competitive wind energy company that can better meet customer needs and **capture a larger share of the growing wind energy market**

€3.2 billion
NPV¹



Reduction in COGS

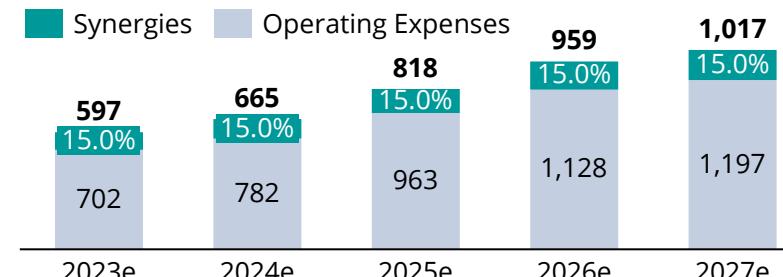


- The two companies could **consolidate manufacturing operations**, leading to cost savings through economies of scale
- This could be achieved through **bulk purchasing of materials, shared production facilities, and joint procurement of services**

€2.7 billion
NPV¹



Efficiencies in Operating Expenses



- The **R&D efficiencies** resulting from the merger could **lead to more innovation** and improved product offerings for customers
- By **merging their operations**, Siemens and Vestas could **reduce redundancies** and **streamline their supply chains**, which could lead to cost savings
- Opportunities to **reduce overhead costs** such as marketing, administration, and back-office functions by **sharing resources and eliminating redundancies**

€0.5 billion
NPV¹

Source: Pitchbook (2023c), Yahoo Finance (2023c), Damodaran (2023), Morningstar (2023), Own Team Analysis | 1. WACC used for Synergies' NPV calculation re-levered for the target capital structure of Siemens



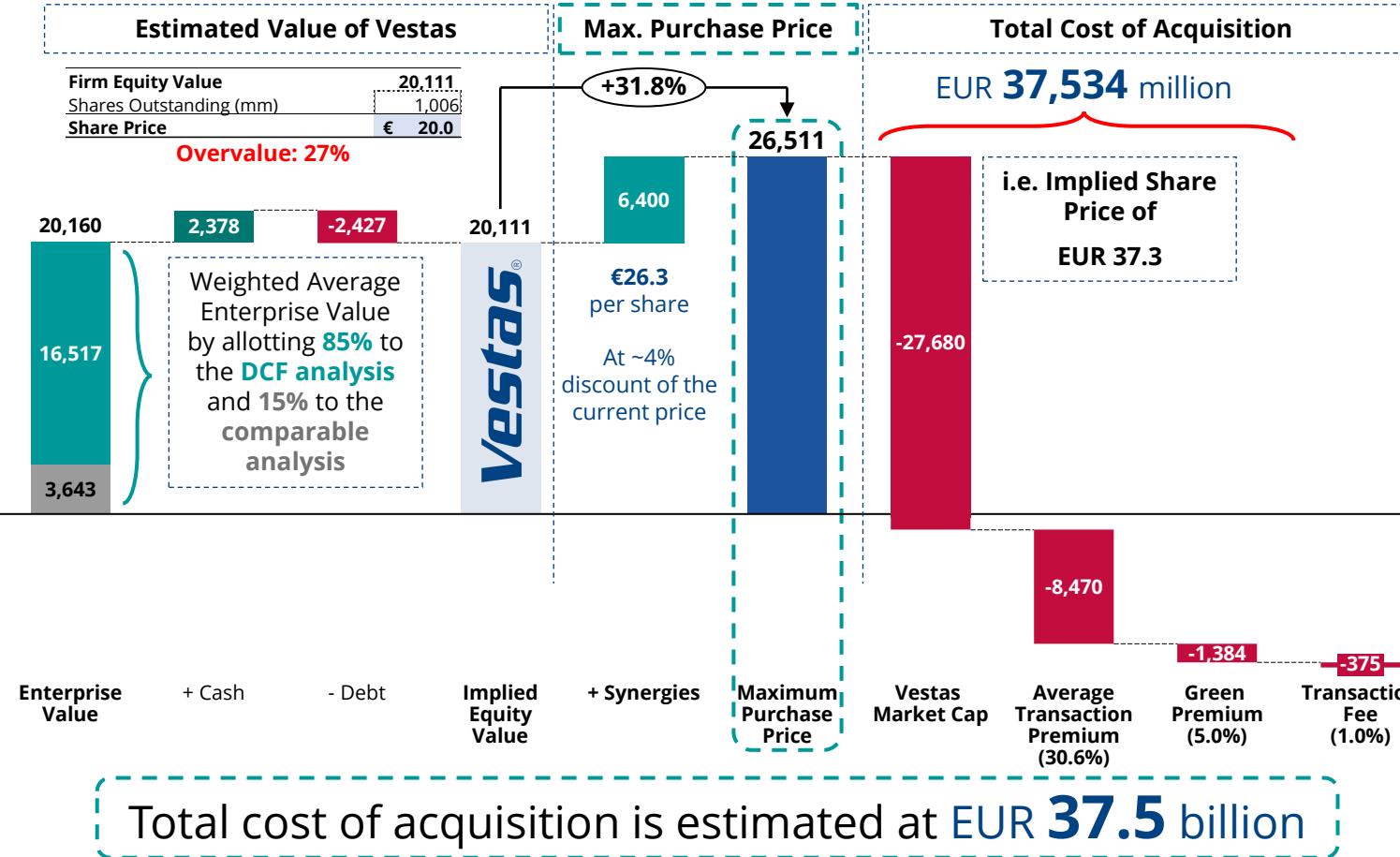
Vestas Valuation & Transaction Summary

SIEMENS

Acquisition cost of ~€37.5 billion, implying a 42% premium on Siemens' implied purchase price for Vestas, leads to a loss of ~€11 billion

Waterfall Of Estimating Maximum Purchase Price And Total Cost Of Acquisition

In EUR (millions)



Vestas' Stock 5 Year Price Movement

Vestas grew at XIRR of 19% vs 9% against the benchmark, but currently, witness a downtrend



- The maximum **suggested purchase price of €26.7 billion** accounting for the intrinsic value and synergies, results in an **acquisition premium of ~33%**
- However, **transaction and green premiums** would raise the total **transaction value to ~€37.5 billion**, an 87% premium over the implied equity value of €20.1 billion
- We have estimated the value of the premium to be €9.9 billion, including a **green premium reflecting Vestas' emphasis on sustainability standards and their potential impact on the industry**
- An **additional 1% transaction fee of €375 million** is estimated to complete this transaction

Source: Pitchbook (2023c), Yahoo Finance (2023c), Damodaran (2023), Morningstar (2023), Own Team Analysis

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The Bigger Picture



Acquisition Risks

SIEMENS

Siemens faces possible risks when acquiring Vestas, particularly with regard to the market and a potential integration into their business processes

Description	Area of concern	Risk assessment	Rating
Foreign Exchange Risk Fluctuations in foreign exchange can lead to a loss of value	➤ Both companies make deals in different currencies and could therefore be influenced by fluctuations for the acquisition as well as for later revenue streams	The risk for fluctuations in transactions is high since both companies operate globally and increased macroeconomic uncertainty leads to volatile prices. For the acquisition the risk is rather low, due to a fixed exchange rate policy towards EUR in Denmark	
Antitrust Regulations There are laws in place preventing mergers and acquisitions that are likely to result in an unfair competitive advantage or the creation of monopolies	➤ As the fifth largest conglomerate in the world acquiring the market leader in the wind industry, Siemens could face antitrust issues	Unlikely to run into antitrust regulation issues , since Siemens is currently not involved in the wind industry and received clearance for merging with Gamesa. Additionally, the wind industry is considered fairly fragmented	
Market Risk Strong regulatory implications and changes in the market can impact Siemens' business post-acquisition	➤ Dependency on volatile raw material pricing ➤ Emergence of new technological advancements ➤ Changes in policies related to environmental regulations	Environmental regulations are likely to be in Vestas' favor but subject to change in the future. Projected growth of the industry will also lead to fiercer competition . Demand in this industry is fluctuating a lot	
Integration Risk Merging organizations with different cultures and values can cause uncertainty, lower productivity, and lead to acquisition failure	➤ Differences in company structure and culture due to vastly different company sizes ➤ Transitional period for integrating data management systems	Vestas does not smoothly integrate with any of Siemens' current business segments and the transitional period could be time-intensive . Additionally, the culture of Siemens might not align with Vestas company culture	

Source: Vestas (2023), Siemens (2023a), MordorIntelligence (2022)



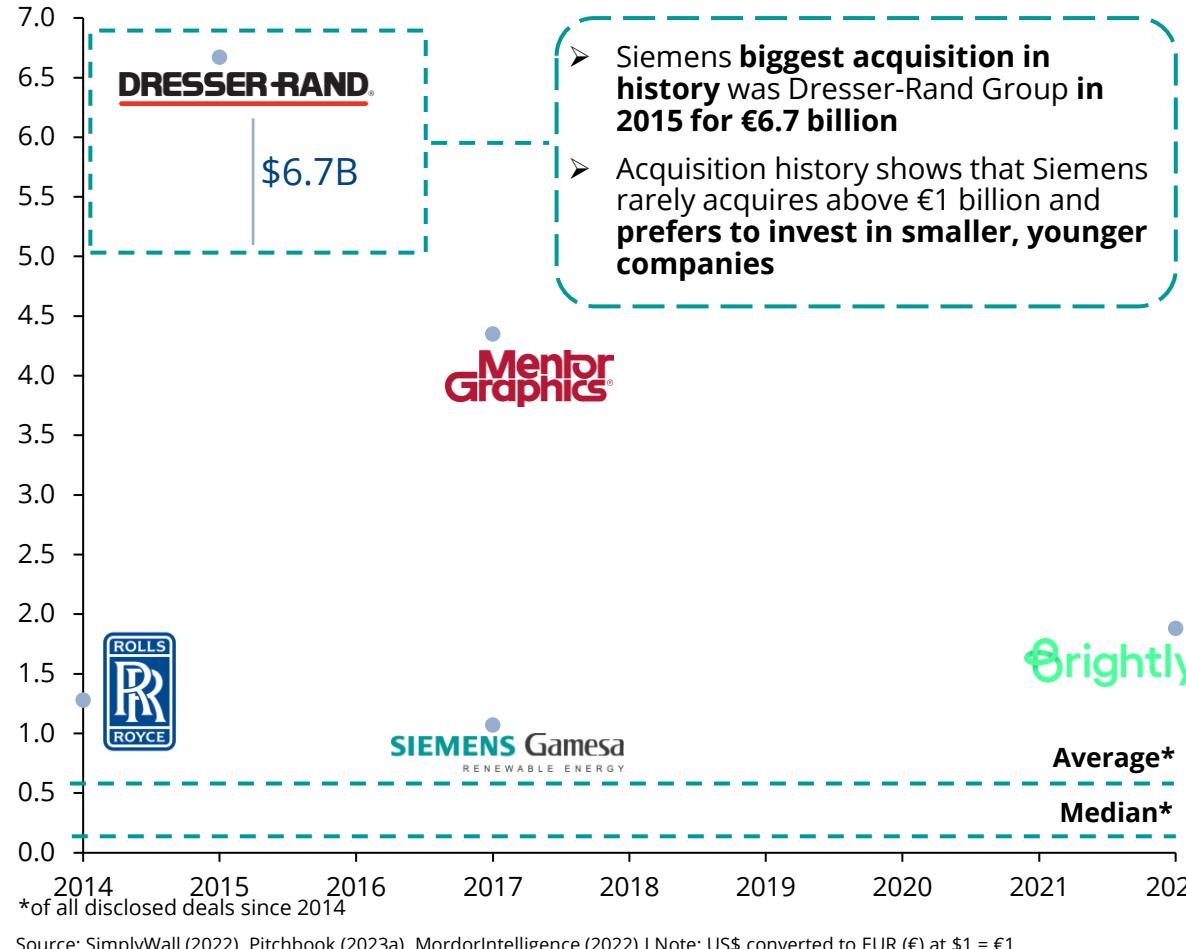
Acquisition Challenges

SIEMENS

Acquiring Vestas does not lead to foreseeable antitrust issues, however, it does not align with Siemens' acquisition history

Siemens has an acquisition history of smaller companies

Acquisitions exceeding €1 billion since 2014



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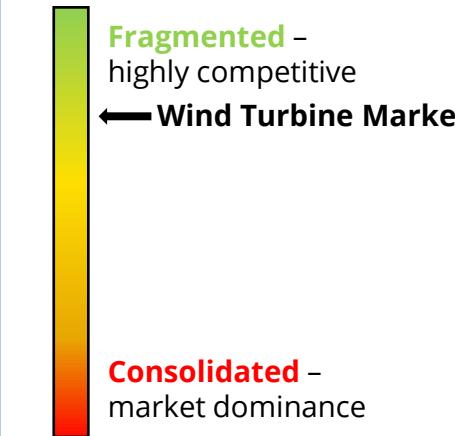
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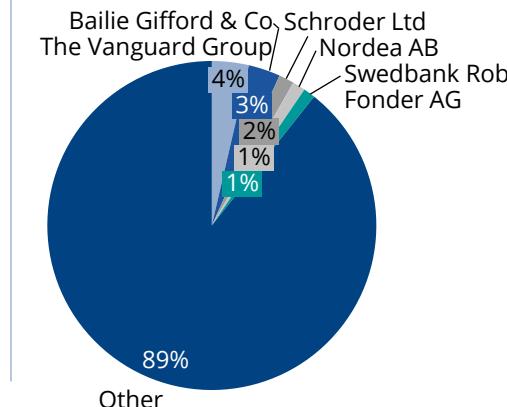
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The fragmented industry causes low antitrust regulation risk



- Hirschman-Herfindahl-Index < 1500, indicating a **low concentration**
- **Siemens** is currently not operating in the wind market and their **acquisitions in the industry have been approved before** (e.g. Siemens Gamesa)
- Advantage: **EU competition rules aim to complement environmental and climate policies** more effectively in order to achieve the European Green Deal objectives

... but Vestas' shareholder structure may complicate an acquisition



- **Top 25 shareholders own ~21%** of the company
- Fragmented structure may make **acquisition more difficult and time-consuming** since Siemens would have to negotiate with a large number of shareholders and find a deal that satisfies all parties

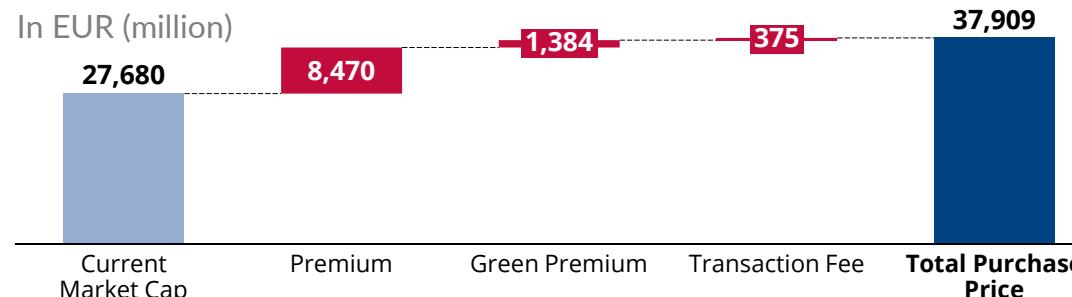


Acquisition Feasibility - Financing

SIEMENS

The deal could be financed by issuing €37.9 billion of debt or equity, which is against Siemens' conservative financial policies

A full cash buyout is not feasible



- Siemens currently has €10.5 billion in cash
- Cash is already allocated to funding dividend distribution, net working capital and other capital expenditures
- Therefore: **Siemens' two options to acquire Vestas are either through raising equity or issuing debt**

Funding through equity would lead to immense dilution

	51% majority stake	100% Full Buyout
Value (incl. premium)	€19.3 billion	€37.9 billion
New shares issued	131	258
Dilution	17%	33%

- This would require an unreasonable large amount of equity issuance
- As a result, shareholders would be **massively diluted**

Source: Standard & Poors (2022), Moody's Investors Services (2023), Own Team Analysis

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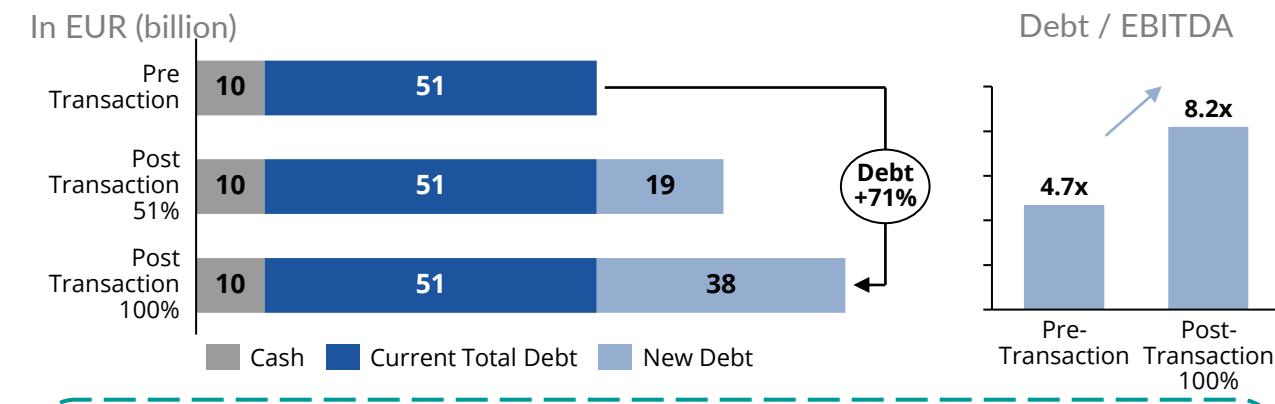
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Funding through debt would lead to unhealthy leverage & EPS dilution



- A transaction financed through debt would increase leverage to a dangerous level, shifting Siemens' **debt-to-equity ratio from 0.9x to 1.6x**
- As a result, the **cost of debt would increase by 80%**

Deeper insights in appendix

Resulting in an unfavourable decrease of Siemens' credit rating

- Current S&P credit rating: A+
- Rating is based on **Siemens' conservative financial policy**, with the underlying assumption of an **annual acquisition budget of €1.5 billion - €2.5 billion** and a changed business mix **away from lower-margin industries** as the **energy business**
- Raising a substantial amount of debt from external sources would represent a deviation from their one-tier debt structure in a strategic sense
- Therefore, a **debt funded acquisition** of that size would lead to a **decrease in their credit rating**



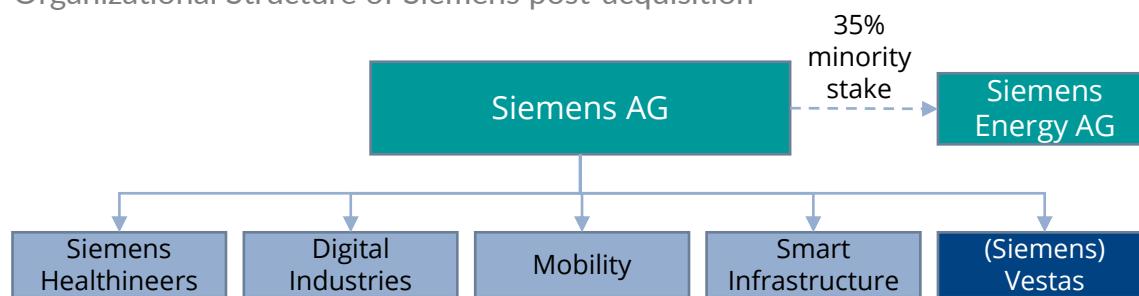
Why an Acquisition is Not Feasible

SIEMENS

Siemens will have trouble integrating Vestas into their organizational structure as it does not align with any of their business units and contradicts their business concentration

Siemens will run into issues with their organizational structure

Organizational Structure of Siemens post-acquisition



- If Siemens were to acquire Vestas, they would most likely have to **integrate them as an additional business unit**, since it does not align with any of their current business units
- As a result, **Siemens would hold a wind turbine manufacturing company** within their own portfolio **while still holding a stake in Siemens Energy**, which carries their brand name
- This organizational structure leads to a **high risk of revenue cannibalization** between the two companies then held in Siemens' portfolio which **poses a risk to the Siemens brand name**

"For the business areas remaining with Siemens AG, the participation in SGRE S.A. would not have the same strategic value and would generally even conflict with the further concentration of the Future Siemens Group." – Siemens AG about Siemens Energy Spin-Off

... which in sum makes an acquisition of Vestas unfeasible

Vestas does not fit into Siemens' strategic focus

- Siemens made it clear that they are stepping away from the energy sector
- Siemens' acquisition strategy is focused on companies of smaller sizes
- Acquiring Vestas not only contradicts their desired business concentration but even threatens their brand name

The synergies of the acquisition do not justify the large investment

- According to the financial analysis Vestas is currently overvalued by 27%
- Siemens is expecting to lose ~€11 billion following the transaction
- Siemens' estimated sum of acquisition value between FY2010 and FY2022 equals around €40 billion – compared to an acquisition value of ~€37.9 billion for Vestas
- Such drastic change in financial strategy is deemed unlikely

Therefore, Siemens should not acquire Vestas

Source: Siemens (2020b), Own Team Analysis

A photograph of a solar-powered electric vehicle (EV) charging station. The station is white and features a large array of solar panels on top. The words "DRIVE ON SUNSHINE" are printed on the side of the structure, along with the "america" logo. Several cars are parked at the station, connected to charging ports. The background shows a parking lot with other vehicles and some trees.

Alternative Solution

Powering a Greener Future



Evaluating Opportunities

SIEMENS

How Siemens can stay at the forefront of innovation while pushing for renewable energy

Software Opportunity

Energy Management Solutions

- Implementing further advanced analytics and AI to help customers to optimize their energy consumption
- Siemens can use advanced AI to analyze data from various sources, such as energy meters, big data, and weather data, to optimize energy consumption and identify potential energy-saving opportunities

Current Efforts & Benefits

- Siemens' SIMATIC Energy Management offers energy measurement and monitoring solutions for industrial installations to manage costs, increase productivity, and identify potential savings
- This can help the company provide more accurate and efficient solutions for customers

Innovate

Vehicle-to-grid (Bidirectional Charging)

- By consolidating EV batteries into a large-scale storage solution, Siemens can drive the transition to renewable energy
- The global V2G market size is estimated at €32 million and expected to reach €2 billion in 2028, growing at a CAGR of 83.5%

Current Efforts & Benefits

- Siemens has effectively integrated their current charging systems into fleet and commercial operations
- Combining V2G technology with Siemens' energy management, smart city, and smart grid will create a competitive advantage
- This is an opportunity to capitalize on the emerging V2G market, which has only been commercialized in 2020 and is not yet widely adopted

Corporate Sustainability

Self-sustaining Energy Systems

- Creating new renewable energy streams to power its own facilities
- Siemens can reduce its reliance on Green Energy tokens to offset its CO2 emissions by transitioning to direct renewable energy

Current Efforts & Benefits

- Siemens smart grid technology facilitates the move, as can be clearly seen in their projects to transition their current facilities.
- The transition to direct renewable energy will require Siemens to develop new infrastructure, technologies, and expertise, which can be leveraged to develop new solutions for consumers

V2G is the most compelling option for Siemens as it aligns perfectly with the company's strategic priorities, particularly its commitment to
"Technology with a sense of purpose"

Source: Siemens (n.d), McKinsey & Company (2020), GlobeNewswire. (2022)

Note: US\$ converted to EUR (€) at \$1 = €1

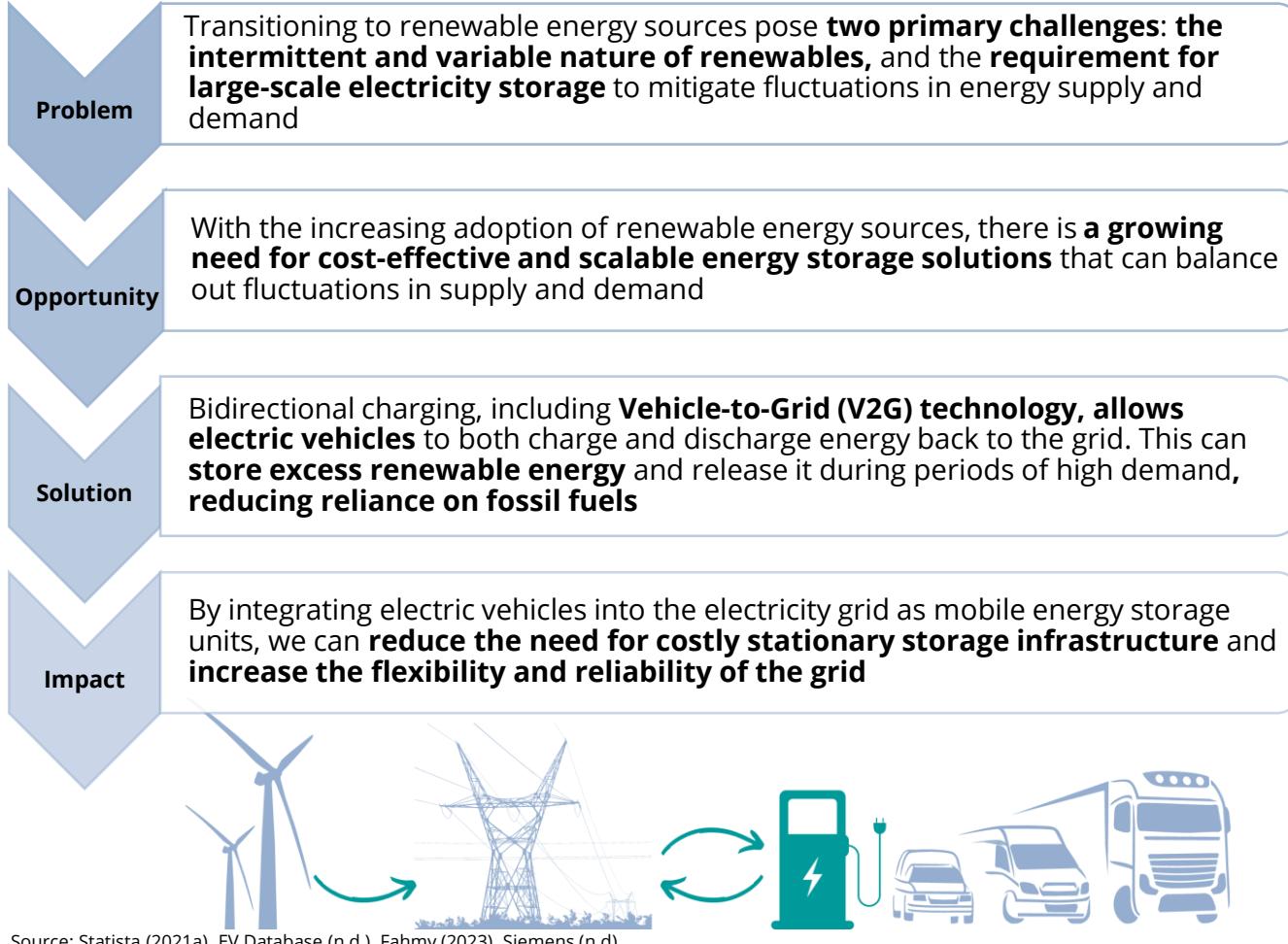


Evaluating Opportunities - Bidirectional Charging

SIEMENS

Bidirectional charging revolutionizes the concept of large scale energy storage, which facilitates the transition from fossil fuels to renewable energy

How vehicle-to-grid (V2G) is revolutionizing energy storage



A scenario analysis explaining the possibilities of V2G storage

By 2030, Germany is forecasted to have 11.6 million electric vehicles

Assuming 20% compatibility with V2G

Total capacity:
154.1 GWh

2.3 million cars,
"Batteries-on-wheels"

5% of each car battery

7.7 GWh
Storage capacity

*"A useful way to think about the largely untapped potential of **electric vehicles** to facilitate the transition away from fossil fuels and toward the greater use of **renewable** but inherently intermittent resources such as wind and solar power"*

992,000

households powered for 24 hours

SIEMENS



This saves 4,553 barrels of oil, that are not produced **every minute**

Acquisition Feasibility

Alternative Solution

Conclusion



Navigating Bidirectional Charging Options

SIEMENS

Acquiring a V2G company with an established technology portfolio will fast track Siemens' move-to-market

Partner

Work with leading V2G developers

- To optimize profits and minimize risk, Siemens can form strategic partnerships with lead developers, such as established companies or up-and-coming firms with a strong R&D focus
- Risk of missing out on ownership of new and emerging technologies

Feasibility

- Partnering may offer benefits in implementing technology
- It may also result in Siemens losing full control and integration of the technology, limiting their flexibility to pivot and adapt if locked into a partnership



Source: Siemens (n.d)

Acquire

Acquire V2G technology company

- Acquiring a V2G company will not only fast-track Siemens into a leading position in a future high-potential market but also give Siemens ownership of the technology, allowing them to control its development and future direction
- Entering this market may require a patient approach and several years for the market to fully mature

Feasibility

- Siemens ended 2022 with ~ €10.5 billion in cash and has a strong track record in acquiring innovative tech companies
- Siemens excels at integrating new technology acquisitions into their current systems



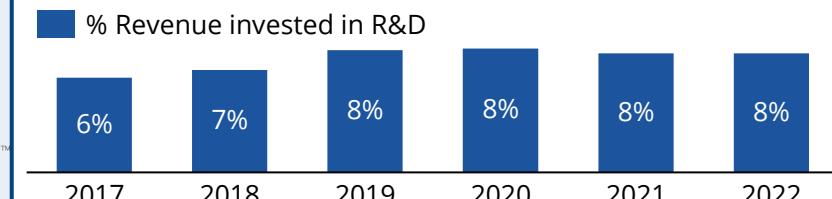
R&D

Develop own V2G technology

- Development of this technology is expected to take a significant amount of time, while the market is rapidly evolving
- Challenging for Siemens to remain ahead of the curve and compete effectively, especially with the rapid transition towards electric vehicles

Feasibility

- A sudden shift in the focus of the R&D department can pose structural challenges, requiring a significant adjustment period
- Developing new firmware is challenging and is highly dependent on the available hardware

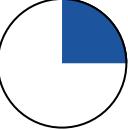
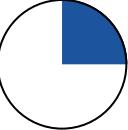




Potential Acquisition Targets (1/2)

SIEMENS

Several firms are working on V2G technology, but not all can offer the same value-add to Siemens

Executive Summary	Industry Analysis	Company Analysis	Financial Analysis	Acquisition Feasibility	Alternative Solution	Conclusion
wallbox	 <p>Due to a lack of fleet management and smart grid applications, the technology alone is not sufficient</p>	 <p>Technology</p>  <p>Strategic Fit</p>  <p>Concerns</p>	<p>Technology</p> <ul style="list-style-type: none"> ➤ Different consumer charger systems up to 22KW ➤ Commercial charging solutions ➤ Energy management solutions 	<ul style="list-style-type: none"> ➤ Commitment to sustainability and renewable energy ➤ Promising partnership with Nissan ➤ Revenue growth of 50% 	<ul style="list-style-type: none"> ➤ High enterprise value of \$915.2 million ➤ Sole focus on creating a non-V2G charging network, which is not advancing Siemens' portfolio 	
SONO MOTORS	 <p>Considering the substantial risks associated with entering the automotive industry, Siemens should explore other avenues for innovation</p>	 <p>Technology</p>  <p>Strategic Fit</p>  <p>Concerns</p>	<ul style="list-style-type: none"> ➤ 70% more affordable wall box than market average ➤ Limited to 11KW charging ➤ Provides V2G and V2H capabilities ➤ Solar integrated vehicles 	<ul style="list-style-type: none"> ➤ Complementary expertise & sustainable focus ➤ Sono's tech offers Siemens EV market growth and diversification opportunities ➤ Siemens' disinterest in automotive limits its strategic fit with Sono Motors 	<ul style="list-style-type: none"> ➤ The EV market's rapid evolution and competition make acquiring Sono Motors a high risk ➤ Integration into Siemens could be complex and time-consuming 	
Nidec	 <p>Manufacturing electrical components is a good fit but lacks the V2G capabilities as well as a high price</p>	 <p>Technology</p>  <p>Strategic Fit</p>  <p>Concerns</p>	<ul style="list-style-type: none"> ➤ Electrical components manufacturer ➤ Developed V2G charger equipment ➤ Lacks technology to implement 	<ul style="list-style-type: none"> ➤ Leading manufacturer of electric motors and related components ➤ Global presence ➤ Strong focus on innovation 	<ul style="list-style-type: none"> ➤ Nidec's \$32.9 billion enterprise value is an atypical move for Siemens ➤ Nidec has yet to develop a fully assembled charger with firmware, this is not in their immediate goals 	

Source: Wallbox (n.d.), Sono Motors (n.d.), Nidec (n.d.)



Potential Acquisition Targets (2/2)

SIEMENS

Several firms are working on V2G technology, but Nuvve is the most appealing candidate for acquisition due to their advanced technology and experience

Executive Summary	Industry Analysis	Company Analysis	Financial Analysis	Acquisition Feasibility	Alternative Solution	Conclusion
Virta	 V2G prototypes and good charging technology are present, but no tested products on the market	Technology Strategic Fit Concerns	<ul style="list-style-type: none"> Promising V2G prototypes Energy management systems in place Heavy duty EV charging technology Most elements are still in development 	<ul style="list-style-type: none"> Clear vision towards V2G Virta's focus on interoperability aligns with Siemens' commitment to develop open, flexible system Valuable partnership with Nissan & BMW 	<ul style="list-style-type: none"> Overlap with existing Siemens products Relatively small start-up Limited market presence Limited technological differentiation 	
Jedlix	 Lack of hardware offerings from Jedlix could limit the potential for a fully integrated solution	Technology Strategic Fit Concerns	<ul style="list-style-type: none"> Software only Optimize solar charging Adjust charging times to optimize cost of energy Standardized REST API Broad compatibility 	<ul style="list-style-type: none"> Partnerships with many automakers like Tesla, Jaguar, Honda, BMW Strategic goal to speed up the transition towards renewable energy 	<ul style="list-style-type: none"> Lack of hardware offerings Low market presence Limited track record 	
Nuvve	 Nuvve's expertise in V2G technology, coupled with their available products and ongoing projects, make them the best choice	Technology Strategic Fit Concerns	<ul style="list-style-type: none"> V2G chargers on the market and deployed in Spain Complex fleet solutions Focus on smart cities & apartments Energy management software, GIVe™ platform Practical heavy load charging 	<ul style="list-style-type: none"> Global leader in V2G Valuable partnerships with EV manufacturers and Joint Venture with EDF (Dreev) Provides fleet solutions Over 10+ years of V2G experience across 5 continents 	<ul style="list-style-type: none"> Currently not profitable Interest from many large energy companies 	

Source: Virta (n.d.), Jedlix (n.d.), Nuvve Corporation (n.d.)



Nuvve Company Overview (1/2)

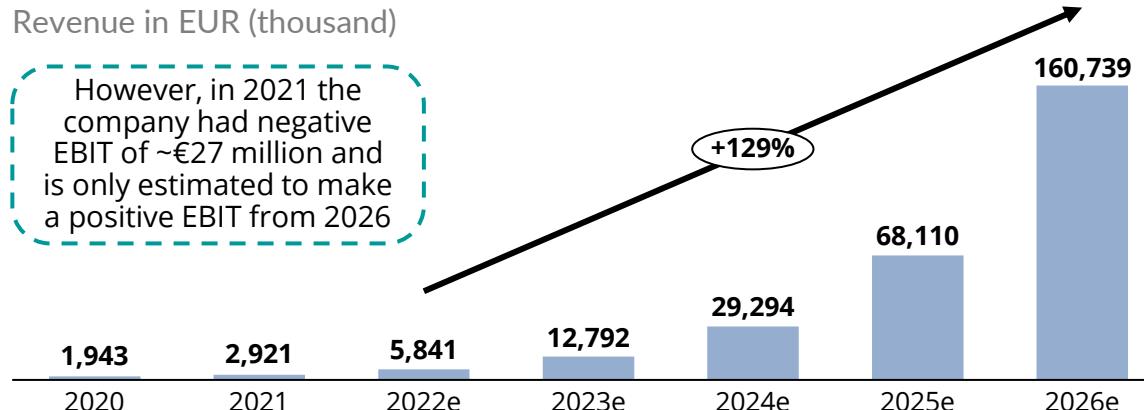
SIEMENS

Nuvve's experience and technological development could transport Siemens to the forefront of the future V2G market

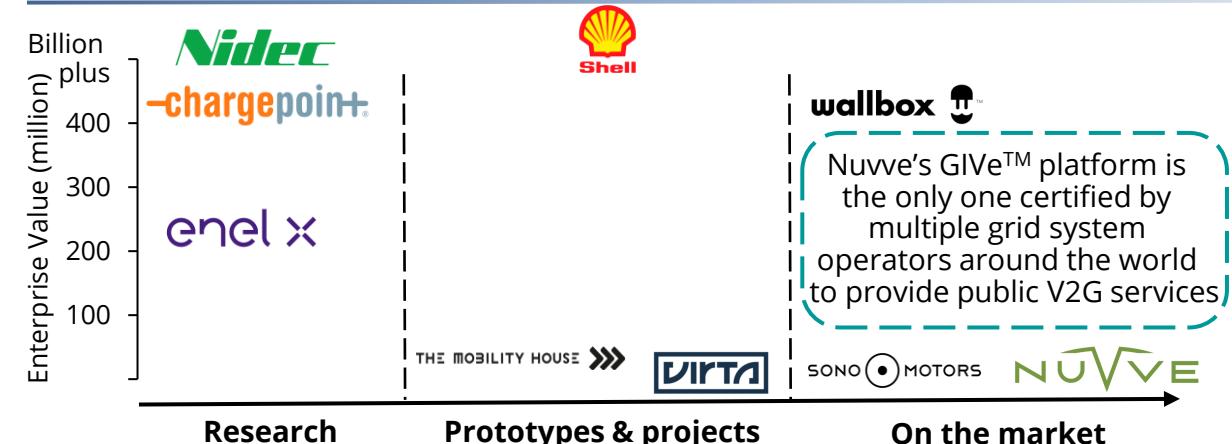
Nuvve is a global leader in V2G

- California based company that **pioneered V2G-charging technology**, and has since become **one of the major players in the industry**
- **Nuvve offers:** EV fleet charging, virtual powerplant software, communication protocols for chargers/EVs/grid and, bi-directional charging hardware
- **Nuvve's GIVe™ software platform enables aggregation of multiple EV batteries** into a virtual power plant to provide bidirectional services to the electrical grid
- **Successfully deployed V2G on five continents** and offers turnkey electrification solutions for fleets of all types
- Nuvve has more than **25 years experience in V2G research & development**, manages over 16 MW globally, and has 5 years of continuous V2G commercial operations in Denmark

Nuvve's revenue expected to grow at CAGR of 129% over 5 years



... with greater experience than its rivals



... income is derived from the following two streams

Primary model

- Creation and operation of virtual power plant
- Services (frequency regulation, peak shaving, and demand response)

Fleet-as-a-service model

- Monthly fee to customers for EV charging infrastructure, energy for the vehicles, energy management and maintenance

Source: Pitchbook (2023b), Nuvve Corporation (n.d.), BloombergNEF (2022), Nuvve Corporation (2022), Own team analysis

Note: US\$ converted to EUR (€) at \$1 = €1



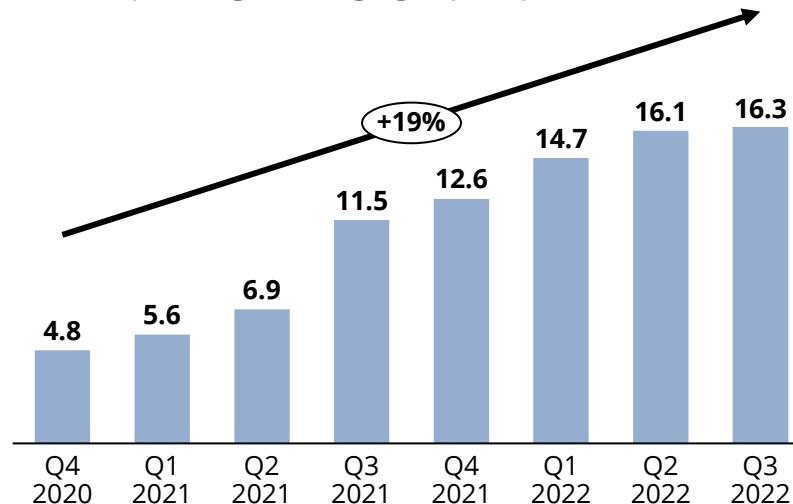
Nuvve Company Overview (2/2)

SIEMENS

Nuvve grew their V2G knowledge with strong partnerships and rigorous practical testing

Nuvve grew 19% in the past two years

Currently managed charging capacity (MW)



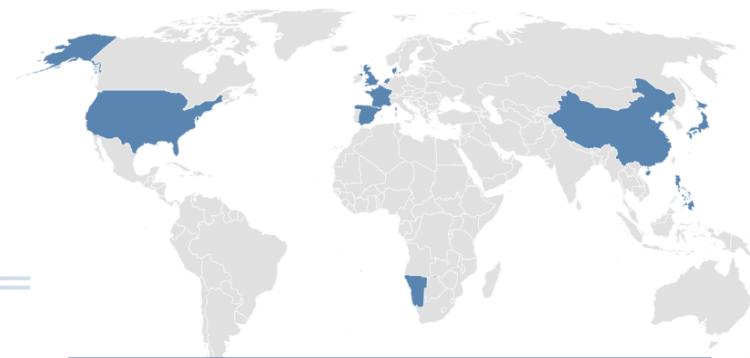
... while establishing valuable partnerships



... acquiring global energy & utility partners

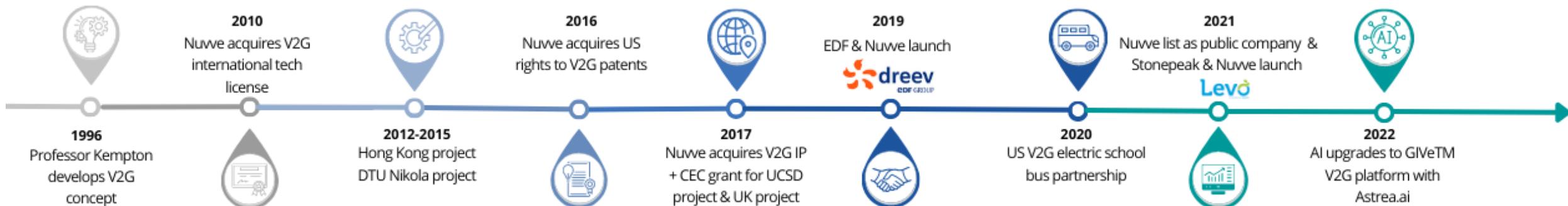


... and gaining knowledge globally



Nuvve has successfully completed two global projects and is currently operating 13 projects worldwide. Additionally, the company is currently testing over 1000 chargers worldwide

Nuvve's 27 years of research, testing & projects



Source: Nuvve Corporation (n.d.), BloombergNEF (2022), Nuvve Corporation (2022), U.S. Securities and Exchange Commission (2023)

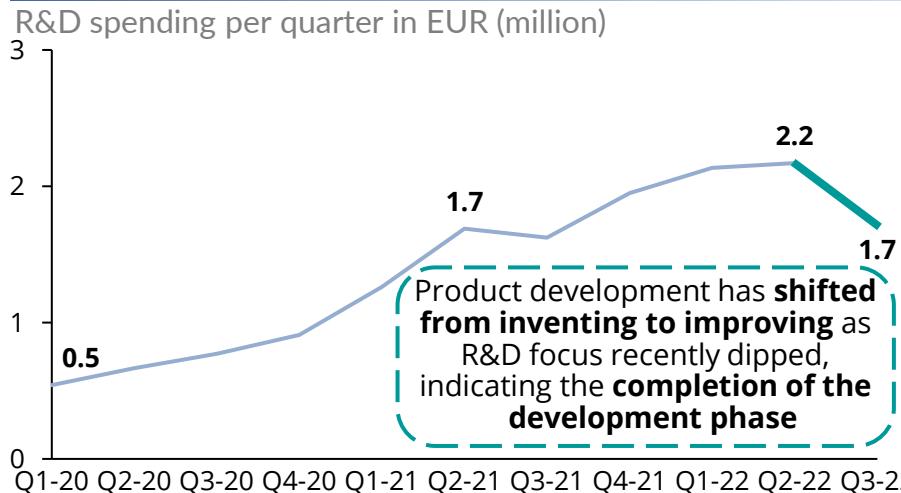
An In-Depth Look Into Nuvve's V2G technology

SIEMENS

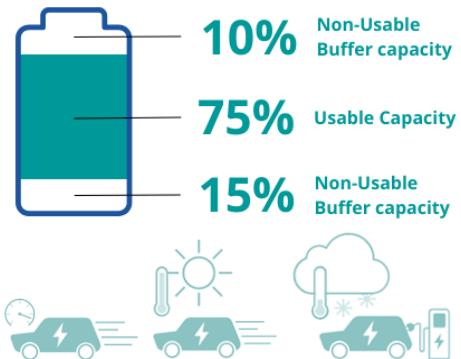


Technology that will enable the world to move towards renewable energy, a future that Siemens could lead

Nuvve has been creating solutions since its creation



V2G does not impact battery life significantly



- Battery life is influenced by temperature, charging habits, and driving habits
- Fast charging and charging into buffer zones have a significant negative impact on battery life compared to V2G charging and discharging
- GIve™ considers these factors and uses an optimal charging strategy

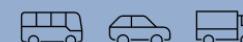
Developing V2G technology that goes further than simply charging

- Nuvve has experience supplying school buses with V2G technology
- The GIve™ platform can manage entire fleets as a single virtual power plant

- V2H involves using a car's battery to decrease energy usage at home
- Combined with charging at cheap rates and selling at higher rates, the overall energy cost will reduce

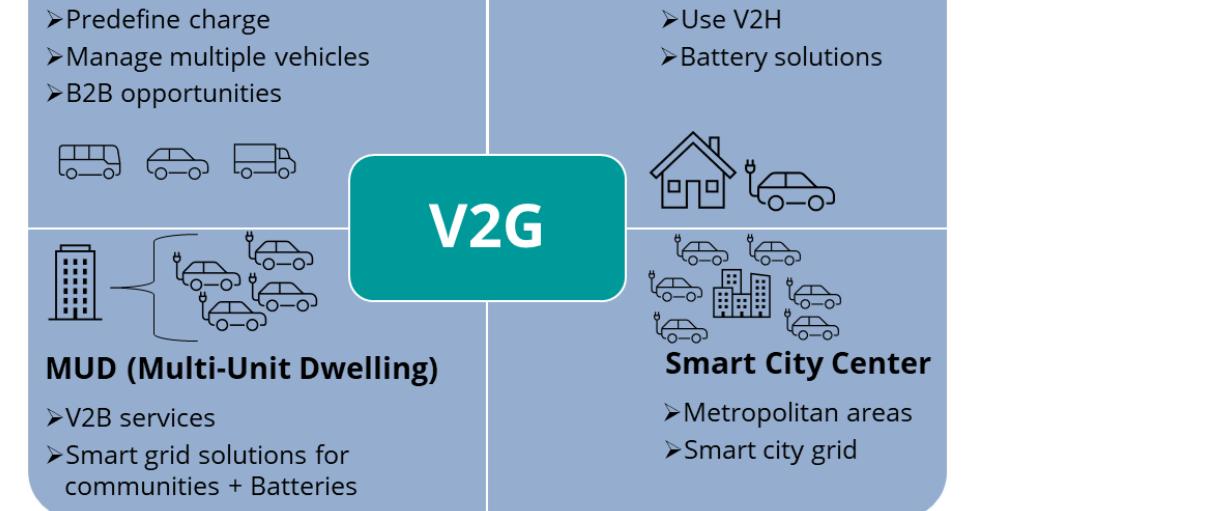
Fleet vehicle management

- Predefine charge
- Manage multiple vehicles
- B2B opportunities



MUD (Multi-Unit Dwelling)

- V2B services
- Smart grid solutions for communities + Batteries



- A modular fleet management system enables communities to use their EVs as a battery
- Network of EVs will be managed by GIve™ and the overall energy cost of the community will decrease

- The system is a fully connected network of V2G chargers through the GIve™ platform
- City centers benefit from reduced energy prices by utilizing the EV fleet as modular storage

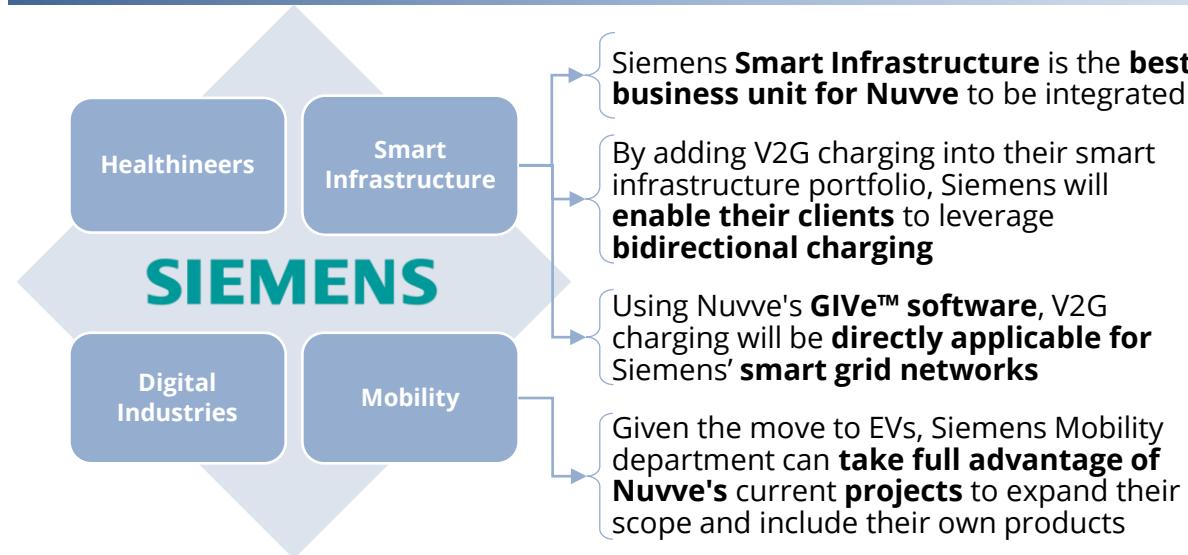


Strategic Fit Within the Siemens Structure

SIEMENS

Acquiring Nuvve will strengthen Siemens' Smart Infrastructure portfolio and realize Siemens' vision for V2G

Siemens Smart Infrastructure will gain value from Nuvve



Nuvve's technology fits well into Siemens' current portfolio

NUVVE	SIEMENS
V2G AC & DC charger with VSL	Expansion of Siemens' charging technology and enter them into V2G
Diverse chargers for different grids	Large overlap, the differences in grids could be useful
Heavy duty charging stations	Siemens is present in this segment; busses could be a value-add
Fleet V2G solutions	Expand the current fleet technology with V2G and the GIVe™ platform
V2G NERA: cloud computing to ensure charge	Operate multiple vehicles in a grid while maintaining a minimum charge & calculate the capacity available to sell back to the grid
GIVe™ platform	Will evolve the smart grid and city opportunities. The platform will facilitate IoT and support the Grid-Edge & smart building infrastructure
Sustainable battery solutions	Give Siemens the opportunity to reuse car batteries for frequency regulation
	AC & DC charging and fast charging
	Flexible VersiCharge platform
	Heavy duty charging
	SICHARGE UC fleet charging solution
	Smart grid & IoT/ smart buildings with Grid-Edge
	Smart grid with Grid-Edge software / smart cities
	Medium voltage storage units

V2G technology fits into Siemens DEGREE framework

- Decarbonization is the **first element of DEGREE**, through peak shaving, frequency regulation and facilitating the move towards renewable energy, **V2G will help Siemens decarbonize the world**
- V2G will help Siemens' customers make the move to using more renewable energy and expand Siemens' impact



"Vehicle-to-grid charging is the key to transforming a problem into a business opportunity for our customers and for ourselves"

-Luca Brivio, Head of Grid Edge Engineering at Siemens

Source: Nuvve Corporation (n.d.), Siemens (n.d.)



Financial Feasibility

SIEMENS

Siemens can acquire Nuvve through an all-cash deal worth ~€30.5 million, including a 30.6% transaction premium, potentially saving ~€9.5 million

Sensitivity Analysis of Nuvve

DCF	2020	2021	2022	2023	2024	2025	2026 CAGR ('22-'26)
Revenue	1,943	2,921	5,841	12,792	29,294	68,110	160,739
% growth		50.3%	100.0%	119.0%	129.0%	132.5%	136.0%
EBIT	-4,533	-26,950	-31,989	-34,133	-23,076	-23,421	16,074
% margin	-233.3%	-922.7%	-547.6%	-266.8%	-78.8%	-34.4%	10.0%
Taxes	1	1	1	1	1	1	3,697
EBIAT	(4,534)	(26,951)	(31,990)	(34,134)	(23,077)	(23,422)	12,377
D&A	165	168	271	491	968	2,487	6,430
CapEx	23	273	292	578	1,232	2,453	4,822
Change in NWC	719	(6,101)	29	64	146	341	804
Unlevered FCF	(5,111)	(20,955)	(32,040)	(34,285)	(23,488)	(23,728)	13,181
Present Value of FCF			(28,945)	(27,982)	(17,318)	(15,806)	7,932
Terminal Value						164,926	
Present Value of Terminal Value						99,247	

Enterprise Value	17,128
WACC	10.7%
+ Cash	21,640
- Debt	5,950
Equity Value	32,818
Shares	24,430
Implied Share Price	€ 1.3

WACC	€ '000 Basis of Consideration
Market Value of Debt	5,950
% Debt	20.3%
Cost of Debt	3.8% Company Reports
Tax Rate	21.0% Company Reports
Market Capital	23,319, as on 01 March, 2023
% Equity	79.7%
Cost of Equity	12.5%
Risk Free Rate	4.1% US Treasury 10Y Note, 02 Mar, 2023
Beta	1.8 Yahoo Finance 5 Year Estimate
Market Risk Premium	4.8% Damodaran NY Stern, 01 Mar, 2023
Debt + Equity	29,269
WACC	10.7%

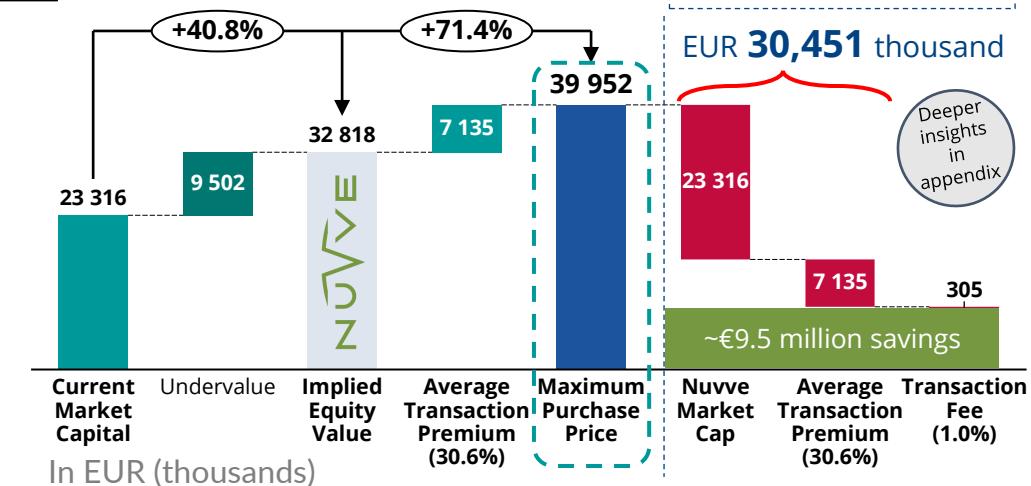
Values in EUR (thousand) unless otherwise specified, US\$ converted to EUR (€) at \$1 = €1

Source: Pitchbook (2023c), Yahoo Finance (2023b), U.S. Securities & Exchange Commission (2023), Nuvve Corporation (2022), Own Team Analysis

Sensitivity Analysis of Nuvve

WACC	Implied Share Price				
	Terminal Growth Rate				
	1.5%	2.0%	2.5%	3.0%	3.5%
9.7%	€ 1.4	€ 1.7	€ 2.1	€ 2.5	€ 2.9
10.2%	€ 1.1	€ 1.4	€ 1.7	€ 2.0	€ 2.4
10.7%	€ 0.9	€ 1.1	€ 1.3	€ 1.6	€ 2.0
11.2%	€ 0.6	€ 0.8	€ 1.1	€ 1.3	€ 1.6
11.7%	€ 0.4	€ 0.6	€ 0.8	€ 1.0	€ 1.3

The sensitivity analysis ranges the implied share price for Nuvve between €0.4 and €2.9 and **our model estimates** the implied share price to be €1.3





Post Acquisition Strategy

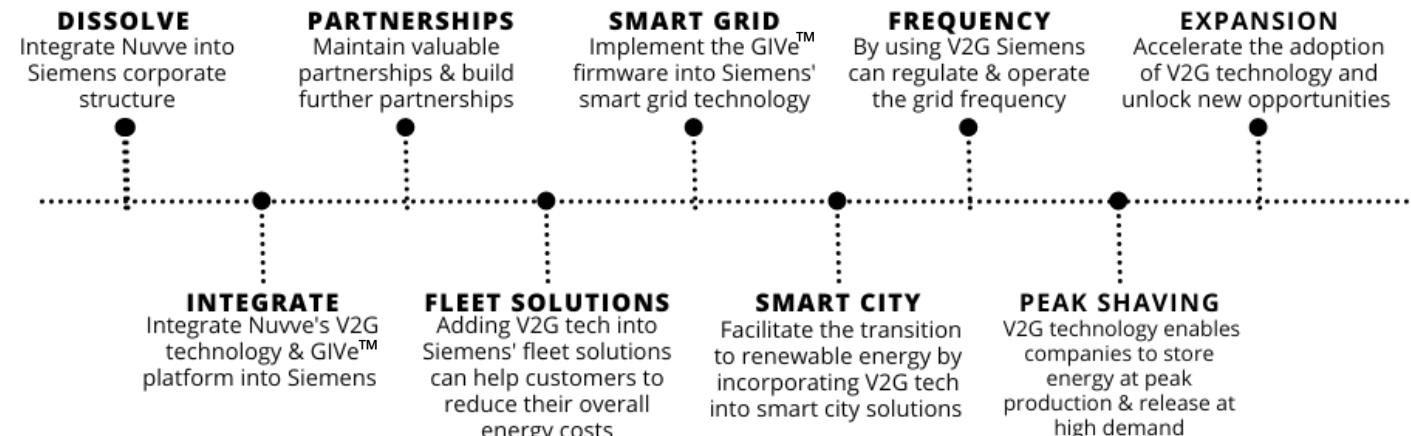
Integrating Nuvve's cutting-edge technology into Siemens eMobility results in a powerful combination for smart charging solutions

Siemens should integrate Nuvve into their brand

- Nuvve fits best under Siemens' eMobility within the Smart Infrastructure business unit
- **Siemens currently offers charging solutions in the eMobility branch** and has shown interest in V2G technology
- **Dissolving Nuvve and integrating its technology into Siemens'** existing infrastructure can further Siemens' goals
- **Nuvve's GIVe™ platform** can be seamlessly **integrated into the smart grid firmware and other elements of Siemens' firmware fleet**
- Nuvve can be **rebranded as the Siemens V2G feature**, showcasing its integration into the larger Siemens ecosystem



...while positioning for success in the renewable energy revolution to net zero



Siemens can leverage its network and global presence to mitigate risks

Volatility of electricity price

Negotiate partnerships with energy suppliers to gain more stable rates

Regulations

Use excess funds not used in the acquisition to lobby to maintain the favorable regulations

Market uncertainty

Base predictions for the EV market on countries policies

Dependency on EV manufacturers

Partner with EV manufacturers to ensure the application of V2G in the cars

Source: Nuvve Corporation (n.d.), Siemens (n.d.)



Maintaining & building new partnerships with automakers is vital for this venture



Reevaluate EDF's joint venture, Dreev, to ensure a competitive advantage



Strong energy partnerships are crucial for the success

The background of the slide is a nighttime aerial photograph of a dense urban area, likely Bangkok, Thailand. The city is filled with numerous skyscrapers of various heights, their windows glowing with warm light. A complex network of elevated roads and highways cuts through the city, with some traffic visible. The sky above is dark, with a few bright stars and some light pollution or firework-like streaks. Overlaid on the center of the image is a large, semi-transparent white rectangle. Inside this rectangle, the word "Conclusion" is written in a large, bold, white sans-serif font. Below it, the words "The Final Decision" are written in a slightly smaller, bold, white sans-serif font.

Conclusion

The Final Decision



Conclusion

SIEMENS

Acquiring Vestas does not align with Siemens' strategic and financial goals, whereas Nuvve's V2G technology positions Siemens to propel the shift towards sustainable energy

Siemens should not acquire Vestas

Strategic Feasibility

- **Vestas**, as a market leader in wind turbines, **does not align with Siemens' core competencies** in automation, digitization, and technology
- **Siemens' recent exit** from the wind industry **emphasized** their **lack of interest in Vestas' core business**
- Acquiring Vestas **after spinning off their energy business** could harm the Siemens brand and **conflict with their business concentration**

Financial Feasibility

- **Siemens' conservative financial policies contradict the proposed ~€37.5 billion acquisition cost**, which is almost as much as their total estimated sum of acquisitions between 2010 and 2022
- Accounting for synergies and premiums above Vestas' market cap, **Siemens would incur a loss of ~€11 billion**
- An **equity acquisition** would cause **massive dilution**, while a **debt acquisition** would dangerously **increase financial leverage and EPS dilution**

Alternative Solution

... but Siemens should acquire Nuvve

- The acquisition cost of **~€30.5 million** is **financially feasible** and is **aligned with Siemens' acquisition strategy**
- The acquisition **strengthens Siemens' position in the smart charging market** by enabling the integration of Nuvve's V2G technology into their existing smart grid, smart cities, and fleet solutions
- By **leveraging Nuvve's expertise and V2G technology**, Siemens is well-equipped to **drive the transition to renewable energy**

NUVVE

SIEMENS V2G

The background of the image features a globe with a grid pattern, partially obscured by a magnifying glass. The magnifying glass is positioned diagonally, with its lens pointing towards the top left and its handle extending towards the bottom right. The globe's surface is visible through the lens, suggesting a focus on global or detailed information.

APPENDIX

Additional Details & Insights



Vestas Product Portfolio Overview

SIEMENS

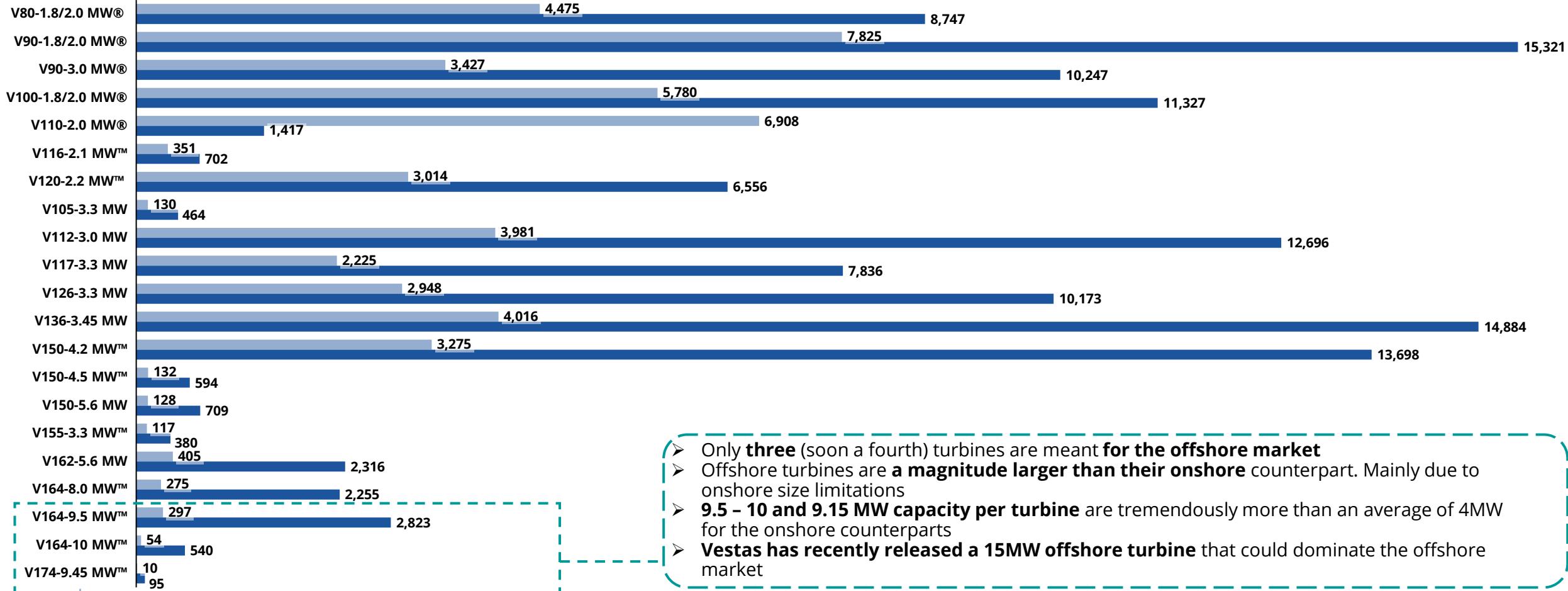
A strong increase in capacity per turbine when going offshore indicates the future in this market

Vestas' distribution of wind turbines shows their maturity in the onshore market and their recent entry in the offshore market

Quantity and Capacity in MegaWatts sold per turbine type

Quantity

Capacity



Name indicates the voltage and capacity per turbine model

- Only **three** (soon a fourth) turbines are meant **for the offshore market**
- Offshore turbines are **a magnitude larger than their onshore counterpart**. Mainly due to onshore size limitations
- **9.5 – 10 and 9.15 MW capacity per turbine** are tremendously more than an average of 4MW for the onshore counterparts
- **Vestas has recently released a 15MW offshore turbine** that could dominate the offshore market

Appendix

Company Analysis



Siemens Energy – Strategic Fit

SIEMENS

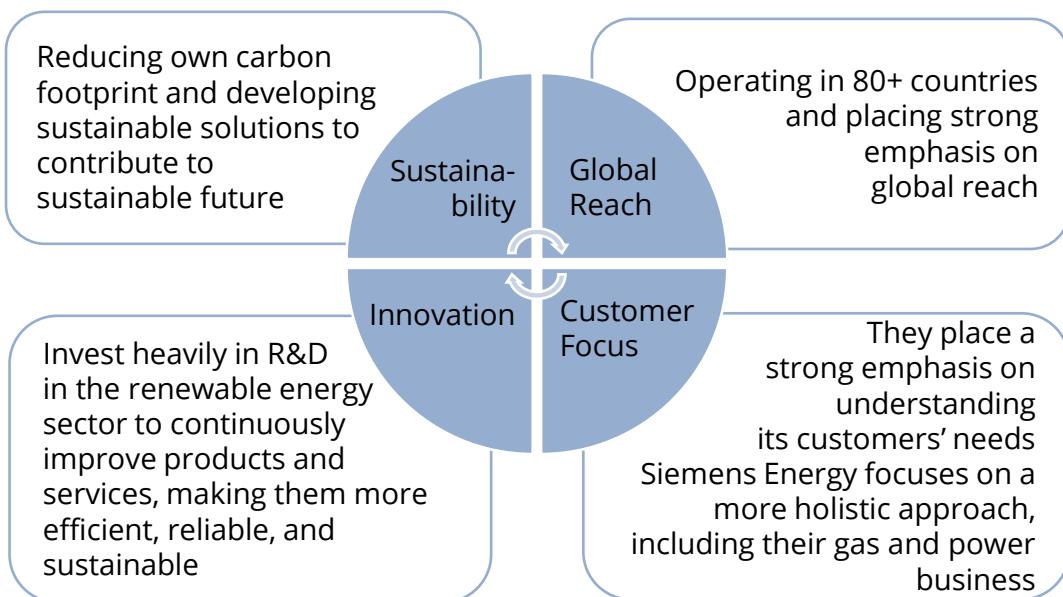
Vestas does not strategically align with Siemens, whereas Siemens Energy has many aspects that are closely linked to Vestas

Scenario: Siemens could acquire for Siemens Energy

Strategic Reasons:

- Siemens still intends to reduce its stake in Siemens Energy, but is currently held back by low performance which negatively impact Siemens net income
- A strong performance of Siemens Energy **benefits the Siemens brand**
- The new Siemens Energy could be a **strong partner** for Siemens to **supply their grids with renewable energy**

Siemens Energy and Vestas have a strong strategic fit



Vestas.

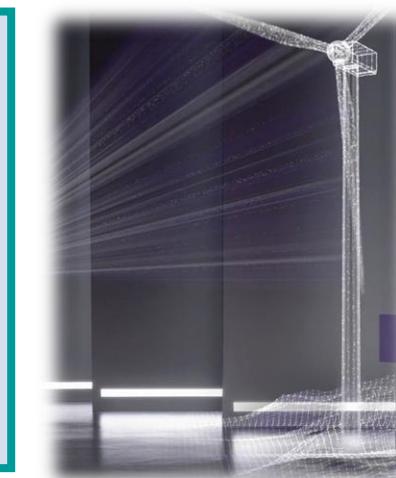
- **Advanced turbine design:** modularization and detailed aero designs increase efficiency & durability
- **Control systems:** Vestas employs advanced control systems to optimize turbine performance and output
- **Energy storage solutions:** energy storage solutions that improve the reliability and stability of the electrical grid

SIEMENS ENERGY

- **Direct drive technology:** This technology makes their turbines more reliable and efficient
- The company is a leader in **offshore wind power** with turbines designed for **harsh weather** conditions
- Siemens Gamesa has developed hybrid solutions that **combine wind power with other renewable energy sources** to provide a more reliable energy supply

Vestas' and Siemens Energy's strengths

- Scaling up wind energy requires building scale across the **turbine value chain** and the **global energy system**
- Vestas is dividing the nacelle into **manageable modular subcomponents** for easier **transportation and maintenance**
- Modular approach facilitates **smart servicing solutions** and enables **upgrades and innovation possibilities** over the operating asset's lifetime



- **Pioneered smart turbines** with sensors
- **Optimize** wind turbine **performance**, reduce **downtime**, and enhance **maintenance**
- Utilizes **Siemens' vast smart grid technology**
- **Offshore models** that detail harsh conditions and create **long-lasting structures**

Appendix

Company Analysis

Since our client is Siemens and it is deemed unlikely that Siemens would make such a large investment for Siemens Energy, as an independent entity in which they only hold a minority stake, this will not further be pursued

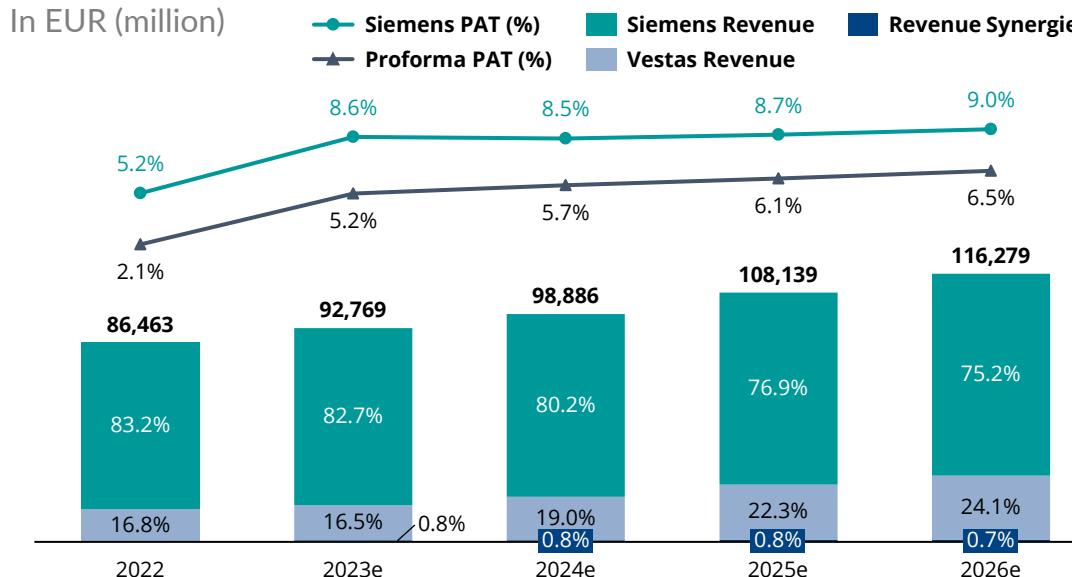


Accretion/Dilution Analysis

SIEMENS

Acquiring Nuvve increases EPS for Siemens, while acquiring Vestas dilutes Siemens' EPS

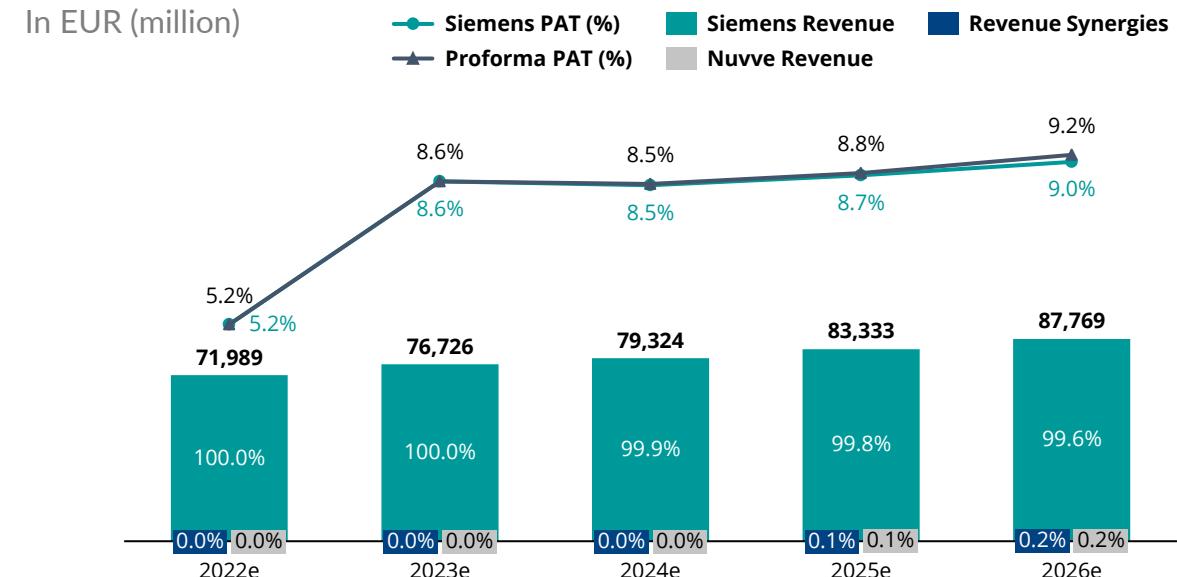
Siemens issuing debt to acquire Vestas results in EPS dilution



Particulars	2022	2023	2024	2025	2026
Siemens Shares Outstanding (#, Diluted)	811	811	811	811	811
PAT (Siemens)	3,723	6,580	6,730	7,262	7,913
EPS (Siemens)	4.59	8.11	8.30	8.95	9.76
PAT (Proforma)	1,781	4,739	5,549	6,503	7,541
EPS (Proforma)	2.20	5.84	6.84	8.02	9.30
Accretion (Dilution)	(2.39)	(2.27)	(1.46)	(0.93)	(0.46)
% Dilution	-52.2%	-28.0%	-17.6%	-10.4%	-4.7%

Interest expense will impact combined Entity at PAT level

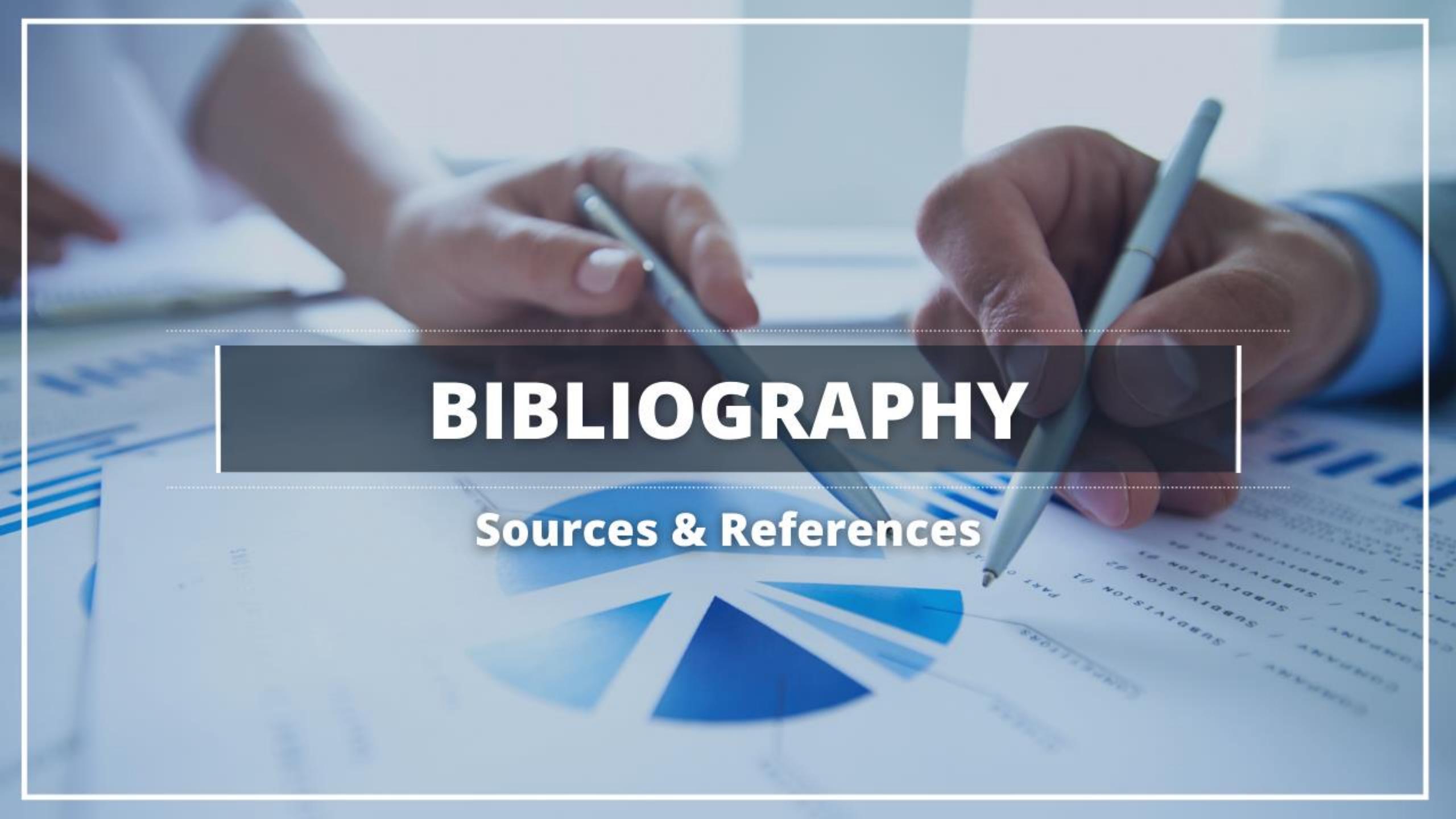
Siemens all-cash acquisition of Nuvve results in EPS accretion



Particulars	2022	2023	2024	2025	2026
Siemens Shares Outstanding (#, Diluted)	811	811	811	811	811
PAT (Siemens)	3,723	6,580	6,730	7,262	7,913
EPS (Siemens)	4.59	8.11	8.30	8.95	9.76
PAT (Proforma)	3,720	6,583	6,758	7,311	8,077
EPS (Proforma)	4.59	8.12	8.33	9.02	9.96
Accretion (Dilution)	(0.00)	0.00	0.03	0.06	0.20
% Accretion	-0.1%	0.0%	0.4%	0.7%	2.1%

Appendix

Financial Analysis



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