Team AURORA ADVISORY

SHOULD SIEMENS ACQUIRE Vestas ?

Shahana Rzayeva, Christer Johansen,
Yannick Fankhauser, Nicolai Kreutz, William Pham Grevskott
BI Norwegian Business School
Oslo, March 13th, 2023

Executive summary

After conducting a thorough industry and company analysis, as well as financial due diligence reports, it has been determined that Siemens should not acquire Vestas or Nordex, but instead invest into further development of Siemens Gamesa, with a particular focus on growth in the offshore market.

The analysis revealed that the acquisition of Vestas or Nordex would result in significant financial risks and uncertainties, including regulatory risks, overlapping product lines, and cultural differences. Furthermore, such an acquisition would divert resources away from Siemens Gamesa, which is currently experiencing steady growth and profitability.

Instead, investing in the further development of Siemens Gamesa, particularly in the offshore market, would allow the company to leverage its existing strengths and capitalize on the growing demand for renewable energy solutions in this area. This strategy would also enable Siemens to maintain control over its core business and ensure long-term sustainability and profitability.

Table of Abbreviations

Abbreviation	Explanation		
GW	Gigawatt	DCF	Discounted Cash Flow
RE	Renewable Energy	AGR	Annual Growth Rate
M&A	Mergers and Acquisitions	NPV	Net Present Value
FX	Forex	STD	Standard Deviation
DKK	Danish Crown (Danish Currency)	p.a	Per annum
Bn	Billion	EBIT	Earnings before interest and taxes
Co2	Carbon Dioxide	MW	Megawatt
R&D	Research and Development		
CAGR	Compound Annual Growth Rate		

Industry breakdown: Renewable Energy

Renewable Energy

Analyse the renewable energysektor:

- Geothermal
- Hydroelectric power
- Bio energy
- Solar Power
- Wind Power

End users:

- Residnetial
- Industrial
- Commercial
- other

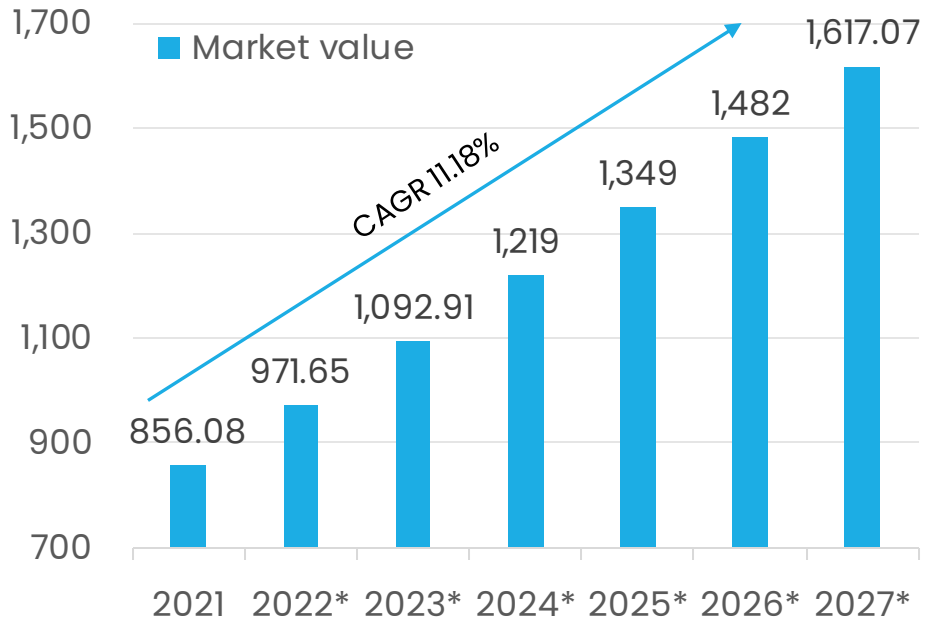
Growthrate, marketsize

- Market size 2021: 910,5Billion USD
- CAGR: 8,8% 2022 – 2028
- Key Players: ABB, Xcel Energy, EDF Energy, General Electric, Invenergy

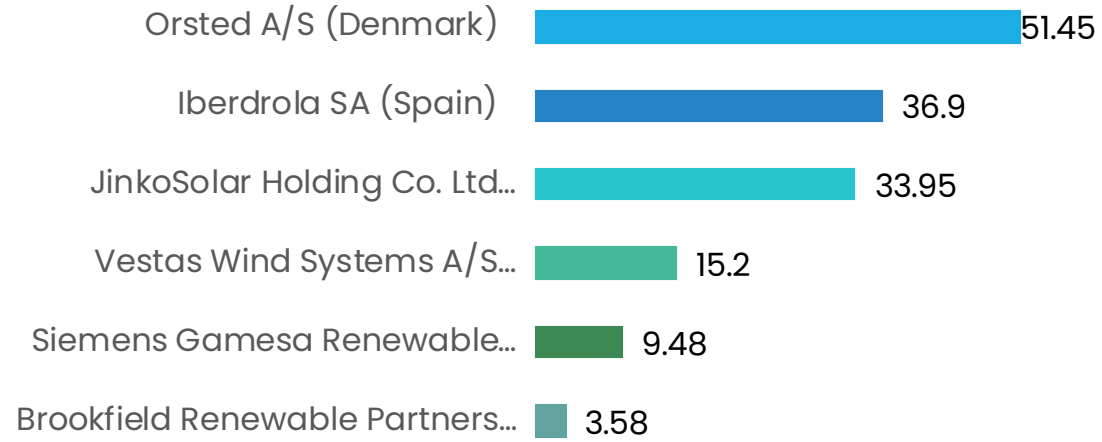
Renewable Energy Sector

- Renewable Energy Market size of **$ 856.08 bn in 2021**
- **Forecasted** to be at **$ 1617 bn in 2021** and **$ 2025 bn in 2030**
- Global **Renewable Energy Market CAGR of 11.18%** between **2021** and **2027**
- **Europe** projected to maintain **top position** in share of renewables by 2027
- **Strongest** projected **catch-up Middle East and Africa** increasing its share in global renewable energy generation by 5% from 2021 to 2027

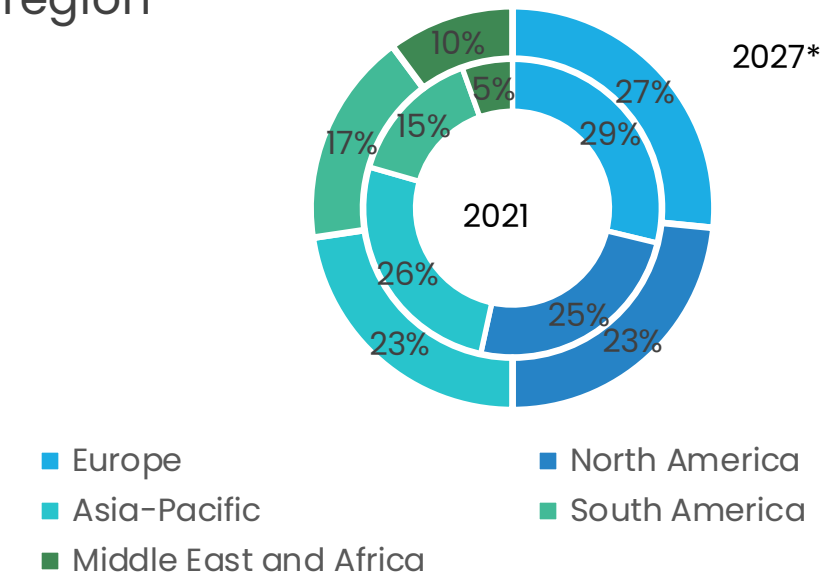
Global renewable energy market size



Leading renewable energy companies worldwide 2021, by revenue

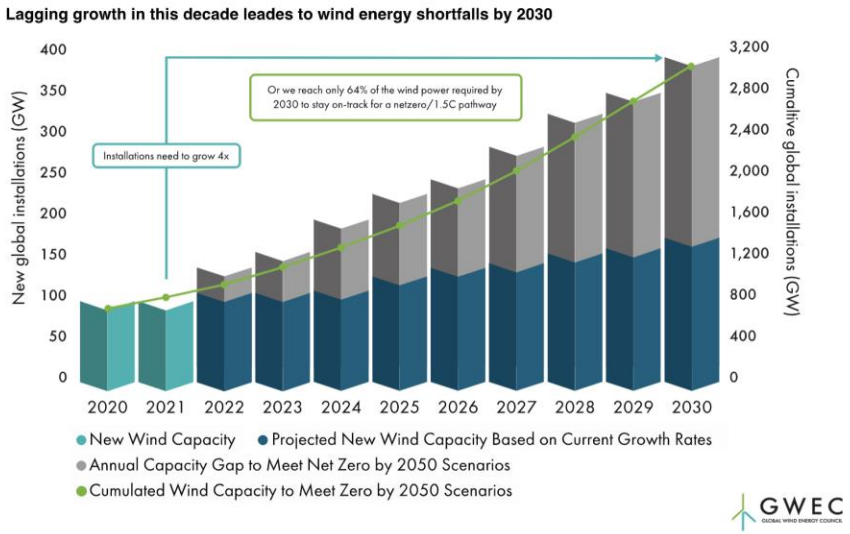


Renewable energy generation shares by region



Published by Lucía Fernández and 27, J. (2023) *Market value of renewable energy industry worldwide 2030, Statista.* Available at: https://www.statista.com/statistics/1094309/renewable-energy-market-size-global/ (Accessed: 12.03, 2023).
Published by Statista Research Department and 30, J. (2023) *Global Renewable Energy Production shares by region, Statista.* Available at: https://www.statista.com/statistics/1360326/forecast-renewable-energy-share-of-production-worldwide-by-region/?locale=en (Accessed: March 12, 2023).

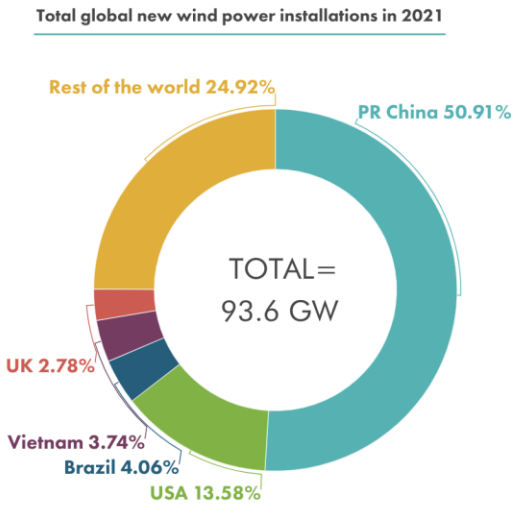
Global wind market 1/2



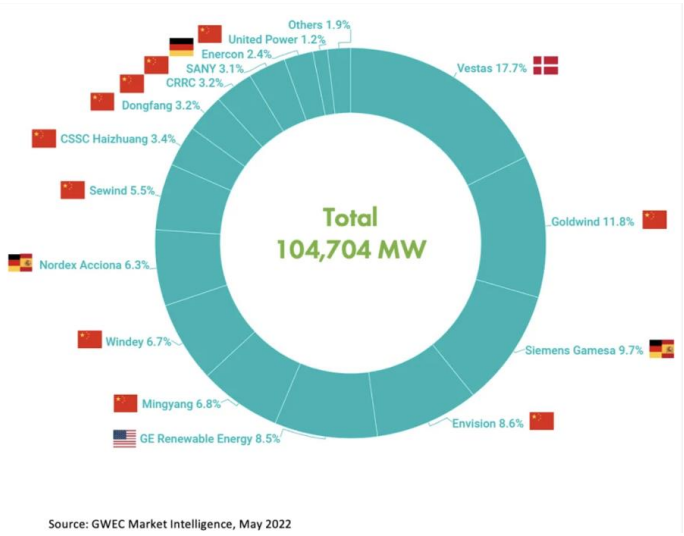
837 GW 2021 – Reducing emissions by 1,2 billion tonnes of CO2 – Eqvivalent to the emissions of the entire south america. Expected growth of 110GW per year the next 5 years.

From the table on the left we can see that we are still lagging behind if we are to reach our climate goals by 2030.

On the tables below we can see that China is a huge player in the wind market, both onshore and offshore. However, since China is mainly dealing with them selves, it is normal in the wind market to exclude china from the market analysis, meaning that with China excluded, Vestas (DK), Siemens Gamesa (GE/ES), General Electrics (US) and Nordex (GE) own more or less the entire market and that Europe is leading the way.



Global installations by country 2021

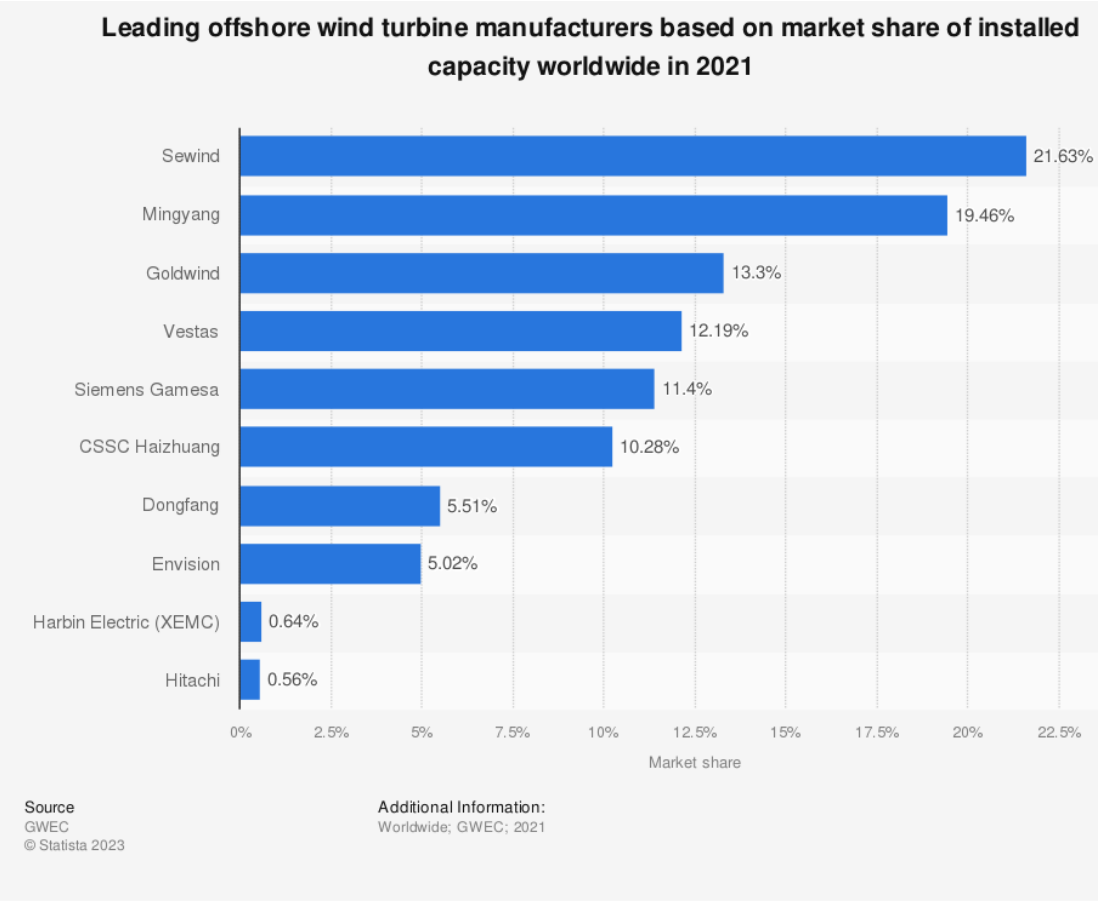


Market shares of the turbine manufacturers global 2021

Given that Siemens already own Siemens Gamesa and that the General Electric probably is off the table, the only other options that would makes sense for Siemens to acquire would be the German company Nordex with a market share of approximately 6,3%.

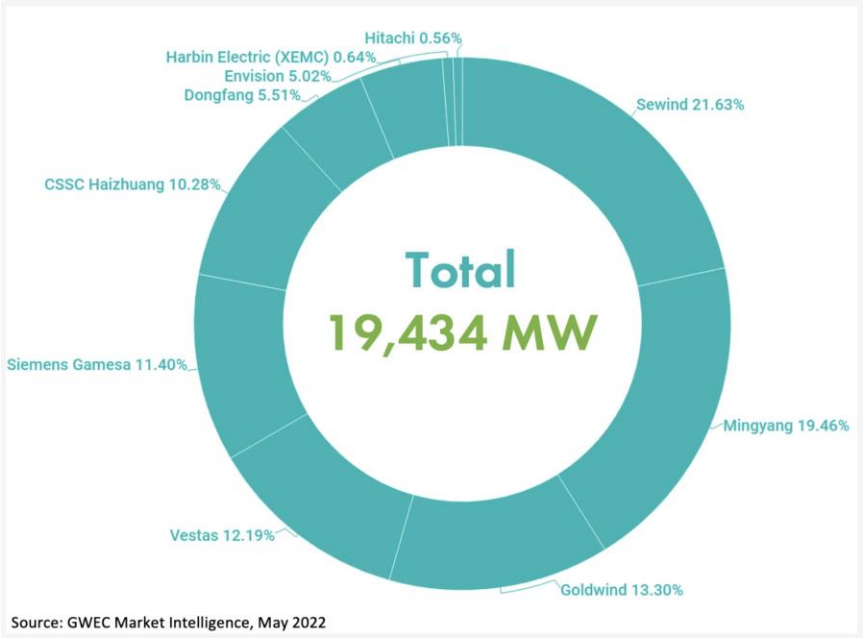
https://gwec.net/global-wind-report-2022/

Global wind market 2/2



With China excluded in the offshore segment, Vestas and Siemens Gamesa are mainly the only players in the market. Which results in them having huge market power.

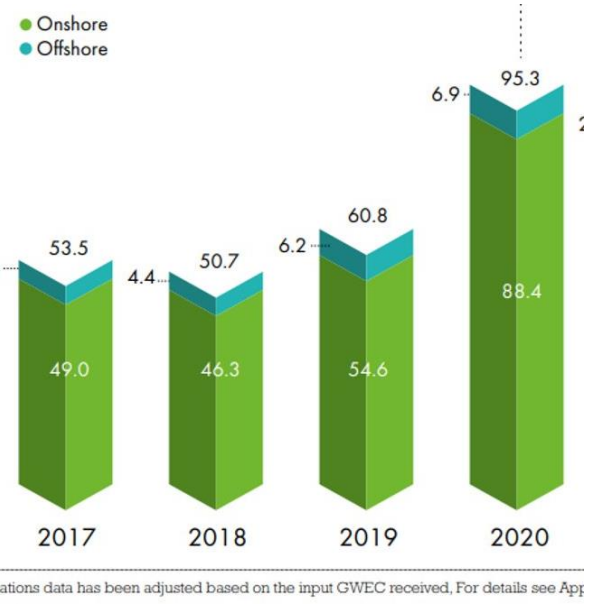
The offshore market is expected to grow with an CAGR of around 35%-40%, making it a highly attractive market to be in for all players. While the onshore segment are expected a steady CAGR of 6,6% in the next five years.

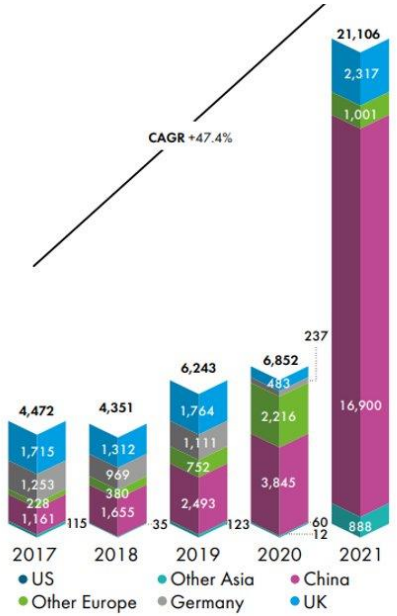


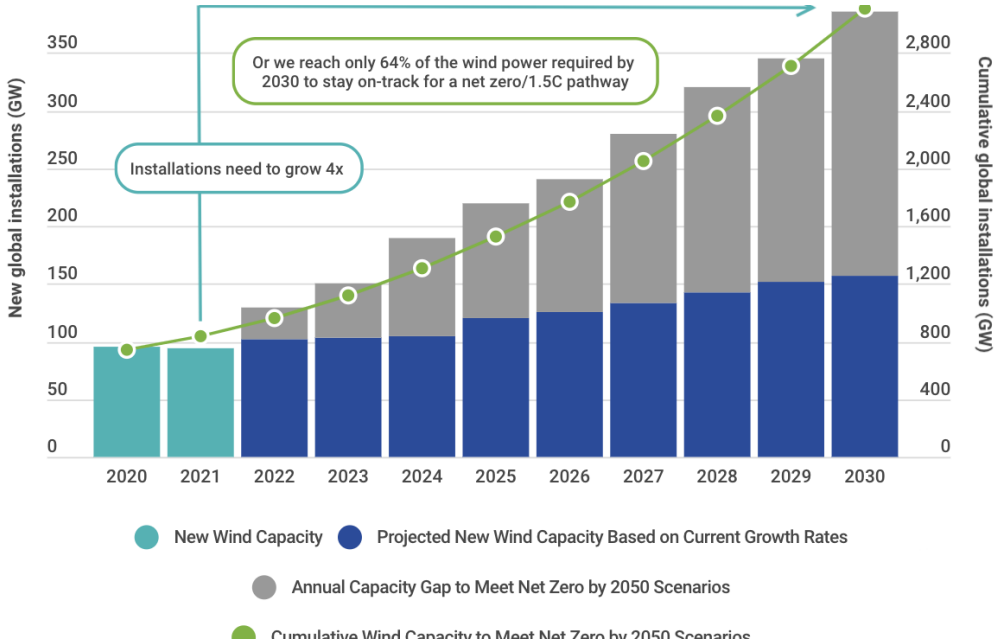
Market shares in the turbine manufacturers offshore 2021

As the offshore segment keeps getting political backing across Europe and the rest of the world, both Vestas and Siemens Gamesa are strategically placed to benefit from the market growth. In the graph to the right, it is clear that with China excluded Vestas and Siemens Gamesa have almost all the market in the segment, and therefore also a lot of market power making the acquisition exposed to EU regulations about market power and market competitiveness.

Offshore wind energy (no date) *WindEurope*. Available at: https://windeurope.org/policy/topics/offshore-wind-energy/ (Accessed: March 12, 2023).







Wind Market development

Denmark, China, the UK, Vietnam and The Netherlands made up 99,5% of all new off-shore installations in 2021. Total 21,1 GW.

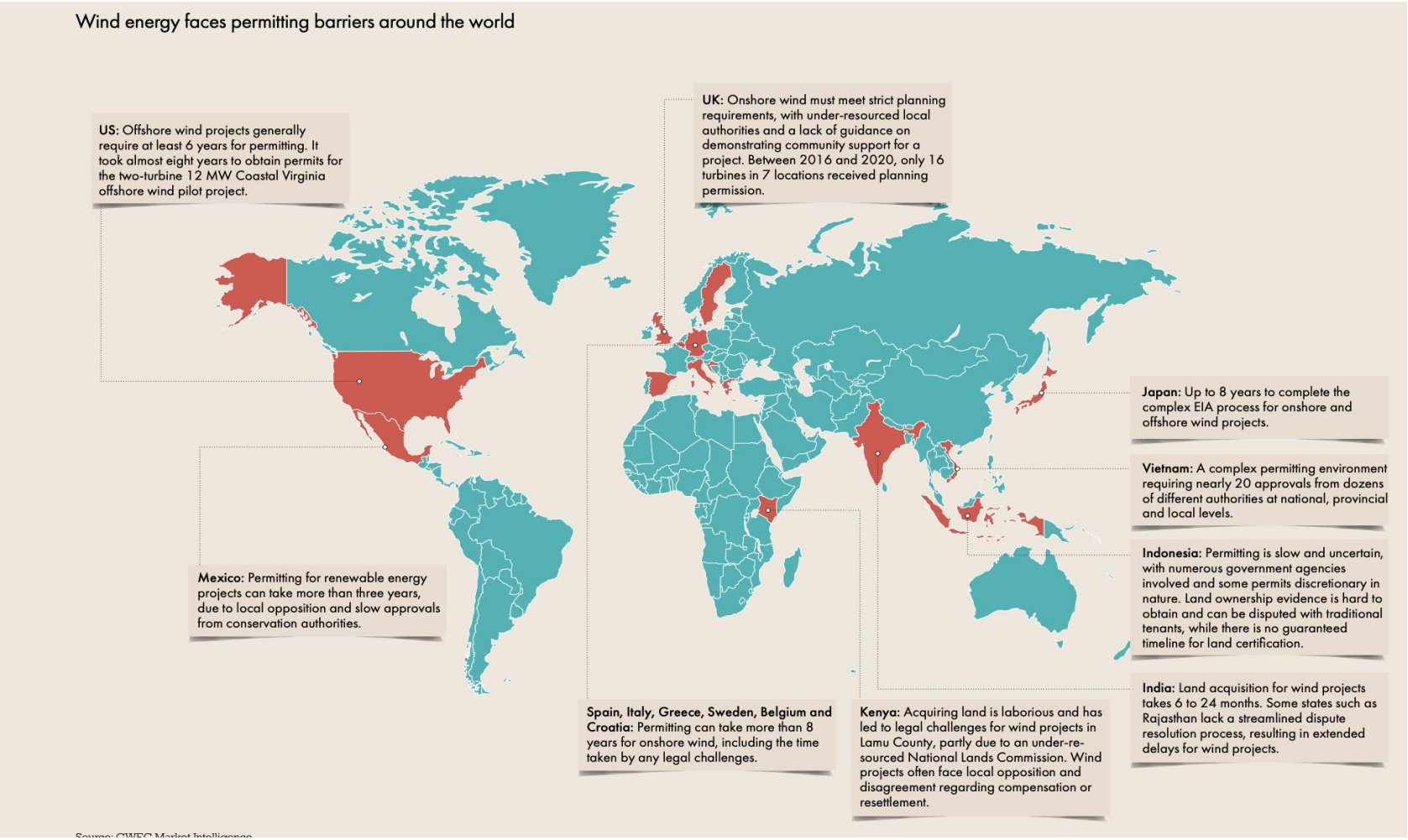
While China, USA, Brazil, Vietnam and the UK made up 75,1% of all new on-shore installations in 2021. Total 72,5GW.

However, this is not enough to reach our climate goal of 1,5 degree.

CAGR: 6,6% with current policies but industry is hoping for even more political traction speeding up the growth.

Offshore wind energy (no date) *WindEurope*. Available at: https://windeurope.org/policy/topics/offshore-wind-energy/ (Accessed: March 12, 2023).

Challenges in the Wind-industry

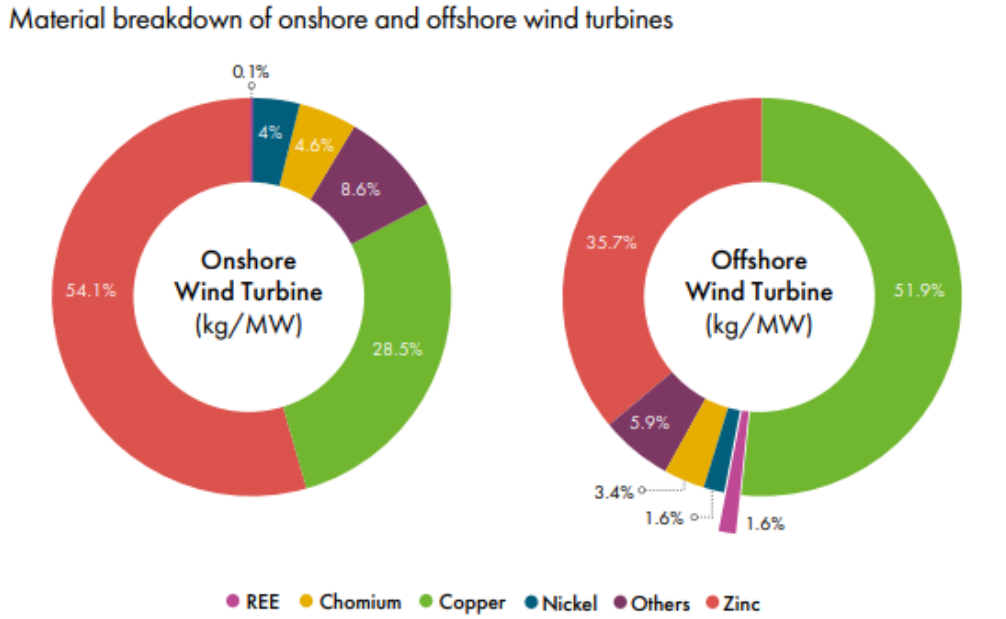


System Design	**Coal phaseout:** The pace of countries exiting and retiring coal-based generation.
	Proposition versus gas: The enabling policy environment for wind energy versus natural gas/LNG, based on market and socioeconomic value.
	Policy ambition: The visibility and predictability of countries' wind energy growth targets, and the reflection in transparent and long-term procurement schemes.
	Adopting system value: The shift away from marginal value-based electricity markets towards a system value framework.
Society	**Permitting timelines:** The ease of obtaining the necessary permits, licenses and approvals for wind project deployment, including legal challenges.
	Social acceptance: The scale of support versus opposition encountered by wind projects in host communities.
	Public consensus: Public education and awareness about climate change and the needs of the energy transition, and the resulting social and political support for wind energy.
	Land use: Availability of land and seabed for wind energy projects.
Supply Chain	**Supply chain costs:** The rise and certainty of market prices for materials, minerals, metals and other inputs to the wind energy supply chain.
	Circularity: The reuse, repurposing, recyclability and recovery of wind farm components including wind turbines, and the reduction of waste and environmental impacts generated in the wind project lifecycle in line with a circular economy approach.
Technology	**Storage and green hydrogen:** The pace of cost reduction and commercialisation of enabling storage and green hydrogen technologies, which will boost demand for wind energy.
	Reliability of RE supply: The pace of cost reduction and integration of enabling balancing and flexibility technologies, such as demand-side response tools, which will enable large-scale integration of wind energy.
Infrastructure	**Grid and transmission:** The pace and scale of grid reinforcement, buildout and modernisation, ensuring sufficient grid availability to increase wind deployment.
	Energy access: The expansion of infrastructure to enable universal clean energy access and electrification of power and other sectors.
Workforce	**Skilled workforce:** The availability of a ready and able workforce with the necessary training and skills for the wind industry.
	Just transition and inclusion: The socioeconomic welfare of stakeholders concerned with the energy transition, and the development of a diverse and inclusive workforce which can harness all talents to grow the wind industry.

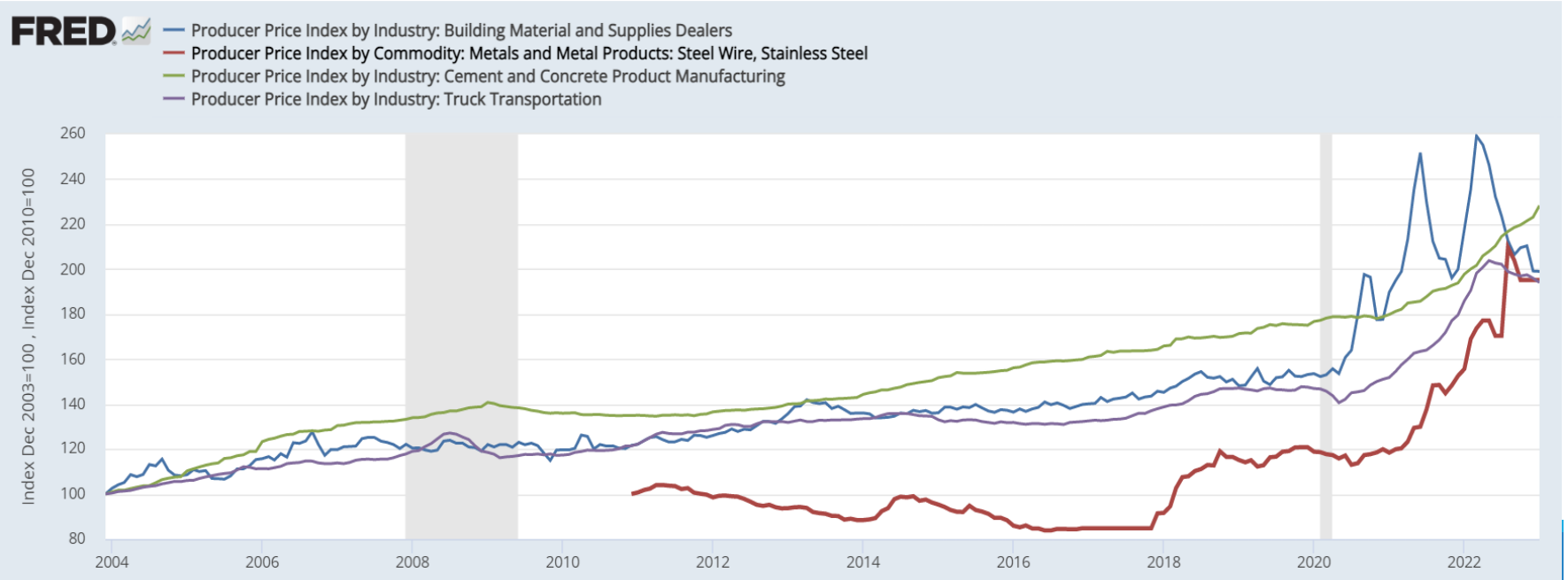
Offshore wind energy (no date) *WindEurope*. Available at: https://windeurope.org/policy/topics/offshore-wind-energy/ (Accessed: March 12, 2023).

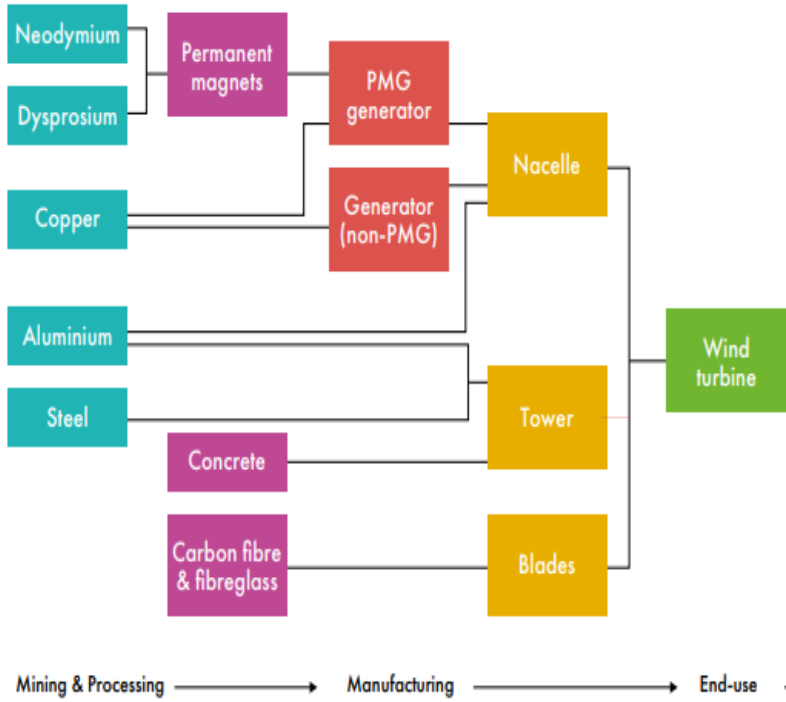
Inflation and material cost

Vestas raised their price for wind turbines in 2022 to guard against inflation and to try to return themself in to profit. Their onshore turbines are now priced at €960.000/MW. The price is up more than 20% compared to one year ago. Both Vestas and Siemens have been hit hard by the raw material price increase, and it is becoming more and more expensive to produce their turbines. The energy crisis in Europe has also made it more expensive to operate.

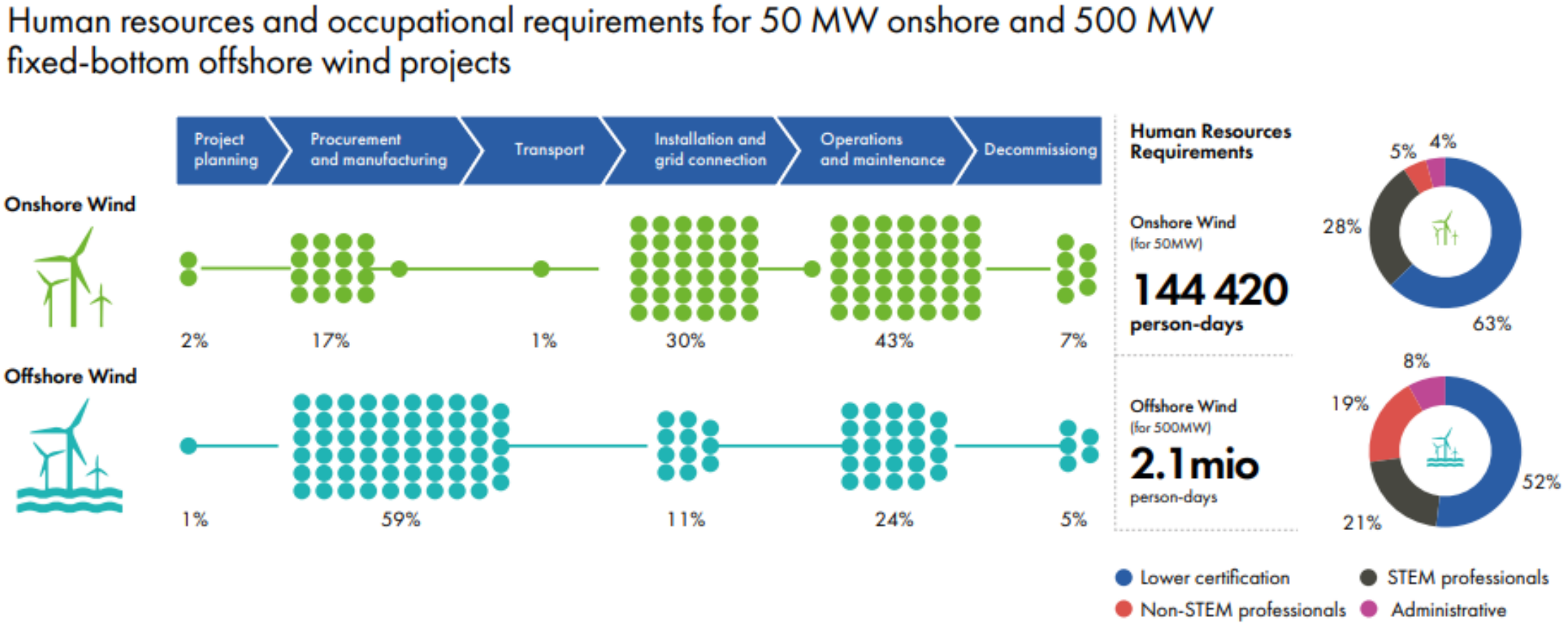


Sources: IEA, Carrara et al. (2020); Elia et al (2020); GWEC Market Intelligence. Note: PMSG = Permanent Magnet Synchronous Generator.





Blackburne, A. (2022, August 10). *Vestas hikes wind turbine prices to highest in last decade*. S&P Global Homepage. Retrieved March 6, 2023, from https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/vestas-hikes-wind-turbine-prices-to-



Sources: Leveraging local capacity for onshore wind, IRENA, 2017; Leveraging local capacity for offshore wind, IRENA, 2018.

Workforce requirements for wind energy

The wind energy sector needs a lot of workforce with special skills required. Around 60% of the workers in onshore requires minimal formal training. People with degrees in science, engineering, mathematics and science, are fulfilling 28% for onshore and 21% for offshore workforce. Highly qualified non-STEM professionals are accounting for 5%, and administrative personnel makes up 4%.

Global wind report 2022. Global Wind Energy Council. (2022, April 4). Retrieved March 8, 2023, from https://gwec.net/global-report-2022/

COMPANY OVERVIEW

- Siemens
- Vestas

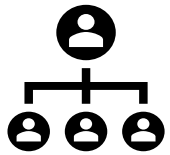
Vestas Wind Systems A/S was founded in 1945 in Denmark by Peder Hansen and Ed Smith. Initially, the company focused on manufacturing household appliances and agricultural equipment. However, in the 1970s, Vestas started to explore wind energy as a potential source of power. By the 1980s, the company had become a leading manufacturer of wind turbines, and in 1987, Vestas opened its first overseas office in the United States. Throughout the 1990s and 2000s, Vestas continued to expand its operations globally, establishing manufacturing facilities in Europe, Asia, and North and South America. In 2008, the company achieved a major milestone when it installed its 25,000th wind turbine. Vestas has also been at the forefront of wind turbine technology innovation, developing advanced solutions such as the V164, which has the largest rotor diameter in the world.

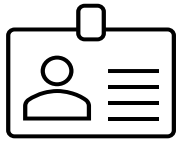
Vestas

SIEMENS

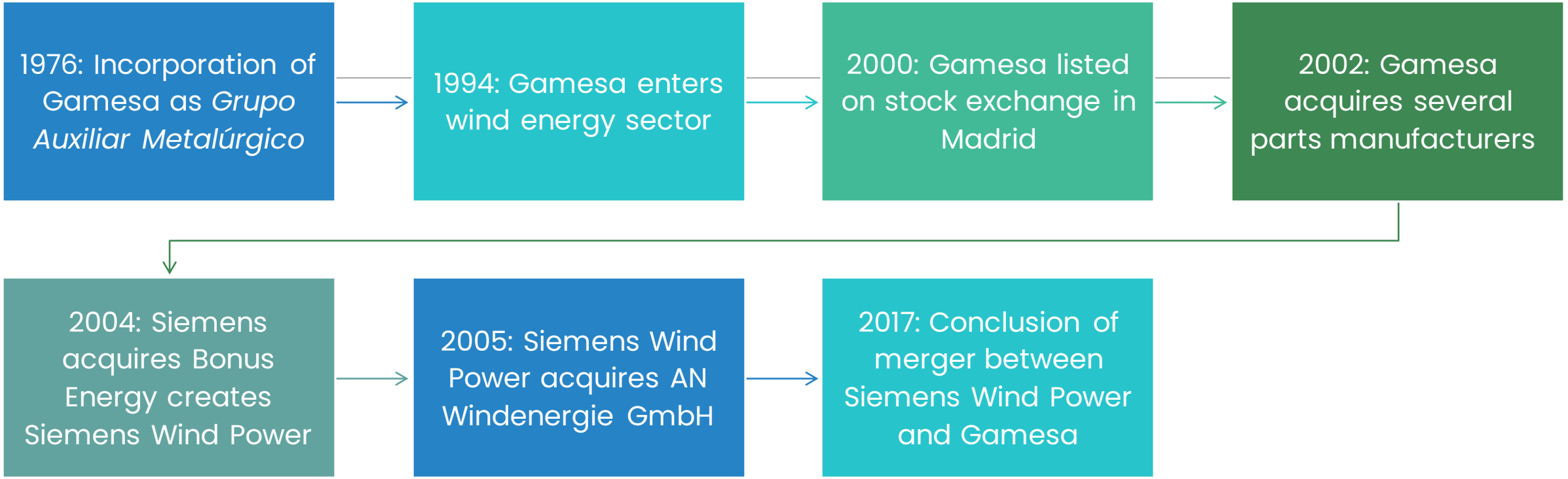
Siemens were founded in 1847 during the second industrial revolution. Electrification was the technology that changed the world at that time, and Siemens were a huge factor in the revolution. They have been involved in the wind energy industry since the early 1980s when it first began developing wind turbines. In the years following they invested heavily in wind energy and today they are one of the largest manufacturers of wind turbines in the world. They have become one of the largest well-known engineering companies in the world, with an interest in a wide range of industries, including energy, transportation, healthcare, and more. For the years to come they are aiming for a sustainable growth strategy with their framework, DEGREE.

Company overview: **Siemens**





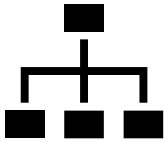
- Siemens AG is a German multinational conglomerate company that specializes in manufacturing electronics, engineering, and medical equipment.
- Siemens was founded in 1847 by Werner von Siemens and Johann Georg Halske in Berlin, Germany.
- Siemens has its headquarters in Munich, Germany.
- Siemens operates in multiple industries including energy, healthcare, infrastructure, and transportation.
- As of 2021, Siemens employs approximately 295,000 people worldwide.
- The company has a presence in over 200 countries and regions.
- Siemens is listed on multiple stock exchanges including the Frankfurt Stock Exchange, the New York Stock Exchange, and the Swiss Exchange.
- Siemens has a decentralized organizational structure with several business segments, including Digital Industries, Smart Infrastructure, Gas and Power, Mobility, and Siemens Healthineers.
- The company is known for its focus on research and development and has a large portfolio of patents.
- Siemens is committed to sustainability and has set targets to reduce its carbon footprint and increase its use of renewable energy sources.

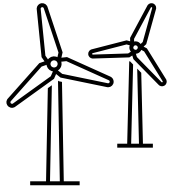


Siemens Gamesa

History (no date) *Company history | Siemens Gamesa*. Available at: https://www.siemensgamesa.com/en-int/about-us/company-history (Accessed: March 12, 2023).
Siemens Gamesa (2023) *Wikipedia*. Wikimedia Foundation. Available at: https://de.wikipedia.org/wiki/Siemens_Gamesa (Accessed: March 12, 2023).
Siemens Gamesa (2023) *Wikipedia*. Wikimedia Foundation. Available at: https://en.wikipedia.org/wiki/Siemens_Gamesa (Accessed: March 12, 2023).

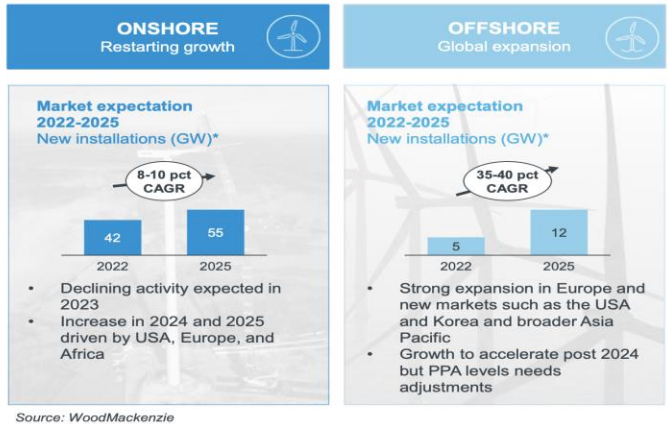
Company overview: **Vestas 1/2**



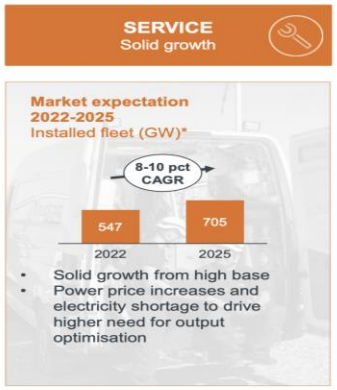


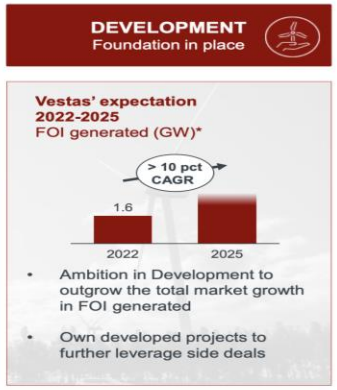
- Vestas Wind Systems A/S is a Danish manufacturer, seller, installer, and servicer of wind turbines.
- Vestas was founded in 1945 and is headquartered in Aarhus, Denmark.
- Vestas is one of the largest manufacturers of wind turbines in the world and operates in over 80 countries.
- The company has installed more than 117,000 wind turbines worldwide, which together generate over 132 GW of clean energy.
- Vestas has a strong focus on research and development and has invested heavily in developing new wind turbine technologies.
- The company has a diverse product portfolio that includes turbines for onshore and offshore use, as well as hybrid solutions that combine wind power with other forms of renewable energy.
- Vestas has a decentralized organizational structure with several business units, including Sales and Service, Manufacturing and Global Procurement, Technology and Innovation, and Power Solutions.
- The company employs approximately 29,000 people worldwide.
- Vestas has a strong commitment to sustainability and has set targets to become carbon-neutral by 2030 and to achieve a 50% reduction in CO2 emissions from its supply chain by 2030.

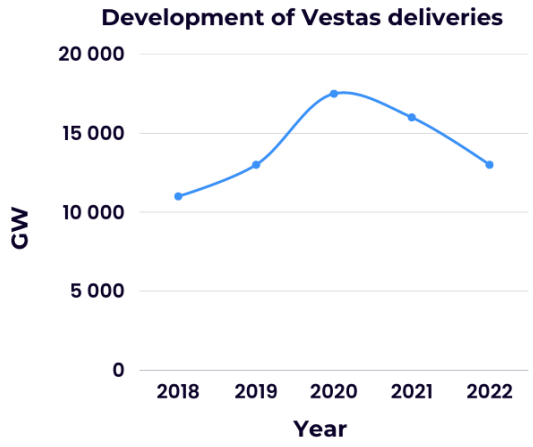
Company presentation Vestas 2/2



Source: WoodMackenzie







Vestas is a leading manufacturer of wind turbines with the highest installed capacity under service in the world. The firm operates two business segments: power solutions and services. The power solutions segment designs, manufactures, and installs onshore and offshore wind turbines. The services segment performs operating and maintenance service work on wind turbines.

Vestas annual report 2022 suggest that the company is strategically placed to experience massive growth in the offshore segment, where they are expecting to grow 35-40% from 2022-2025. They are also suggesting that the company will see a decline in their biggest segment, the onshore segment, in 2023, before it will grow in 2024 and 2025 due to drivers in the American, European and African markets.

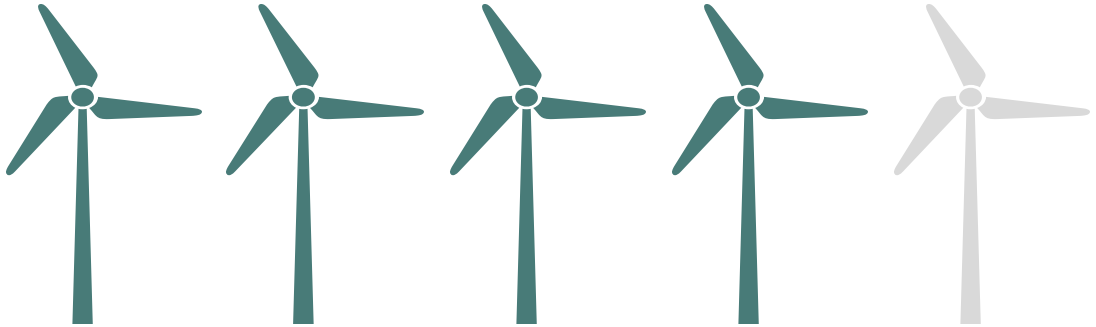
As of the service segment, the report suggests that their already good growth will continue to expand as more and more installations are placed and therefore also the need for service will increase.

Vestas are expecting to turn around the falling curve of new deliveries as of the start of 2024 with the fast-growing offshore segment to be the main growth-driver.

Vestas long term financial goals

- **REVENUE** — Outgrow market
- **EBIT MARGIN** — >10%
- **FCF** — Positive
- **ROCE** — 20% over the cycle

Vestas: Environmental goals

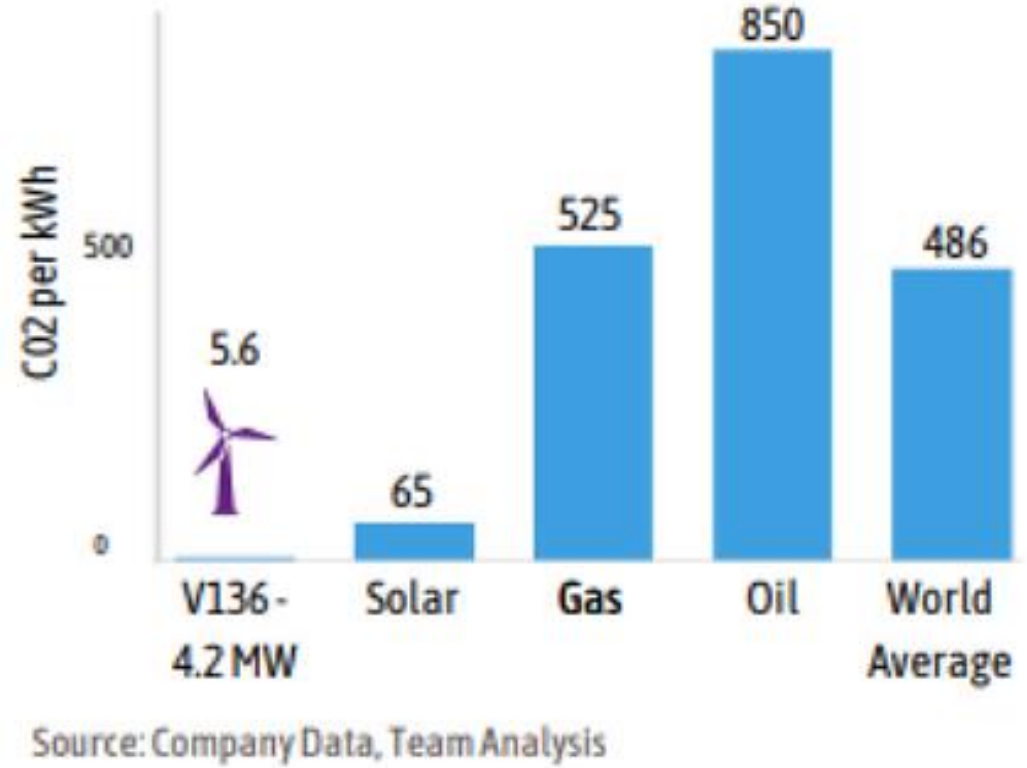


4,25/5

Vestas turbines

There is a lot of criticism of how much emissions come out of making a turbine. Vestas's turbines are currently 85% recyclable

Vestas has a goal to become carbon neutral by 2030 and producing zero-waste turbines by 2040. In 2022 they improved material efficiency of non-recyclable waste by 20% compared to 2021. They also reuse 70% of material of old parts in new turbines



Vestas. (n.d.). *Environment - Zero-waste*. Global Leader in Sustainable Energy. Retrieved March 5, 2023, from https://www.vestas.com/en/sustainability/environment/zero-waste

FINANCIAL OVERVIEW

- Siemens
- Vestas

SIEMENS

Balance sheet

(in millions of €)	Note	Sep. 30, 2022	2021
Assets			
Non-current assets	10		
Intangible assets		**153**	192
Property, plant and equipment		**928**	876
Financial assets		**71,576**	74,852
		72,657	75,920
Current assets			
Inventories	11	**2,377**	1,934
Advance payments received		**(1,043)**	(986)
		1,334	949
Receivables and other assets	12		
Trade receivables		**1,657**	1,696
Receivables from affiliated companies		**26,093**	17,564
Other receivables and other assets		**1,340**	1,583
		29,090	20,844
Other Securities		**170**	215
Cash and cash equivalents		**1,454**	2,082
		32,047	24,089
Prepaid expenses		**220**	184
Deferred tax assets	13	**2,065**	1,243
Active difference resulting from offsetting	14	**16**	51
Total assets		**107,005**	101,487

Shareholders´ equity and liabilities			
Shareholders´ equity	15		
Subscribed capital[1]		**2,550**	2,550
Treasury shares		**(172)**	(143)
Issued capital		***2,378***	*2,407*
Capital reserve		**8,445**	8,289
Other retained earnings		**6,188**	7,119
Unappropriated net income		**3,613**	3,400
		20,623	21,216
Special reserve with an equity portion		**540**	541
Provisions			
Provisions for pensions and similar commitments	16	**13,380**	12,372
Provisions for taxes		**602**	628
Other provisions	17	**3,711**	3,592
		17,693	16,592
Liabilities	18		
Liabilities to banks		**639**	501
Trade payables		**2,249**	2,111
Liabilities to affiliated companies		**63,946**	58,985
Other liabilities		**1,080**	1,293
		67,914	62,890
Deferred income		**235**	249
Total shareholders´ equity and liabilities		**107,005**	101,487

[1] Conditional Capital as of September 30, 2022 and 2021 amounted to €421 million and €421 million, respectively.

Siemens have assets of 107,005 mEUR and liabilities of 67,914 mEUR giving them an equity of around **39.091 mEUR** suggesting a stable and steady economy that has been built over decades. Siemens have been able to increase their equity from 2021-2022 after a difficult few years of the pandemic.

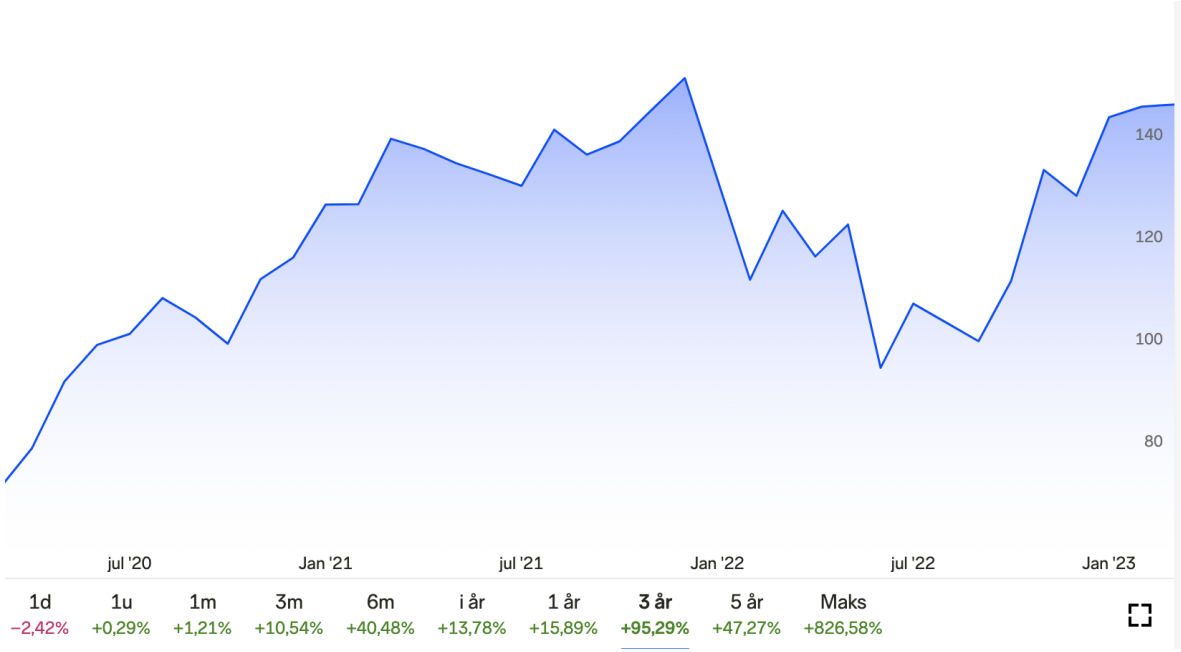
Www.siemens.com (no date). Available at: https://www.siemens.com/applications/b09c49eb-3a14-73b3-9f71-e30e3c2dfdbd/assets/pdfs/en/Siemens_Report_FY2022.pdf (Accessed: March 12, 2023).

SIEMENS

Valuation

Since Siemens is the company on the buy side of this case, it does not make too much sense for us to valuate Siemens. However, it might be interesting just to get a sense of the size of Siemens, to clarify the size differences between the companies mentioned in this case.

As of the 10.03.2023 at 17:30 the Siemens stock is traded for 147,50 EUR per share. With 792 545 829 shares it makes Siemens worth around 116.9 Billion EUR based on the stock market. Making them approximately 5,3 times larger than Vestas.



Siemens AG (SIE) aksje Nordnet. Available at: https://www.nordnet.no/market/stocks/16129165-siemens (Accessed: March 12, 2023).

Siemens AG (SIE) aksje Nordnet. Available at: https://www.nordnet.no/market/stocks/16129165-siemens (Accessed: March 12, 2023).

Vestas

31 December Balance Sheet

Assets

mEUR	Note	2022	2021[1]
Intangible assets	3.1, 3.4	3,065	3,062
Property, plant and equipment	3.2, 3.3	1,752	2,091
Investments in joint ventures and associates	3.5	646	609
Other investments	4.3	88	81
Tax receivables	5.1	100	229
Deferred tax	5.2	497	378
Other receivables	2.5, 4.3	219	234
Financial investments	4.3	95	100
Total non-current assets		**6,462**	**6,784**
Inventories	2.2	6,373	5,673
Trade receivables	4.1, 4.3	1,280	1,531
Contract assets	2.3, 4.3	1,399	1,227
Contract costs	2.4	753	690
Tax receivables	5.1	51	102
Other receivables	2.5, 4.3	1,221	1,105
Financial investments	4.3	-	116
Cash and cash equivalents	4.1, 4.3	2,378	2,420
Assets held for sale	6.2	173	-
Total current assets		**13,628**	**12,864**
Total assets		**20,090**	**19,648**

1 Comparative figures for 2021 have been adjusted following the accounting policy change for configuration and customisation cost in cloud computing arrangements, refer to note 7.2.

Liabilities

mEUR	Note	2022	2021[1]
Share capital	4.4	27	27
Other reserves		15	22
Retained earnings		3,002	4,635
Equity attributable to Vestas		**3,044**	**4,684**
Non-controlling interests		16	13
Total equity		**3,060**	**4,697**
Provisions	3.6	944	686
Deferred tax	5.2	158	362
Financial debts	4.1, 4.3	2,179	732
Tax payables	5.1	177	326
Other liabilities	2.6, 4.1, 4.3	59	145
Total non-current liabilities		**3,517**	**2,251**
Financial debts	3.3, 4.1, 4.3	248	704
Contract liabilities	2.3	6,937	6,180
Trade payables	4.1, 4.3	4,089	4,286
Provisions	3.6	829	646
Tax payables	5.1	58	75
Other liabilities	2.6, 4.1, 4.3	1,349	809
Liabilities related to assets held for sale	6.2	3	-
Total current liabilities		**13,513**	**12,700**
Total liabilities		**17,030**	**14,951**
Total equity and liabilities		**20,090**	**19,648**

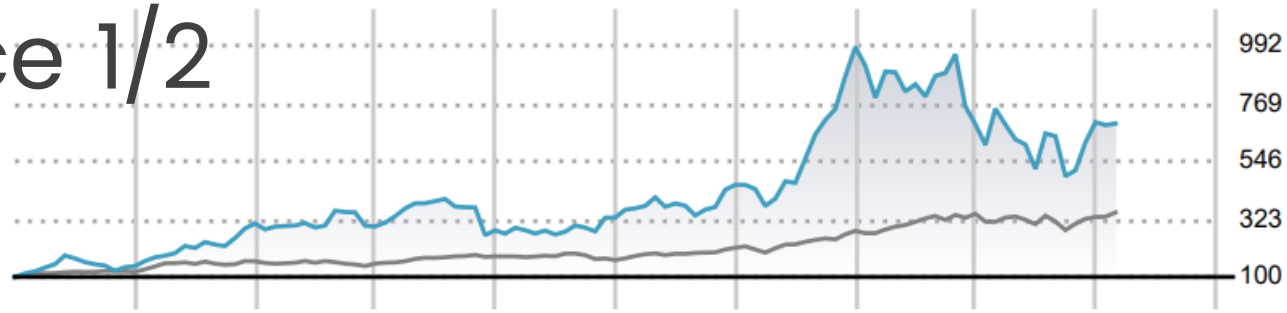
1 Comparative figures for 2021 have been adjusted following the accounting policy change for configuration and customisation cost in cloud computing arrangements, refer to note 7.2.

Vestas total asstets as of december 31 2022 were 20,090 mEUR, while its total liabilitites were 17,030 mEUR. This implies a relatively low debt-to-equity ratio. The company´s cash and cash equivalents were 2,376 mEUR, which indicates that it has a strong liquidity, even after such a horrific year. Overall, based on the financial statements for 2022, Vestas appears to have a solid financial performance and position, although with a decrease in revenue and profitability, mainly due to the macro situation. Important to note that these financial statement only provide a small image of the whole situation and should be considered next to the industry and market conditions.

Vestas (no date). Available at: https://www.vestas.com/content/dam/vestas-com/global/en/investor/reports-and-presentations/financial/2021/Sustainability_Report_2021.pdf (Accessed: March 12, 2023).

Vestas

Financial due diligence 1/2



2014	2015	2016	2017	2018	2019	2020	2021	2022	**Financial Health** (EUR)
339	1,171	1,323	1,473	1,150	1,095	1,015	164	115	Working Capital (Mil)
3	495	496	497	498	661	867	732	2,179	Long Term Debt (Mil)
2,379	2,899	3,190	3,112	3,092	3,293	4,654	4,748	3,044	Total Equity (Mil)
0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.7	Debt/Equity

Financial Position (EUR, Mil)

	2021	2022
Cash and cash equivalents	2,394	2,352
Inventory	5,673	6,373
Accounts receivable	1,531	1,280
Current Assets	12,864	13,628
Net PP&E	2,091	1,752
Intangibles	3,130	3,065
Total Assets	19,712	20,090
Accounts Payable	4,286	4,089
Current Debt	704	248
Current Liabilities	12,700	13,513
Long Term Debt (Mil)	732	2,179
Total Liabilities	-	-
Total Equity (Mil)	4,748	3,044

Valuation Analysis

	Current	3 Yr Avg	5 Yr Avg	10 Yr Avg
Price/Earnings	-	29.37	26.81	19.77
Forward Price/Earnings	169.49	58.81	42.92	21.97
Price/Free Cash Flow	-	164.59	117.49	63.87
Dividend Yield %	0.18	0.53	0.91	-
Price/Book	9.04	8.24	6.91	5.43
Price/Sales	1.90	2.07	1.84	1.53

Dividends (DKK)

Ex Date	Payment	Type	Currency	Amount
06/04/2022	08/04/2022	Cash	DKK	0.37
09/04/2021	13/04/2021	Cash	DKK	1.69
08/04/2020	15/04/2020	Cash	DKK	1.59
04/04/2019	08/04/2019	Cash	DKK	1.49
04/04/2018	06/04/2018	Cash	DKK	1.85

2014	2015	2016	2017	2018	2019	2020	2021	2022	**Financials** (EUR)
6,910	8,423	10,237	9,953	10,134	12,147	14,819	15,587	14,486	Revenue (Mil)
17.0	17.9	20.8	19.7	16.1	14.5	10.4	10.0	0.8	Gross Margin %
551	859	1,421	1,230	944	1,004	747	400	-1,244	Operating Income (Mil)
8.0	10.2	13.9	12.4	9.3	8.3	5.0	2.6	-8.6	Operating Margin %
935	1,249	1,718	1,628	1,390	1,502	1,658	1,298	-545	EBITDA (Mil)
392	685	965	894	684	704	765	167	-1,572	Net Income (Mil)
0.36	0.62	0.88	0.85	0.68	0.71	0.78	0.17	-1.56	Basic Earn. Per Share
0.00	0.10	0.18	0.26	0.25	0.20	0.21	0.23	0.05	Dividend Per Share
1,105	1,114	1,098	1,064	1,008	991	983	1,008	1,006	Avg. Diluted Shares Outstanding (Mil)
1,126	1,472	2,181	1,625	1,021	823	743	996	-195	Operating Cash Flow (Mil)
-278	-368	-489	-491	-607	-776	-688	-876	-819	Capital Expenditure (Mil)
848	1,104	1,692	1,134	414	47	55	120	-1,014	Free Cash Flow (Mil)

Legacy portfolio manager (no date) *Morningstar, Inc.* Available at: https://www.morningstar.com/portfolio-manager (Accessed: March 12, 2023).

Vestas

Financial due diligence 2/2

Business area growth expectations

Onshore

Market expectation 2022-25
New installations (GW)*

CAGR:

↑8-10%

Restarting growth
- Declining activity expected in 2023
- Increase in 2024 and 2025 driven by the USA, Europe, and Africa

Offshore

Market expectation 2022-25
New installations (GW)*

CAGR:

↑35-40%

Global expansion
- Strong expansion in Europe and new markets such as the USA and South Korea and broader Asia Pacific
- Growth to accelerate post 2024

Service

Market expectation 2022-25
New installations (GW)*

CAGR:

↑8-10%

Solid growth
- Solid growth from high base
- Power price increases and electricity shortage to drive higher need for output optimisation

Development

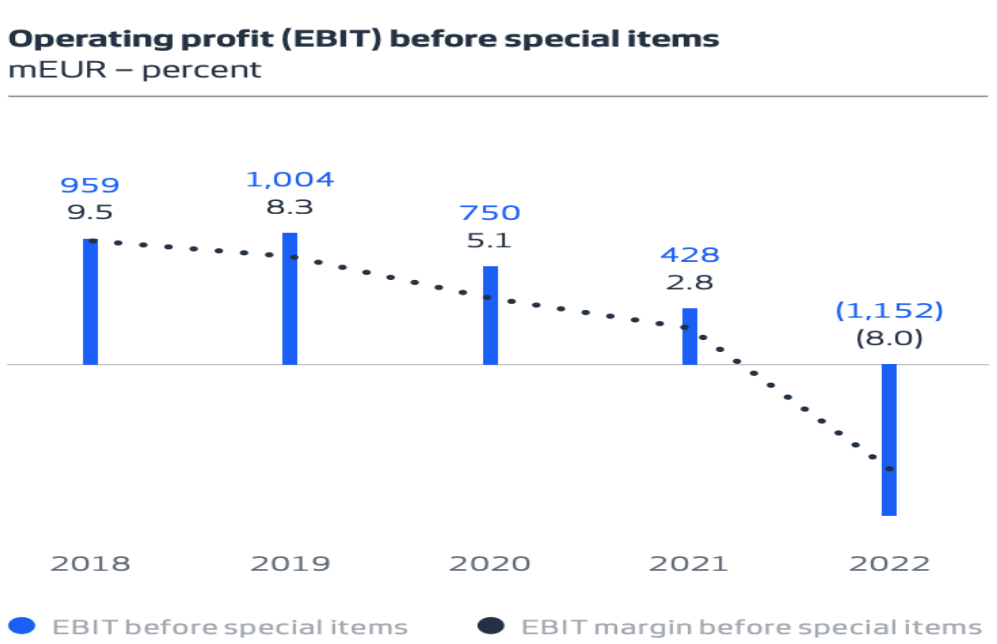
Vestas' expectation 2022-25
Order intake generated (GW)

CAGR:

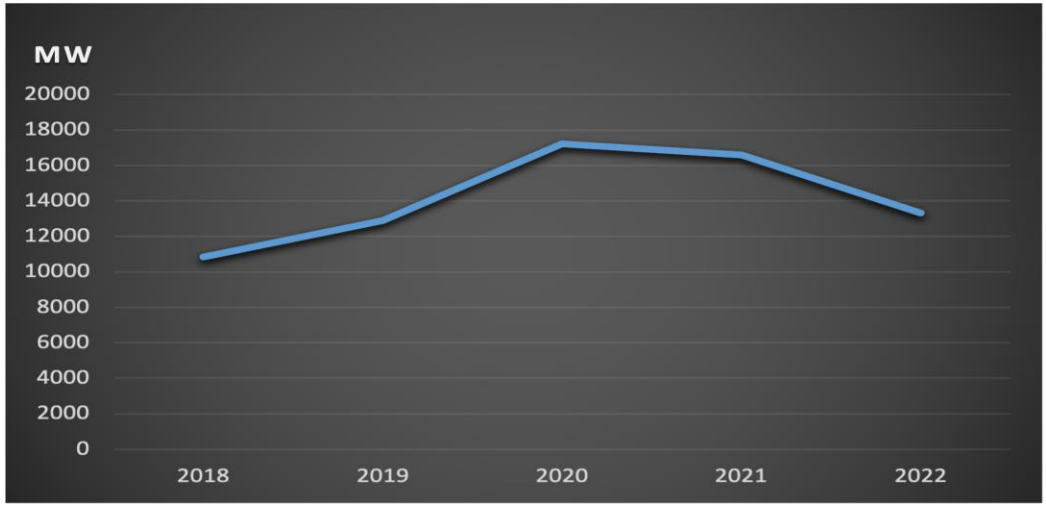
>10%

Foundation in place
- Ambition in Development to outgrow the total onshore market in firm order intake generated
- Own developed projects to further leverage side deals

2022 was recognized by heavy losses in the operating profit due to challenges in the supply chain stability and the cost inflation that the world is experiencing. Deliveries are expected to continue to fall during 2023 but to increase from 2024. The operating profit is also expected to rice as Vestas will increase their price to inflation and save on supply chain challenges easing up after the pandemic and war in Europe.



Development the EBIT 2018-2022 Vestas Annual Report 2022.



Development of deliveries 2018-2022 Vestas Annual Report 2022.

Expected market-growth by Vestas Annual Report 2022
https://www.vestas.com/content/dam/vestas-com/global/en/investor/reports-and-presentations/financial/2022/Vestas%20Annual%20Report%202022.pdf.coredownload.inline.pdf

Return requirement

Development of the government bond-yield in Denmark 2022-2023 due to the rising inflation.

Long-term financial ambitions

Revenue	Grow faster than the market and be market leader in revenue
EBIT margin before special items	At least 10 percent
Free cash flow[2]	Positive
ROCE	20 percent over the cycle

Vestas annual report 2022

Beta *Green and renewable energy* = 1,6 (Source Stern)

Risk-free interest Denmark or Government bond yield Denmark = 2,9 (Source Tradingeconomics)

Equity risk premium Denmark = 5,94%

Return Requirement = (0,0594 + 0,029)*1,6 = 0,1414 = 14,14%

We saw the need to adjust our calculations based on the very unstable market as a return requirement is a bit on the high side making the lower than it needs to be. We landed on a return requirement of **12,8 %** in today's unstable market. Vestas financial goals going forward is to outgrow the market, which is expected to grow with 6,6% p.a in the onshore segment and 35% p.a. in the offshore segment, according to The annual wind report 2022.

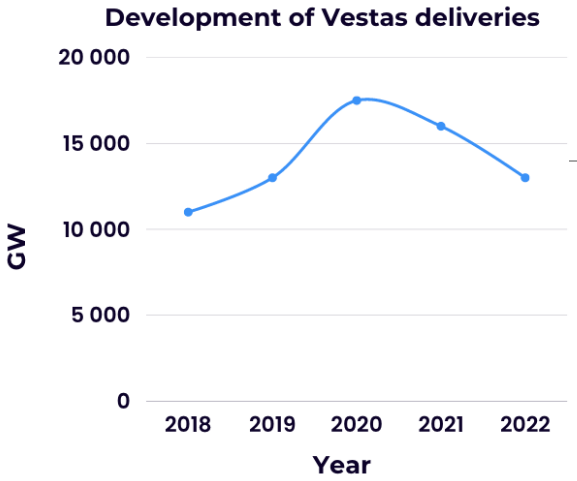
Average profit 2019-2021 = 4.091.666.666 DKK
Average revenue 2019-2021 = 105.645.000.000 DKK
Profitt margin 2019 – 2021 = 0,03873 = 3,87%

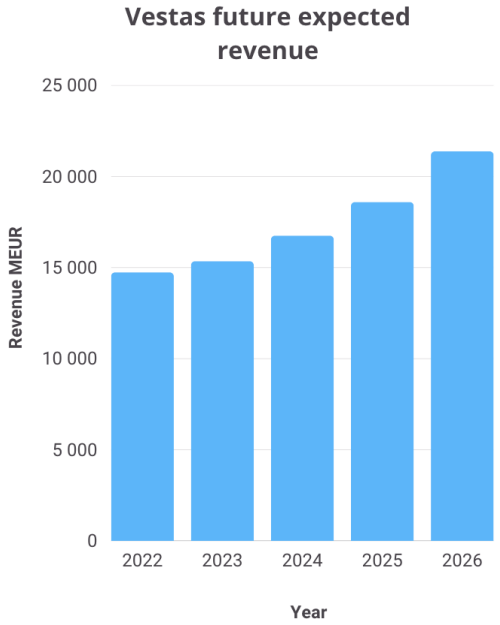
Expected growth : retention rate * profit margin = 0,7 * 0,0387 = 0,02709 = 2,7%
However, due to their significant position in high-growth markets and their goal to outgrow the market going forward, we have set a growth expectation of Vestas to **7,9%.**

Betas by sector (US) (no date) *Betas*. Available at: https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/Betas.html (Accessed: March 12, 2023).

Danmark - 10-årig STATSOBLIGASJON1983-2023 data: 2024-2025 forventning (2023) *Danmark - 10-årig statsobligasjon | 1983-2023 Data | 2024-2025 Forventning*. Available at: https://no.tradingeconomics.com/denmark/government-bond-yield (Accessed: March 12, 2023).

Vestas Valuation



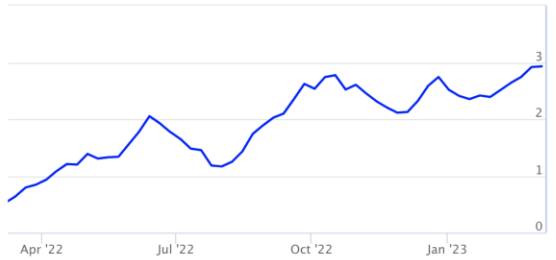


Using Gordons growth model based on their 2019-2021 dividends, because 2022 was an extraordinary year with high losses, we found that a price per share of 160,43 DKK or 21.56 EUR as of 09.03.2023. Total valuation being **21.7 billion EUR.** Quite a bit lower than what the share is trading for.

Vestas is a relatively young company who lost a lot of money in 2022 due to the Russian invasion of Ukraine, increasing prices in the supply chain and inflation, according to their annual report. Because of such extraordinary situation we have excluded 2022 from their valuation, using numbers from 2019-2021 instead.

We have used a higher growth percentage because of Vestas position in the market and the high growth rate of both onshore and offshore segment, as well as their service segment and their 25% stake in CIP

And a higher return rate than siemens as Vestas is a younger company with a higher risk profile. Also, the latest losses prove that Vestas are more exposed to market irregularities.



Development of a 10y government bond yield in Denmark as of 08.03.2023

D1 = 1,01
r = 0,128
v = 0,79

10y GBY Denmark = 2,933%

Market risk premium of 2022 = 5%

Vestas (2020) *Vestas to acquire a 25 percent stake in Copenhagen Infrastructure Partners P/s, Global Leader in Sustainable Energy*. Vestas. Available at: https://www.vestas.com/en/media/company-news/2020/vestas-to-acquire-a-25-percent-stake-in-copenhagen-infr-c3257760 (Accessed: March 12, 2023).

Frequently asked questions (no date) *Denmark's fixed exchange rate policy*. Available at: https://www.nationalbanken.dk/en/about_danmarks_nationalbank/frequently_asked_questions/Pages/Denmarks-fixed-exchange-rate-policy.aspx (Accessed: March 8, 2023).

DCF-analysis

According to Vestas strategy statement the key to profitability is increased pricing. Vestas wants to become a global leader in the Offshore wind segment, where they are expecting a CAGR of 35-40%.

We base our expected growth rate on the increased pricing combined with a general CAGR of 6,6% in the market giving us an expected AGR of 9%.

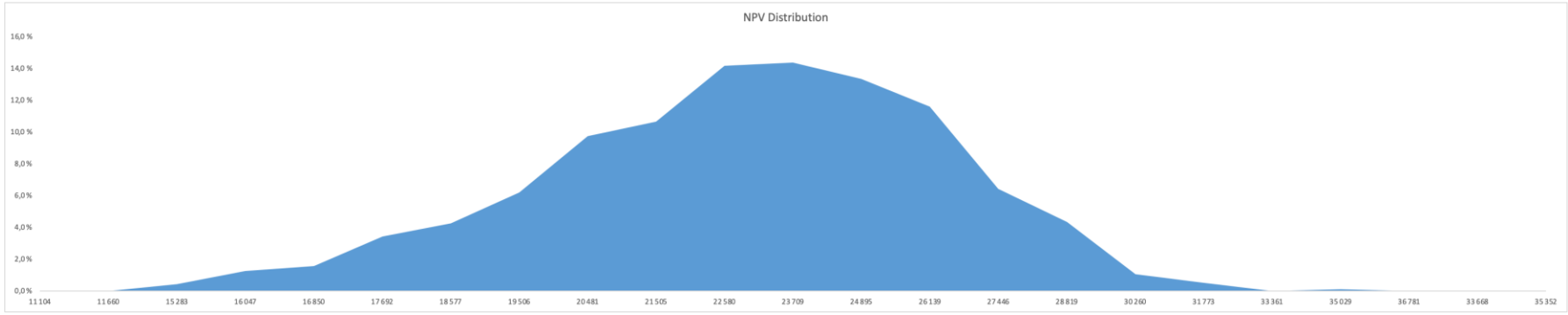
The wind-market is dominated by onshore wind production with approximately 90% of the combined market.

Income tax on ltd in Denmark 2022 was 22% of profitable income.

Discount rate: 12,8%

Company value	
"Base case" NPV	M EUR 22 594
Avg NPV	M EUR 22 634
STD NPV	M EUR 3 017
Terminal value	137,3 %
Range (worst=1std. Below average; best=1std.above average)	
Worst case	M EUR 19 617
Likely	M EUR 22 634
Best case	M EUR 25 651

To the right you can see the NPV distribution of the Monte Carlo analysis simulating the DCF-analysis 1000 times. The rest of the analysis can be read in Appendix 1



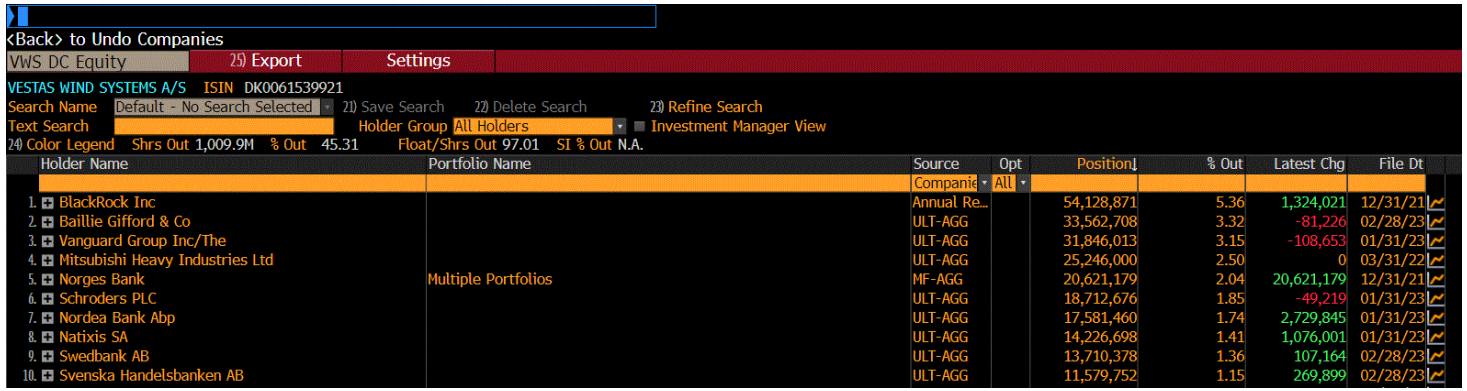
Denmark (no date) *Corporate - Taxes on corporate income*. Available at: https://taxsummaries.pwc.com/denmark/corporate/taxes-on-corporate-income (Accessed: March 12, 2023).

Is SIEMENS acquisition of Vestas feasible?

Looking away from 2022, Vestas are delivering a positive cashflow that would strengthen the likeability of a successful acquisition as the cashflow might be higher than the interest of the bond-loan or the alternative cost of placing their capital somewhere else.

We have previously valued Vestas at around 21,7 bEUR, meaning that such an acquisition is of the more expensive alternative. A typical bond obligation could run between 5% and 10% interest rate in this market, meaning that an acquisition would make sense if Vestas can bring more cashflow to Siemens than the interest in the bond. So far Vestas has only been able to get 2,2% of the acquisition price in their best year (2019), meaning that for an acquisition to make sense financially they would have to increase their cashflow.

Vestas long term financial goals is to increase profitability and therefore also cashflow, meaning that with the help of Siemens, and perhaps synergies from Siemens Gamesa, they might be able to increase their cashflow enough for the acquisition to make sense. With the increased market power of an acquisition, it is likely that Vestas will be able to deliver an increased cashflow in the future due to increased pricing and deliveries.



	Holder Name	Portfolio Name	Source	Opt	Position	% Out	Latest Chg	File Dt
			Companie	All				
1.	BlackRock Inc		Annual Re...		54,128,871	5.36	1,324,021	12/31/21
2.	Baillie Gifford & Co		ULT-AGG		33,562,708	3.32	-81,226	02/28/23
3.	Vanguard Group Inc/The		ULT-AGG		31,846,013	3.15	-108,653	01/31/23
4.	Mitsubishi Heavy Industries Ltd		ULT-AGG		25,246,000	2.50	0	03/31/22
5.	Norges Bank	Multiple Portfolios	MF-AGG		20,621,179	2.04	20,621,179	12/31/21
6.	Schroders PLC		ULT-AGG		18,712,676	1.85	-49,219	01/31/23
7.	Nordea Bank Abp		ULT-AGG		17,581,460	1.74	2,729,845	01/31/23
8.	Natixis SA		ULT-AGG		14,226,698	1.41	1,076,001	01/31/23
9.	Swedbank AB		ULT-AGG		13,710,378	1.36	107,164	02/28/23
10.	Svenska Handelsbanken AB		ULT-AGG		11,579,752	1.15	269,899	02/28/23

An issue that may arise for Siemens acquiring vestas as shown on the Bloomberg screenshot (03/12/2023)

based off the top 10 owners only one of these companies are not an investment firm / fund. This may be a huge problem. Mitsubishi is one of the big owners outside of vestas themselves. After a quick search on the board of directors on vestas we see **Mr. Hosomi** who represents **Mitsubishi**, he may in the occurrence of an acquisition by Siemens decline the offer based on his **position of the company in favor of Mitsubishi buying the company**

Board of directors (no date) *Global Leader in Sustainable Energy*. Vestas. Available at: https://www.vestas.com/en/investor/corporate-governance/board-of-directors (Accessed: March 12, 2023).
Kentaro Hosomi - cv - Vestas (no date). Available at: https://www.vestas.com/content/dam/vestas-com/global/en/investor/corporate-governance/management/board-profile/hosomi-cv.pdf.coredownload.inline.pdf (Accessed: March 12, 2023).

Financing the Acquisition

Cash: Siemens could finance parts of the acquisition of Vestas with cash from its balance sheet or by raising additional cash through debt or equity issuance. This approach would provide Siemens with the most flexibility and control over the deal.

Stock: Siemens could issue new shares of its stock to Vestas' shareholders as consideration for the acquisition. This approach would enable Siemens to conserve its cash and use its stock as currency, but it would also dilute the ownership of existing shareholders and potentially impact Siemens' stock price.

Debt: Siemens could finance the acquisition by issuing debt securities, such as bonds or loans. This approach would enable Siemens to leverage its balance sheet and take advantage of Vestas positive cashflow, but it would also increase its leverage and potentially impact its credit rating.

Hybrid securities: Siemens could finance the acquisition using a combination of debt and equity securities, such as convertible bonds or preferred stock. This approach would enable Siemens to balance the benefits of debt and equity financing, but it would also be a more complex and costly option.

Given the current interest rate environment, Siemens could potentially finance the acquisition using a combination of cash and debt. This approach would enable Siemens to use its cash reserves while also taking advantage of Vestas positive cashflow. Additionally, using a mix of cash and debt would enable Siemens to maintain its credit rating and financial flexibility while pursuing the acquisition.

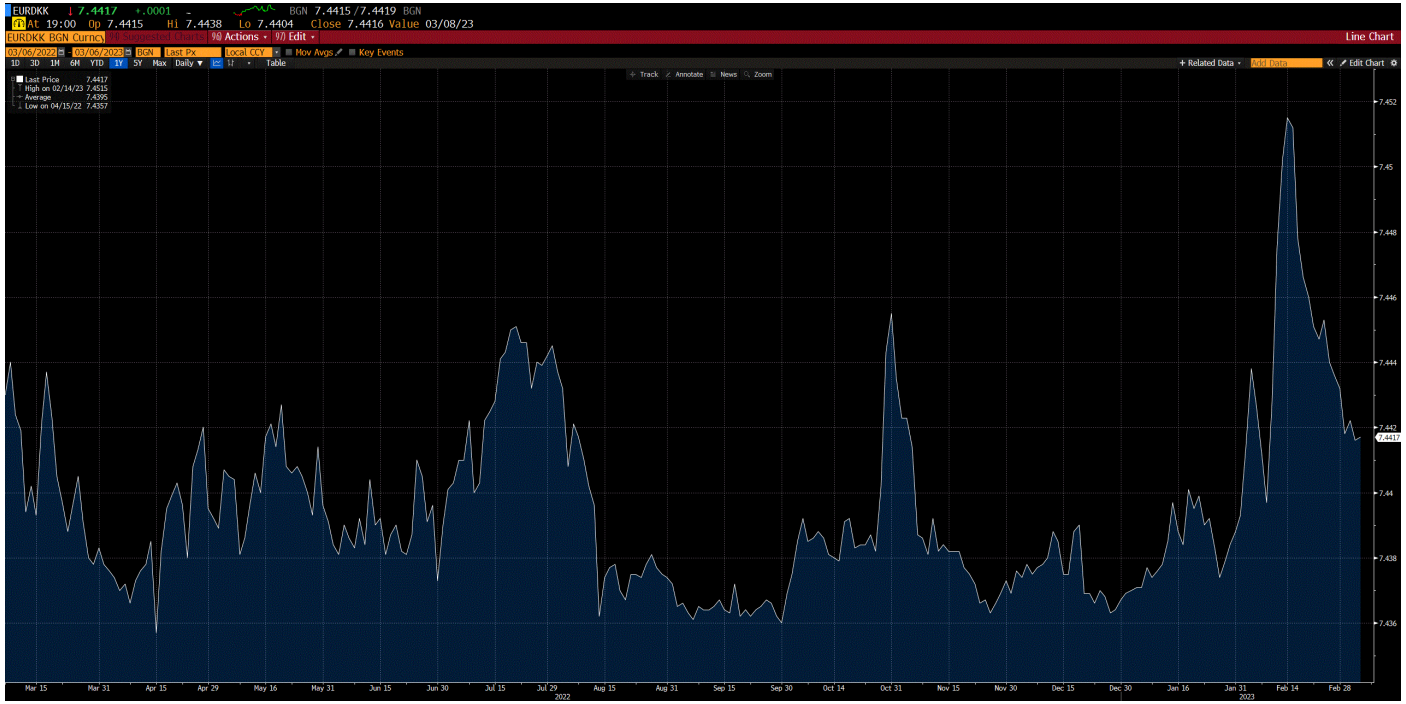
FX risk

Danish krone (DKK) is pegged to the euro (EUR) through a fixed exchange rate regime known as the ***ERM II*** (Exchange Rate Mechanism II). This means that the value of the Danish krone is kept within a narrow band relative to the euro, with a ***fluctuation margin of +/- 2.25%.***

7,46038 DKK = 1 EURO

This means that the potential loss is mitigated to a max 2.25% of the sum spent on acquiring Vestas. Therefore, there is no reason to invest in forward contracts, unless the Danish government defaults on bonds. As seen on the graph through 2023 the currency only fluctuates around 0.0010 DKK during this interval.

Therefore, the risk is **very low** following that none of the governments mentioned default



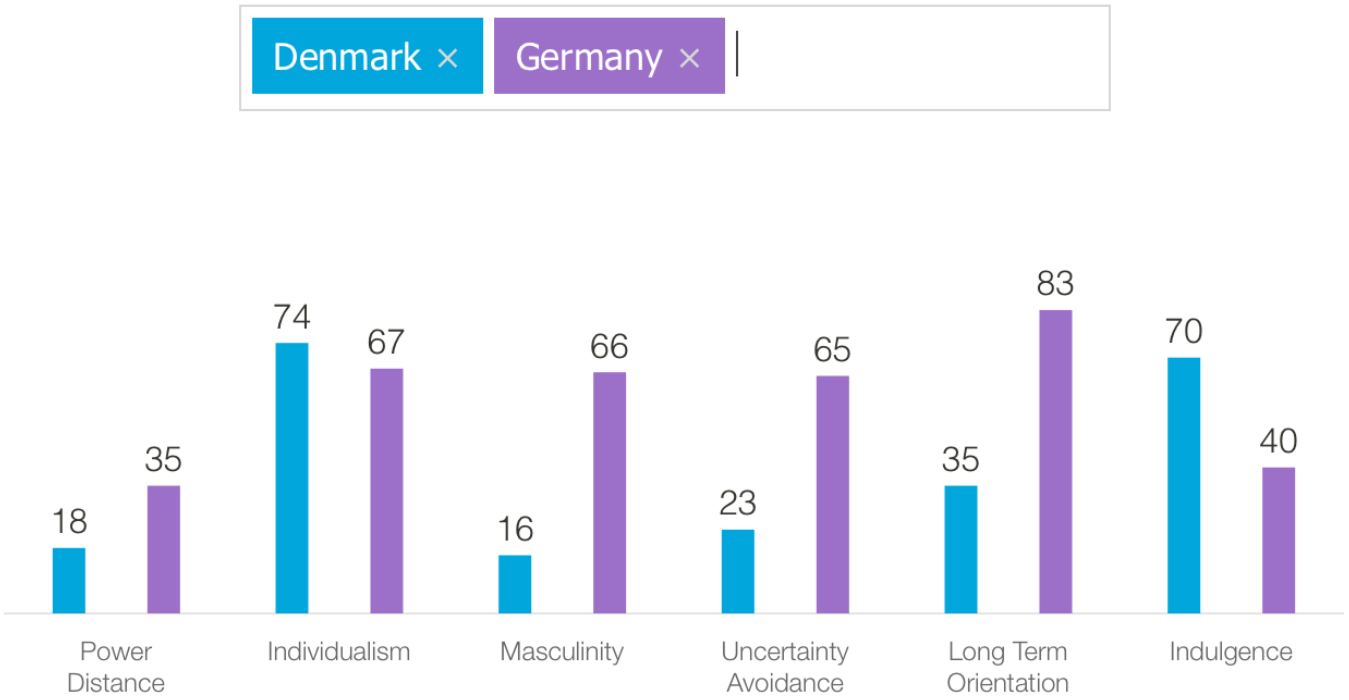
Frequently asked questions (no date) *Denmark's fixed exchange rate policy*. Available at: https://www.nationalbanken.dk/en/about_danmarks_nationalbank/frequently_asked_questions/Pages/Denmarks-fixed-exchange-rate-policy.aspx (Accessed: March 8, 2023).

ACQUISITION

- Synergies
- Threats & differences
- ESG
- Regulatory

Possible synergies of the transaction

- **Increased market share**: Acquiring Vestas, would substantially enlargen Siemens market share in the wind turbine industry. Granting the new entity an improved competitive position and a higher pricing power.
- **Expanded product portfolio**: Vestas strong presence in onshore wind turbines, in combination with Siemens strong presence in offshore wind turbines is likely to significantly improve the product portfolio of the new entity. Resulting in a more diverse and comprehensive product range.
- **Improved geographic reach**: Combining Vestas's strong presence in North America and Siemens strong presence in Europe and Asia would lead to improved geographic reach and market access.
- **Increased R&D capabilities**: Integrating the research and development resources of both companies could lead to synergies in innovation and development of new wind turbine technologies.
- **Cost savings**: Cost savings could be realized by eliminating redundant operations, consolidating administrative functions, and eradicate dublicated positions
- **Improved supply chain management**: Merging the supply chain networks of both companies could result in improved efficiencies, reduced costs, and better improved relationships.



Synergies, if the acquisition is successful

CULTURE: DENMARK VS GERMANY

Country comparison (2023) *Hofstede Insights*. Available at: https://www.hofstede-insights.com/country-comparison/denmark,germany/ (Accessed: March 8, 2023).

Threats that may prevent a successful integration

Cultural differences

They both have unique cultures that reflect their values, beliefs and ways of doing business. A merge could lead to clashes and conflict

Integration of technology

With different technologies and systems, it may take a lot of time and resources to integrate their systems. This could lead to delays and disruptions to operation

Regulatory hurdles

M&A are often subject to regulatory approval, which can be a lengthy and complex process. This could affect the timing and success of the integration.

Competition concerns

An acquisition of Vestas could raise concerns about anti-competitive practices, as Siemens would be dominating in the market.

Financial challenges

M&A can be expensive, and there is a risk that expected benefits and synergies may not materialize, leading to financial losses.

Supply chain disruption

Both companies rely on complex global supply chains to manufacture their wind turbines. Any disruptions could affect productions and require renegotiation of contracts and suppliers.

Differences

Masculinity: 16 Denmark vs 66 Germany

Germany

Masculine society

Performance is highly valued

People rather “live in order to work” and draw a lot of self-esteem from their tasks.

Managers are expected to be decisive and assertive. Status is often shown, especially by cars, watches and technical devices.

Denmark

Feminine society

In Feminine countries, it is important to keep the life/work balance and you make sure that all are included.

An effective manager is supportive to his/her people, and decision making is achieved through involvement. Managers strive for consensus and people value equality, solidarity and quality in their working lives.

Danes are known for their long discussions until consensus has been reached.

Country comparison (2023) *Hofstede Insights*. Available at: https://www.hofstede-insights.com/country-comparison/denmark,germany/ (Accessed: March 8, 2023).

Differences

Uncertainty Avoidance: 23 Denmark vs 65 Germany

Germany

Germany is among the uncertainty avoidant countries (65)

Strong preference for deductive rather than inductive approaches, be it in thinking, presenting or planning: the systematic overview has to be given in order to proceed.

Details are equally important to create certainty that a certain topic or project is well-thought-out. In combination with their low Power Distance, Germans prefer to compensate for their higher uncertainty by strongly relying on expertise

Denmark

It is ok to say "I do not know". This means that that Danes do not need a lot of structure and predictability in their work life. Plans can change overnight, new things pop up and the Danes are fine with it.

It is a natural part of their work life. Curiosity is natural and is encouraged from a very young age.

This combination of a highly Individualist and curious nation is also the driving force for Denmark's reputation within innovation and design. and the Danes are comfortable in ambiguous situations in the workplace.

Country comparison (2023) *Hofstede Insights*. Available at: https://www.hofstede-insights.com/country-comparison/denmark,germany/ (Accessed: March 8, 2023).

Differences

Long-term Orientation: 35 Denmark vs 83 Germany

Germany

- Germany's high score of 83 indicates that it is a pragmatic country. In societies with a pragmatic orientation, people believe that truth depends very much on situation, context and time.
- They show an ability to adapt traditions easily to changed conditions, a strong propensity to save and invest, thriftiness, and perseverance in achieving results.

Denmark

- A low score of 35 indicates that Danish culture is normative. People in such societies have a strong concern with establishing the absolute Truth; they are normative in their thinking.
- They exhibit great respect for traditions, a relatively small propensity to save for the future, and a focus on achieving quick results.

Country comparison (2023) *Hofstede Insights*. Available at: https://www.hofstede-insights.com/country-comparison/denmark,germany/ (Accessed: March 8, 2023).

ESG Guides

Four important guides that influences the ESG work in companies

1. EU Taxonomy

Sustainable scaling

- Classification system that will direct investments towards sustainability
- Strict framework

2. Local regulations

Laws and Requirements

- Nationally and worldwide
- Respect for the local population
- Local and national politics

3. Value chain

Cooperation

- All links in the value chain must be taken into consideration
- Long-term cooperation
- Green loans
- Green transportation

4. Environment

Affect on the environment

- Co2 emission by operations
- Social responsibility
- Generational change and long-term planning
- Wildlife

EU taxonomy for Sustainable Activities. European Commissions Finance. (n.d.). Retrieved March 5, 2023, from https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en

ESG Implications of the deal

	Positive implications	Negative implications
Environmental	• Cooperation on sustainability • Greater development of wind energy • Reduce Co2 emissions	• Major nature intervention • Wildlife can be threatened
Social	• Diversified long-term jobs • technological development	• Perceived negatively by external parties • Local population • Business over human internally welfare
Governmental	• Shared social responsibility • Expansion worldwide	• Green washing • Corruption

Major social and economic benefits from power grid investment in Europe

SUSTAINABILITY
€17-22bn annual CO2 savings
€40-140bn annual savings in health
58,000 premature deaths avoided
460 Mtoe less of final energy consumption by 2030, achieving 32.5% ofo efficiency target

ECONOMY
€30-35bn of annual revenues for EU companies (e.g. manufacturers & service providers)
440-620k quality jobs per year related to DSO grids
€30-35bn annual sales in equipment (~90% of total investment

COMPETITIVENESS
Territorial cohesion and promotion of local economies
€28-37bn average electricity cost reduction (thanks to 50-65% lower RES than fossil generation cost)

+€175bn annual savings in fuel imports

CUSTOMER EMPOWERMENT
~40GW self-consumption capacity added
50-70m EVs with smart charging
New services: storage, electric heating, smart appliances, aggregators

~0.2-0.3% of current EU GDP in annual investments in power distribution grids

Source: Connecting the dots: Distribution grid investment to power the energy transition, Eurelectric, E.DSO and Monitor Deloitte, 2021. Note: DSO stands for distribution system operator.

Power grid investment in Europe

- Power grid investment in Europe has major benefits impact on the overall ESG.
- €17-22bn annual Co2 savings
- €30-35bn annual revenues for EU companies
- 440-620k quality jobs per year
- €175bn annual savings in fuel import

Regulations

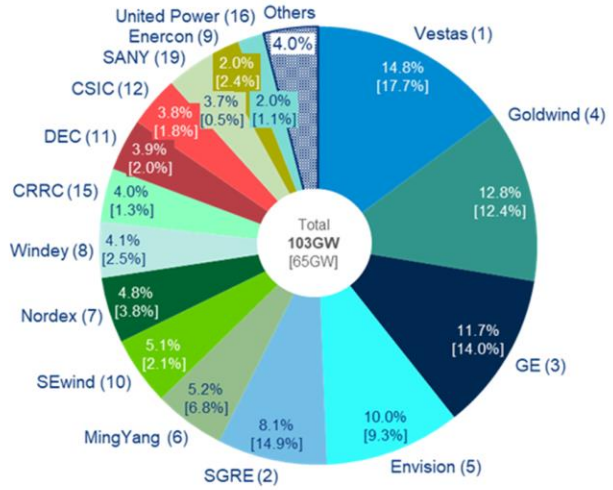
EU Commission has some guidelines when it comes to M&A. A merge which causes a firm to have 40-50%, and in some cases under 40%, may lead to competition concerns and strengthening a dominant position.

The larger the market share the companies have, the more difficult it is to merge. The EU Commission still wants to have competition in a market to create sustainable growth

The Commission is unlikely to identify horizontal competition concerns with a HHI below 1000 in a market. The wind sector have a HHI on 877,62 in 2020.

As Vestas and Siemens are two of the largest players in the wind energy industry, it may be difficult to get a potential merger through EU regulations

Global top 15 wind turbine OEMs: market share 2020



Source: Wood Mackenzie.

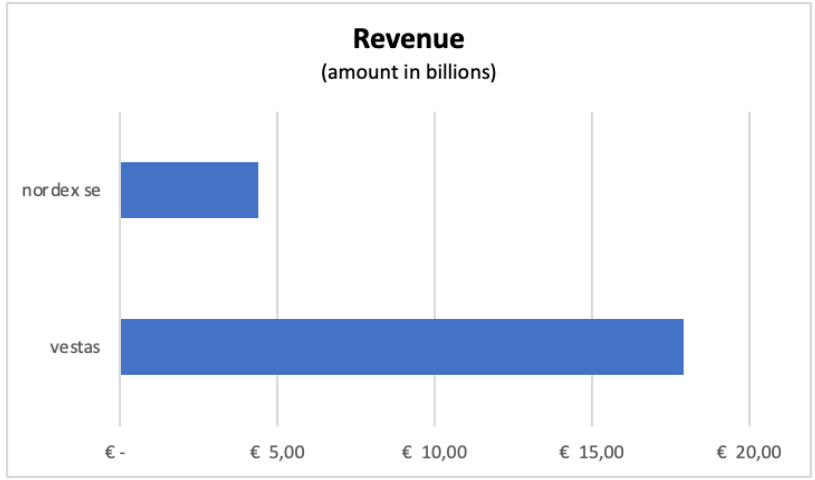
Note: [%] indicates 2019 market share; (#) indicates 2019 ranking. Chinese turbine OEMs based on installed capacity.

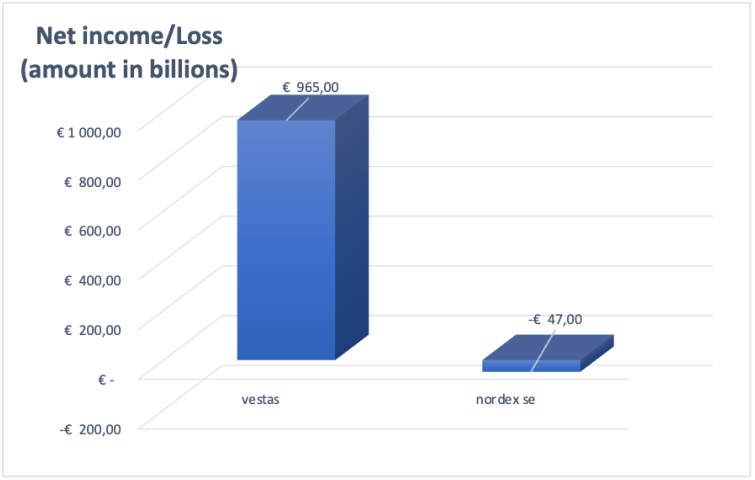
OPOCE. (n.d.). *Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings*. EUR. Retrieved March 11, 2023, from https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX%3A52004XC0205%2802%29

ALTERNATIVE SOLUTION

Potential Company Aquisition (1/3)

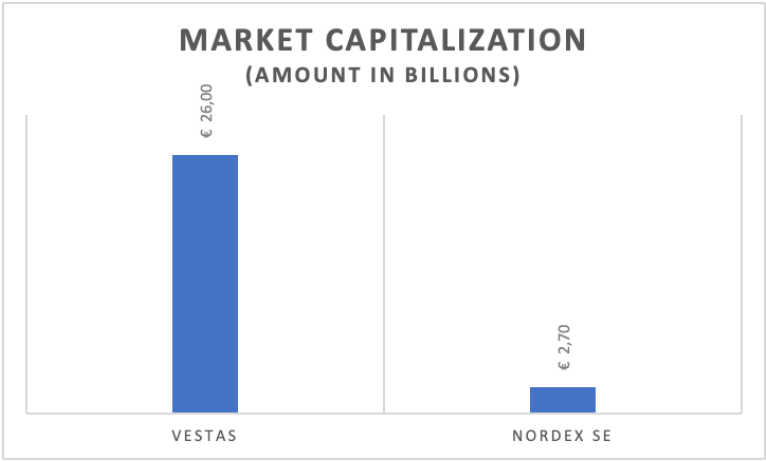
Nordex se





1. Nordex turbines amounting to 769 MW connected to the grid in 2022
2. Manufacturer's wind turbine installations grew by 170 percent in Germany
3. According to this, in 2022 the Nordex Group installed and commissioned a total of **173 turbines in its home market of Germany**, making a capacity of 769 megawatts (MW) for its customers (2021: 285 MW). Compared to 2021 this equates to an increase of about 170 percent. This means that the Nordex Group has increased its double-digit ***market share in Germany from 14.8 percent to 32 percent.***

1. Vestas has a stronger balance sheet with a lower debt-to-equity ratio than Nordex SE.
2. An acquisition of Vestas or Nordex SE could provide significant synergies for Siemens, including economies of scale in manufacturing, R&D, and supply chain management. However, an acquisition of Vestas could potentially provide more synergies for Siemens, given the larger size of Vestas and its stronger market presence in key regions.



Antje (2023) *Nordex group supplied almost one third of newly commissioned onshore wind power capacity in Germany in 2022*, *Nordex SE*. Available at: https://www.nordex-online.com/en/2023/01/nordex-se-nordex-group-supplied-almost-one-third-of-newly-commissioned-onshore-wind-power-capacity-in-germany-in-2022/ (Accessed: March 6, 2023).

Potential Company Aquisition (2/3)

An acquisition of Nordex would eliminate several risks such as transnational law, FX risk potentially saving on forward contracts & company earnings.

Both companies have different cultures, processes, and operating models, and it would be important for Siemens to address any potential cultural differences to ensure a successful integration.

Nordex has gone into a deal with Acciona SA that may yield problems in Acquisitions though as optimally most shares should be as private as possible to ensure a smooth takeover.

Nordex has negative result every year from 2019 and forward. They also have no presence in the offshore segment.

In addition to this **Mr. José Luis Blanco** the Chief Executive officer **has been a part of Gamesa** (now formally known of Siemens Gamesa), which would potentially make acquisition of Nordex smoother as he may vouch for the resources and technology Siemens can contribute for Nordex SE

An acquisition of Vestas could provide more strategic benefits for Siemens, given Vestas' larger size, stronger market position, and global reach. **However,**
Nordex SE could also provide opportunities for growth and synergies, particularly in Europe.

Board of directors (no date) *Global Leader in Sustainable Energy*. Vestas. Available at: https://www.vestas.com/en/investor/corporate-governance/board-of-directors (Accessed: March 12, 2023).

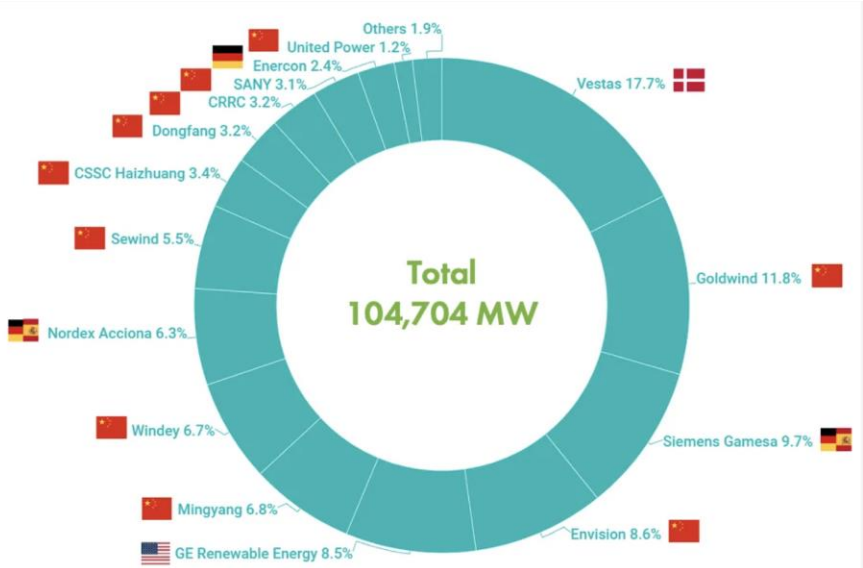
Potential Company acquisition (3/3)

Valuation

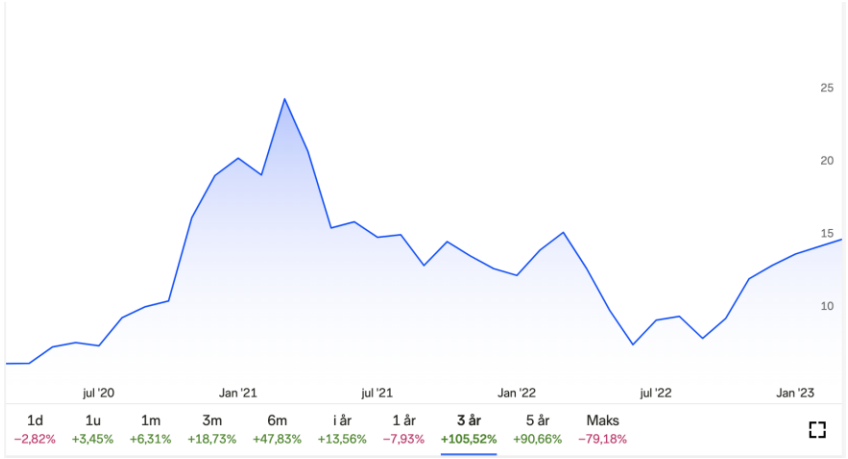
Since Nordex so far does not seem to have paid any dividends it would be difficult to use Gordons growth model with to value the company. However, the company is trading for 14,99 EUR per share, with 211 946 227 shares suggesting a value of around 3.177.073.943 EUR. Or 14,6 % of the price of Vestas with 37% of their revenue making Nordex a relatively cheap option.

Nordex has a relatively steady positive cashflow the last 3 years, but are not profitable yet, which makes them less attractive for Siemens as it would require quite a bit of work making them profitable while "only" having around 5-6% share of the market.

Even though Nordex is a cheaper option where Siemens would pay less per market share, it would not give Siemens anywhere near the same market power that Vestas would and therefor maybe less synergies, but would perhaps face less regulatory risk from the EU and therefore a more likely acquisition.



Source: GWEC Market Intelligence, May 2022 Wind market as of 2021



Nordex stock price as of 10.03.2023*Nordex SE (NDX1) aksje* (no date) *Nordnet*. Available at: https://www.nordnet.no/market/stocks/16129206-nordex-se?details (Accessed: March 12, 2023).

CONCLUSION

Should SIEMENS acquire Vestas ?

Pros

- An industry with high growth potential
- Vestas are market leaders in the offshore segment with an expected CAGR of 35-40%. *
- Strong position in the onshore segment with an expected CAGR of 6,6%.
- Siemens would almost have a duopole combined Vestas and Siemens Gamesa in the offshore segment. *
- Siemens would have a very strong position in the onshore segment as well.*
- Might leverage the increased marketshare to get even lower prices in the supplychain for both Siemens Gamesa and Vestas.

Cons

- High valuation with negative result and cashflow in 2022.
- Have not been able to generate enough cashflow to finance a bond obligation of 21,7 bEUR so far.
- Highly exposed to regulatory challenges in the EU due to their very high market share in both segements *
- Might allow for more competition to grow in the offshore segment as a duopole situation rarely benefits their costumers. Meaning that their custumers will be more likely to look for alternatives when prices increase.

*excluded China

Conclusion 1/3

Should SIEMENS buy Vestas?

SIEMENS SHOULD NOT ACQUIRE VESTAS.

1. Does not generate enough cash flow from their operations to handle a bond obligation, meaning that the acquisition could prove costly for Siemens.
2. The regulatory risks from the EU makes the acquisition exposed given that the market shares, excluding China, might make a threat to the competitiveness in the industry.
3. The acquisition would create a situation where Siemens would own almost the entire offshore market, China excluded, which could allow for outside competition to flourish and damage both companies.

Conclusion 2/3
Should SIEMENS buy NORDEX acciona Windpower ?

SIEMENS SHOULD NOT ACQUIRE NORDEX.

1. Has failed to deliver a positive result since 2019 and does not generate enough cashflow to handle any obligation.
2. Nordex has 5-6% market share which does not seem to be enough to give Siemens the market power they probably want. Does on the other hand not make any regulatory threat.
3. Nordex does not have any presence in the offshore market, which is by far the most attractive market in terms of growth.

Conclusion 3/3

What should SIEMENS do?

SIEMENS SHOULD INVEST IN SIEMENS GAMESA'S GROWTH, ESPECIALLY IN THE OFFSHORE MARKET.

Siemens already own a great company in the wind industry which they should further develop into a market leader in both the onshore and offshore segment. This would require heavy investments in R&D, sales and manufacturing which Siemens should do instead of any acquisitions as of today's market. Perhaps even consider an acquisition of IP or key employees from their smaller competitors.

Based on our market analysis there are no other options Siemens could consider to get somewhat the same results as an acquisition of Vestas, so it makes sense to focus on what they already have and make sure Siemens Gamesa outgrow the competition in every way possible.

SIEMENS Gamesa
RENEWABLE ENERGY

Sources

Antje (2023) *Nordex group supplied almost one third of newly commissioned onshore wind power capacity in Germany in 2022*, *Nordex SE*. Available at: https://www.nordex-online.com/en/2023/01/nordex-se-nordex-group-supplied-almost-one-third-of-newly-commissioned-onshore-wind-power-capacity-in-germany-in-2022/ (Accessed: March 6, 2023).

Betas by sector (US) (no date) *Betas*. Available at: https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/Betas.html (Accessed: March 12, 2023).

Blackburne, A. (2022, August 10). *Vestas hikes wind turbine prices to highest in last decade*. S&P Global Homepage. Retrieved March 6, 2023, from https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/vestas-hikes-wind-turbine-prices-to-highest-in-last-decade-71615845

Country comparison (2023) *Hofstede Insights*. Available at: https://www.hofstede-insights.com/country-comparison/denmark,germany/ (Accessed: March 8, 2023).

EU taxonomy for Sustainable Activities. European Commissions Finance. (n.d.). Retrieved March 5, 2023, from https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities

Expected market-growth by Vestas Annual Report (2022) https://www.vestas.com/content/dam/vestas-com/global/en/investor/reports-and-presentations/financial/2022/Vestas%20Annual%20Report%202022.pdf.coredownload.inline.pdf

Frequently asked questions (no date) *Denmark's fixed exchange rate policy*. Available at: https://www.nationalbanken.dk/en/about_danmarks_nationalbank/frequently_asked_questions/Pages/Denmarks-fixed-exchange-rate-policy.aspx (Accessed: March 8, 2023).

Global wind report 2022
https://gwec.net/global-wind-report-2022/

History (n.d.) *Company history I Siemens Gamesa*. Available at: https://www.siemensgamesa.com/en-int/about-us/company-history (Accessed: March 12, 2023).

Denmark (no date) *Corporate - Taxes on corporate income*. Available at: https://taxsummaries.pwc.com/denmark/corporate/taxes-on-corporate-income (Accessed: March 12, 2023).
Legacy portfolio manager (no date) *Morningstar, Inc.* Available at: https://www.morningstar.com/portfolio-manager (Accessed: March 12, 2023).

Sources

Offshore wind energy (no date) *WindEurope*. Available at: https://windeurope.org/policy/topics/offshore-wind-energy/ (Accessed: March 12, 2023).

OPOCE. (n.d.). *Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings*. EUR. Retrieved March 11, 2023, from https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX%3A52004XC0205%2802%29

Published by Lucía Fernández and 27, J. (2023) *Market value of renewable energy industry worldwide 2030*, *Statista*. Available at: https://www.statista.com/statistics/1094309/renewable-energy-market-size-global/ (Accessed: March 12, 2023).

Published by Statista Research Department and 30, J. (2023) *Global Renewable Energy Production shares by region*, *Statista*. Available at: https://www.statista.com/statistics/1360326/forecast-renewable-energy-share-of-production-worldwide-by-region/?locale=en (Accessed: March 12, 2023).

Siemens Gamesa (2023) *Wikipedia*. Wikimedia Foundation. Available at: https://de.wikipedia.org/wiki/Siemens_Gamesa (Accessed: March 12, 2023).

Siemens AG (SIE) aksje Nordnet. Available at: https://www.nordnet.no/market/stocks/16129165-siemens (Accessed: March 12, 2023).

Www.siemens.com (no date). Available at: https://www.siemens.com/applications/b09c49eb-3a14-73b3-9f71-e30e3c2dfdbd/assets/pdfs/en/Siemens_Report_FY2022.pdf (Accessed: March 12, 2023).

Vestas. (n.d.). *Environment - Zero-waste*. Global Leader in Sustainable Energy. Retrieved March 5, 2023, from https://www.vestas.com/en/sustainability/environment/zero-waste

Vestas (no date). Available at: https://www.vestas.com/content/dam/vestas-com/global/en/investor/reports-and-presentations/financial/2021/Sustainability_Report_2021.pdf (Accessed: March 12, 2023).

Vestas (2020) *Vestas to acquire a 25 percent stake in Copenhagen Infrastructure Partners P/s*, *Global Leader in Sustainable Energy*. Vestas. Available at: https://www.vestas.com/en/media/company-news/2020/vestas-to-acquire-a-25-percent-stake-in-copenhagen-infr-c3257760 (Accessed: March 12, 2023).

Appendix 1 – DCF analysis

History		
2020	2021	2022
14 819,00	15 587,00	14 486,00
13 281,00	14 031,00	14 368,00
788,00	1 128,00	1 270,00
184,00	-204,00	-544,00
934,00	224,00	-1 696,00
-205,48	-49,28	373,12
728,52	174,72	-1 322,88
788,00	1 128,00	1 270,00
145,00	120,00	130,00
0,00		
0,00		
0,00	0,00	0,00
0,00	0,00	0,00

Variables	
Tax %	22,00 %
STD Revenue	7,00 %
STD Costs	5,00 %
Return requirement (r)	12,80 %
Growth (v)	3,00 %

Company value						
"Base case" NPV	kr 22 594					
Avg NPV	kr 22 481					
STD NPV	kr 3 148					
Terminal value	137,3 %					
Range (worst=1std. Below average; best=1std.above average)	Worst case	kr 19 333	Likely	kr 22 481	Best case	kr 25 628

10y										
2 023	2 024	2 025	2 026	2 027	2 028	2 029	2 030	2 031	10 normalt year	(TV)
15 355,16	16 737,12	18 578,21	21 364,94	23 501,43	24 911,52	26 406,21	27 990,58	29 670,02	31 153,52	
-15 210,30	-16 275,02	-17 739,77	-17 327,47	-18 540,39	-20 394,43	-22 229,93	-24 452,92	-26 409,16	-27 993,71	
-967,25	-1 054,31	-1 170,28	-1 345,82	-1 480,41	-1 569,23	-1 663,38	-1 763,19	-1 868,98	-1 962,43	
-250,00	-323,00	-450,00	-374,00	-530,00	-430,00	-400,00	-600,00	-700,00	-800,00	
-1 072,39	-915,20	-781,85	2 317,65	2 950,63	2 517,86	2 112,90	1 174,47	691,88	397,38	
235,93	201,34	172,01	-509,88	-649,14	-553,93	-464,84	-258,38	-152,21	-87,42	
-836,47	-713,86	-609,84	1 807,76	2 301,49	1 963,93	1 648,06	916,09	539,67	309,96	
967,25	1 054,31	1 170,28	1 345,82	1 480,41	1 569,23	1 663,38	1 763,19	1 868,98	1 962,43	$TV = FCFF_{10} \times \frac{(1+v)}{(r-v)}$
-79,00	100,00	120,00	180,00	100,00	120,00	120,00	180,00	120,00	-120,00	
1 209,07										
0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
									31 030	