Statistics and forecast 2021 – Q2

This is SWEA:s quarterly statistics and forecast for the Swedish wind power market. The figures are produced with data from turbine manufacturers and other market participants.

SWEA, Swedish Wind Energy Association - Svensk Vindenergi

2021-07-01

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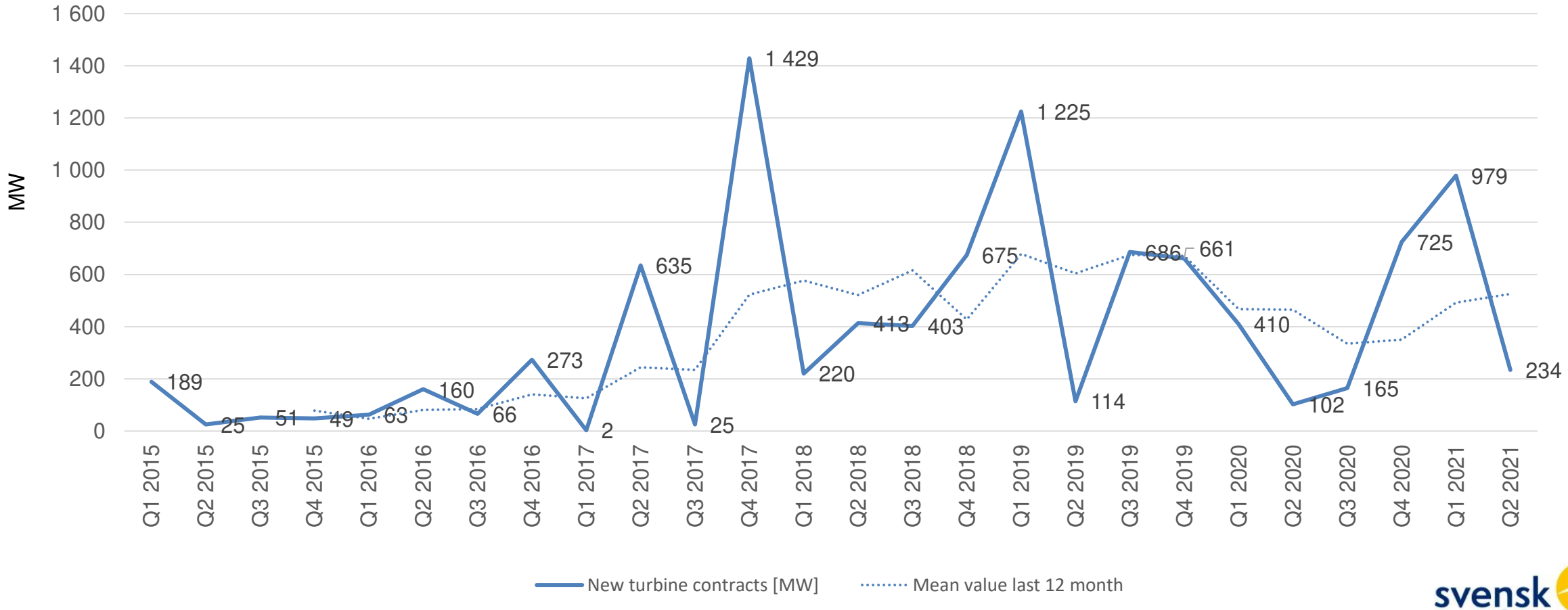
New turbine contracts* (firm and binding)

New contracts from Q2 will add another 234 MW in SE3 and SE4, corresponding to about 0,8 TWh clean electricity or 2,5 B SEK investment.
In total; 1,2 GW was contracted during the first half of 2021, compared with the average of 2 GW annualy for the last years.



** Figures from all turbine manufacturers acting on the Swedish market*

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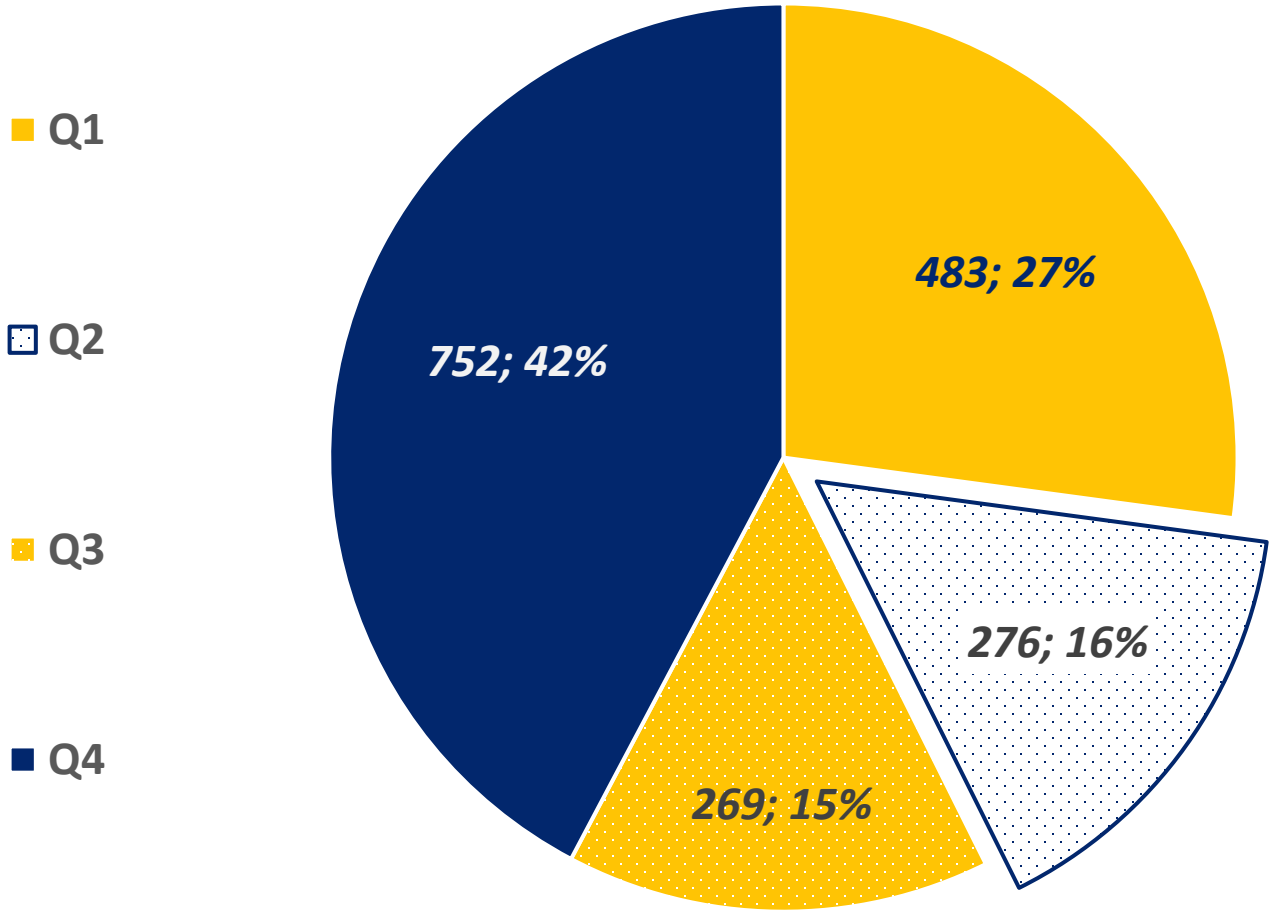
Turbine contracts [MW] and share of orders signed per quarter (2016-2021)

The second and third quarter does on average represent less than 1/3 of annual orders. Most orders, 42 % are finalized and signed in Q4. The first half of the year did on average represent 43 %* of annual orders, as a mean value over the last 5 years.



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Wind Power development 2021

Total by the beginning of 2021

Capacity:	10,0	GW
Turbines:	4359	pcs
Annual normal production*:	26,3	TWh
Wind index full year 2020:	114	
Actual production 2020:	27,5	TWh

Added capacity in 2021

Total:	2,72	GW
Turbines:	608	pcs
Annual normal production from added turbines:	8,8	TWh
1:st year contribution from turbines added 2021**:	3,1	TWh
1:st year utilisation of added capacity**:	36	%
Wind index H1 2021	93	

Total by the end of 2021 - forecast

Turbines:	4967	Pcs
Capacity:	12,8	GW
Estimated actual production Wind power 2021:***	29,4	TWh
Annual normal production	35,2	TWh

** Annual normal production is the calculated annual production if Wind Index is 100 and all capacity are on line during a full year.*

*** Capacity added during a year typically contributes with 30-40% of annual normal production during first operational year. Turbines might come online late in the year and the summer is in general less windy.*

**** Estimated actual production is depending on when capacity is scheduled online and how windy the remaining of the year is. Year 2020 had a extraordinary high Wind Index of 114 and actual production of 27,5 TWh.*

Estimations for the reminder of 2021 are based on the assumption that new projects comes on line as on side "Comissioning" and normal wind conditions.

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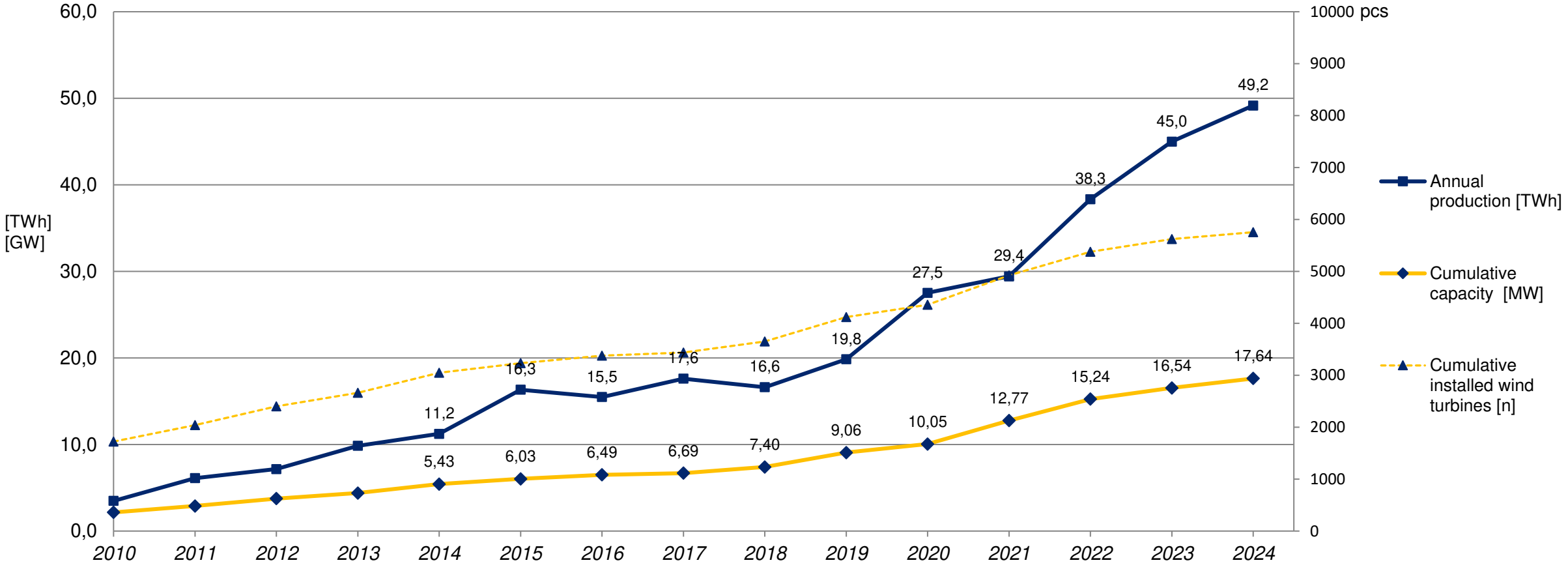
Short term forecast, 2021-07-01

The growth is continuing and reaching its highest point 2021 with 2,7 GW annual addition. Towards 2024 the ackumulated installed wind power is likely reaching above 17 GW, with normal year production reaching almost 50 TWh, but the number of installed turbines will remain below 6000 - as every turbine has an ever higher yield.



** Figures based on reported firm and binding contracts from all turbine manufacturers acting on the Swedish market. This scenario is the official short term forecast of SWEA and updated quarterly. The long term forecast (2040) is found on the homepage of SWEA*

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Comissioning [MW] – record high scheduled comission for 2021 and 2022

Time plan according to turbine manufacturers for wind power installations during year n [MW]*.
Delays/ cancellations in projects are influencing scheduled commissioning, but planned installations during 2021 and 2022 are record high and will put total value chains on test and drive futher innovation. Further delays are considered likely.

2020	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2021 (Tot)	2022	2023	2024
988	*297*	*584*	570	1268	2719	2205	382	405
				Difference since last quarter:	*0*	*+96*	*-95 ** *	*+0*

** Figures from all turbine manufacturers acting on the Swedish market*
*** https://www.globenewswire.com/news-release/2021/06/25/2253011/0/sv/Eolus-och-Hydro-REIN-f%C3%B6rv%C3%A4rvar-tillsammans-ett-fullt-tillst%C3%A5ndsgivet-svenskt-vindkraftsprojekt-om-260-MW.html*

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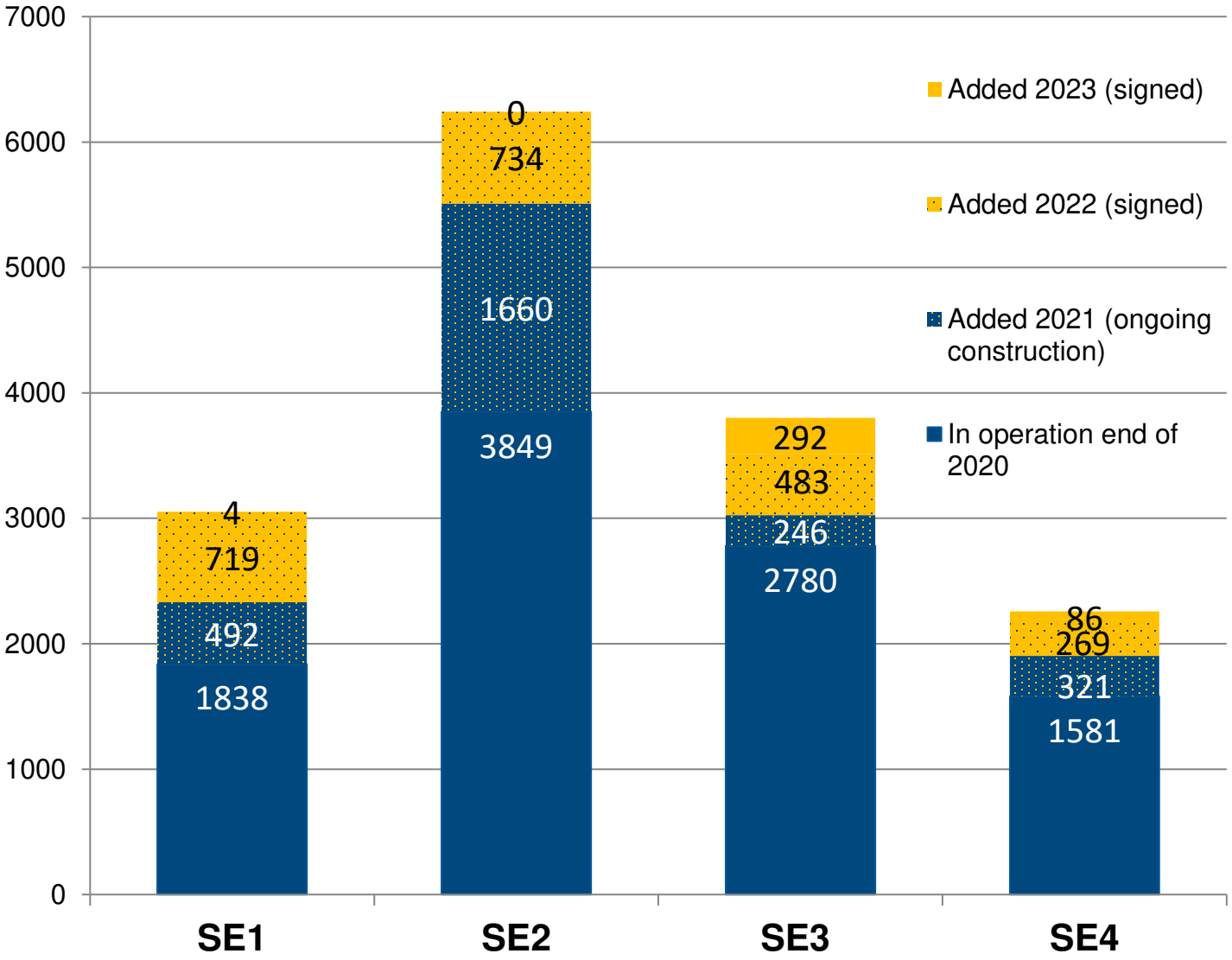
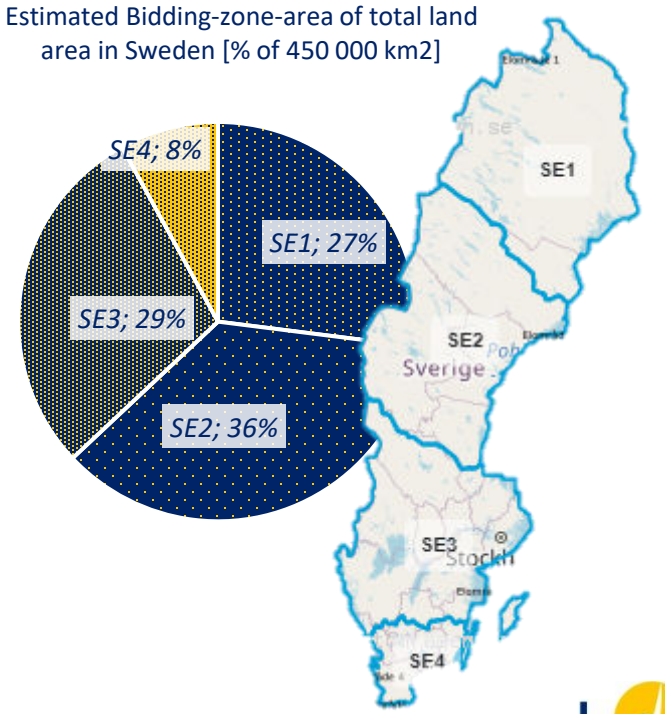
Bidding area break down of scheduled comissioning [MW]

SE2 remains dominant in 2021 and 2022. For deliveries in 2023, SE3 and SE4 is in the lead, although volumes are still at low level.





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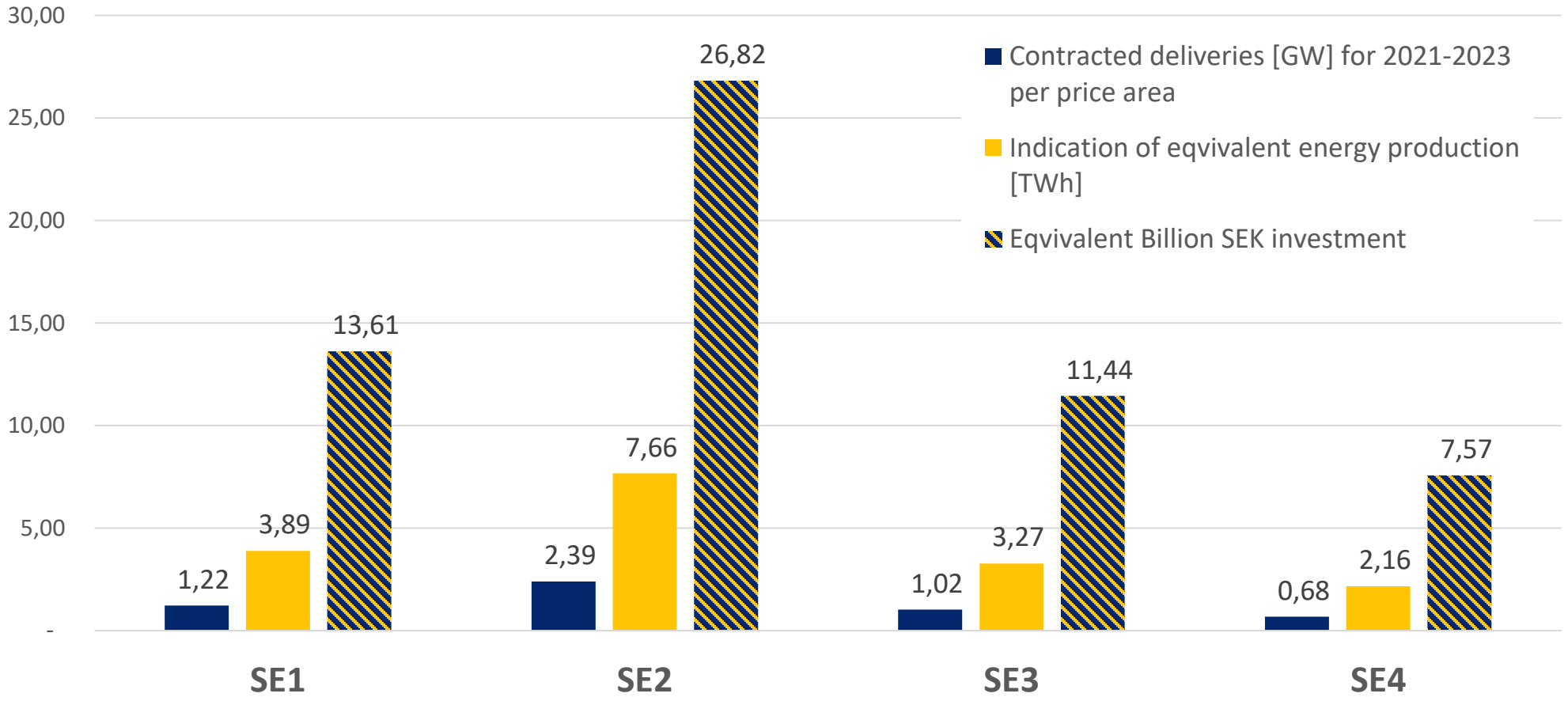
Capacity [GW], Energy [TWh] and Investment [BSEK] additions per price area 2021-2023

Energy and capacity additions [GW and TWh] are still dominated by SE2 but all new orders in Q2 2021 are made in SE3 and SE4. Investment volumes are calculated using the key figure of 3,5 BSEK/TWh



** Figures from all turbine manufacturers acting on the Swedish market*

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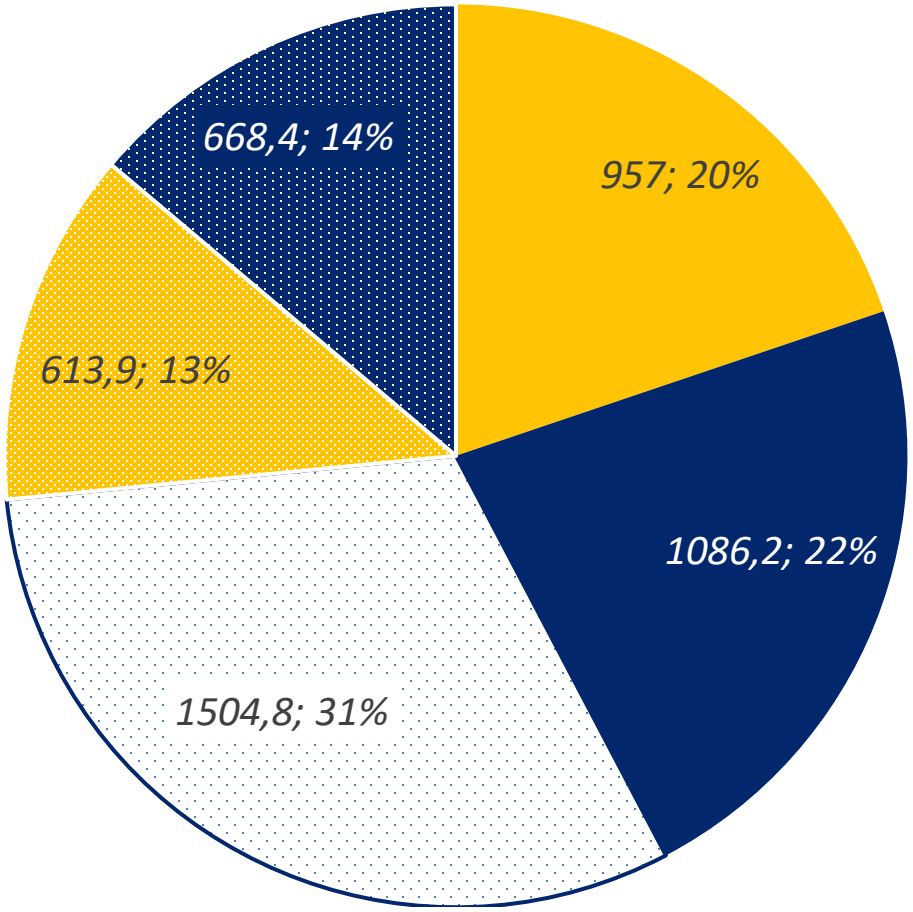
Market shares for OEMs on Swedish market:

The market is characterized by high competition, with 5 major technology suppliers (OEMs) for turbine contracts: Enercon (Ger), Nordex (Ger), General Electric (USA), Siemens Gamesa (Ger/Spa) and Vestas (Dk). Swedish subcontractors are common, both for the turbines and civil works. Figure below is without labels, to show a mercant market with high degree of innovation and product development.



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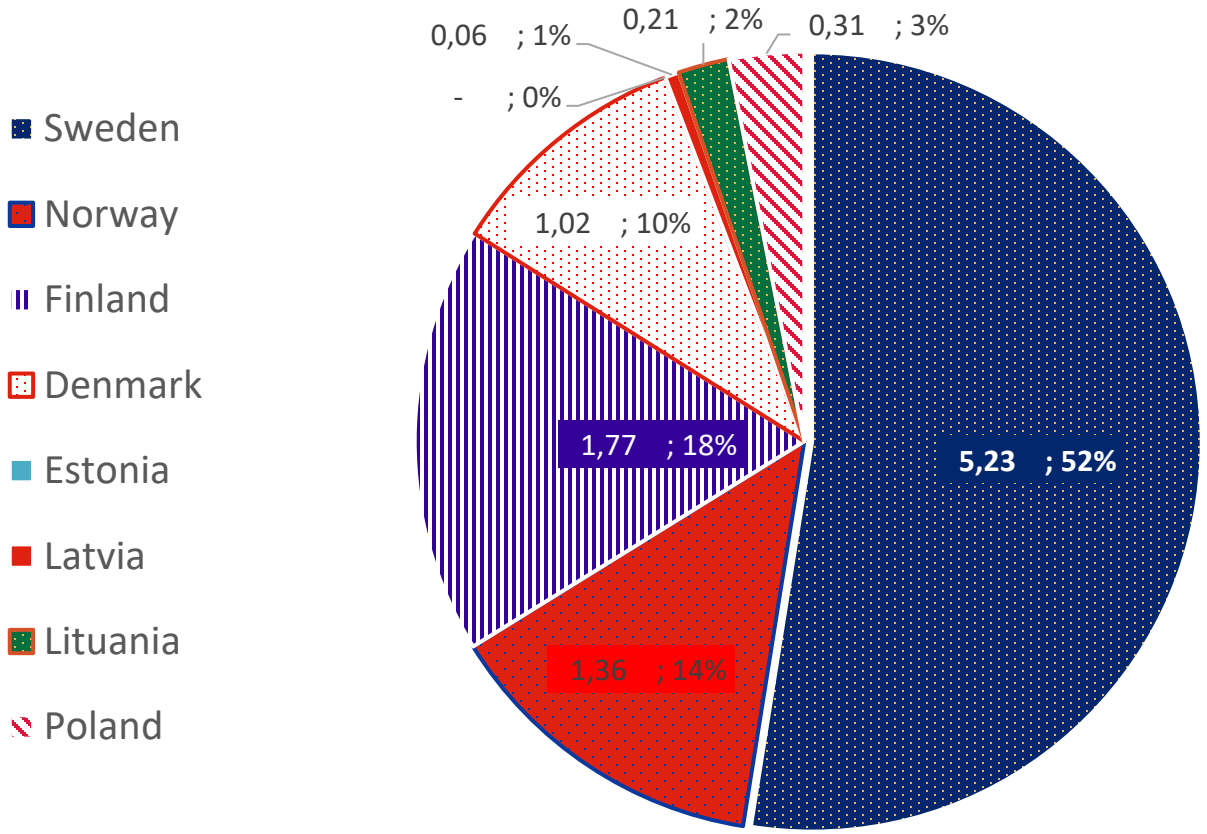
Growth share of orders in the Nordic+Baltic countries 2020-2022 [GW]

Sweden is by far the biggest market in the Nordic+Baltic region, with an annual added capacity at about 2 GW or 52 % of signed known comissioning. The Finish market is second at about 1 GW annualy, and growing fast.



** Figures from the wind energy associations in Sweden, Finland, Norway, Denmark, Estonia, Latvia, Lithuania and Poland*

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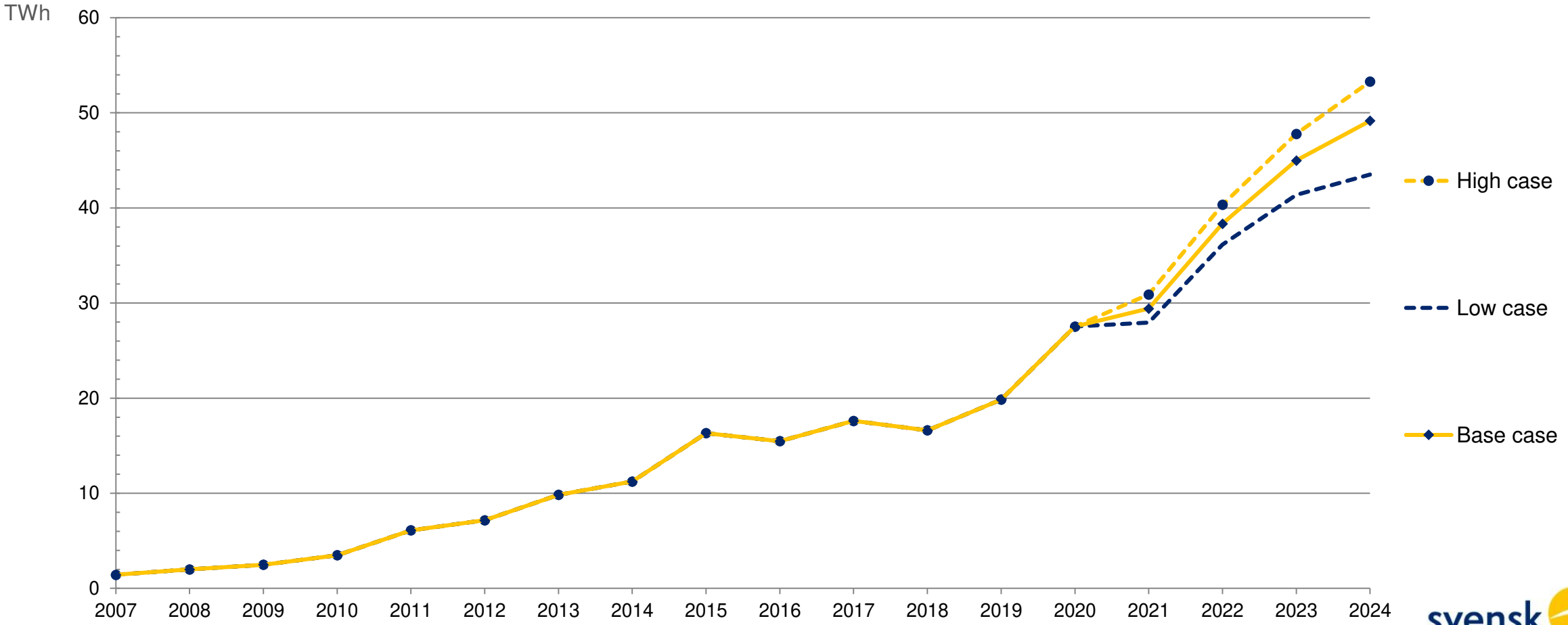
Wind power production forcast – all cases

Production is increasing to between 44 TWh (low) and 54 TWh (high) normal year production in 2024. This places wind power as the second largest power supplier in Base and High scenarios, given that nuclear and hydro power remains at present levels.
The apparent trend break, and upwards skip in the curve at 2020, is due to very high winds.



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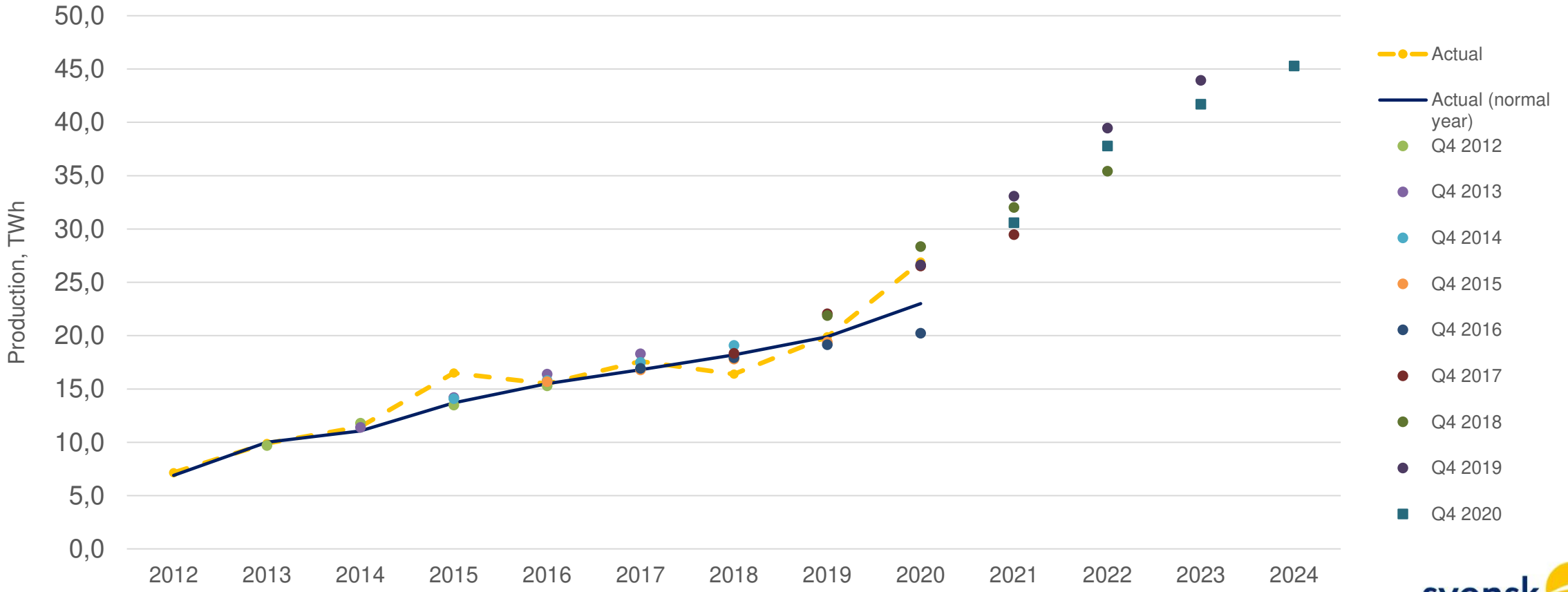
Evaluation of SWEA:s previous forecasts (base case)

Graph shows previous forecasts (dots) as well as actual real production and actual normal annual production (line).
SWEA's previous forcasts shows a solid track record.



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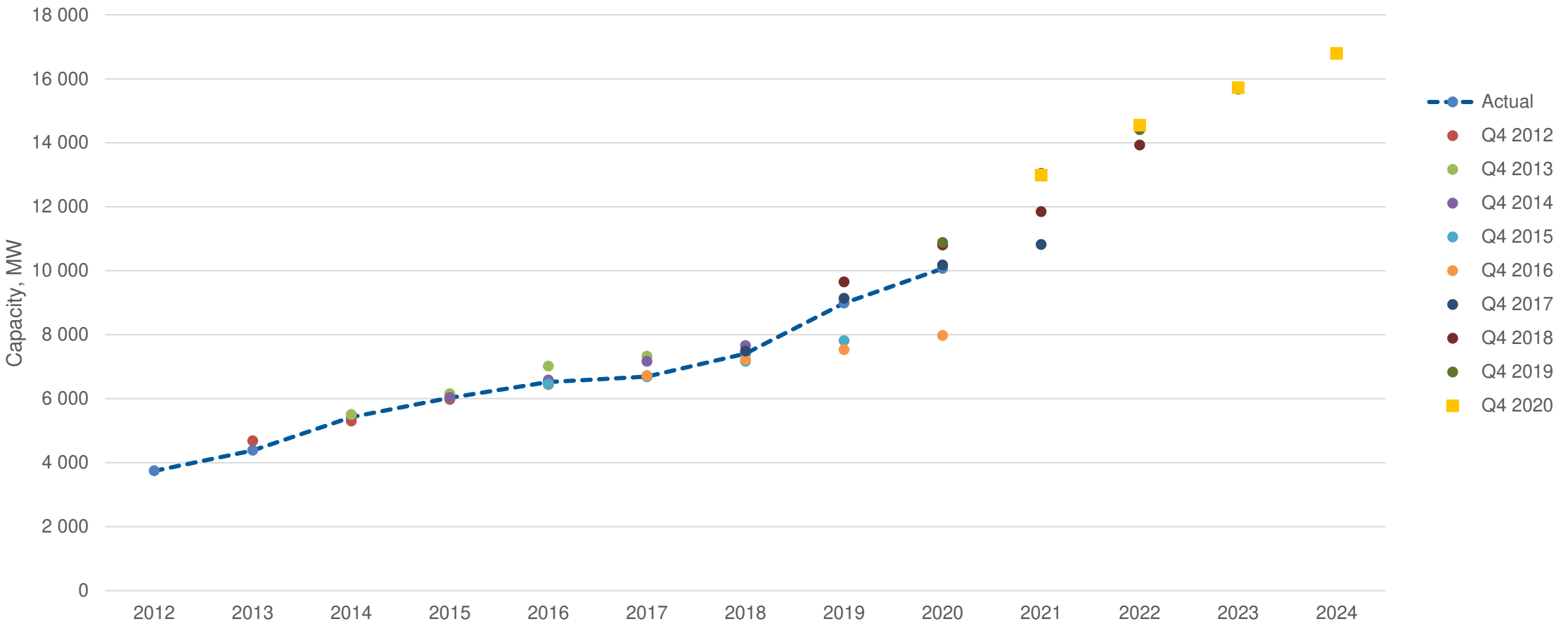
Follow up – installed capacity [MW]

Graph shows previous forecasts (dots) and actual installed wind power capacity (line). Earlier forecasts have proven to be very close to the real development.



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The figures and forecast

- ***The statistics*** are mailny based on sales figures reported by the turbine manufacturers and project figures from project developers combined with official scources.
- ***The forecasts*** are based on the above figures combined with estimates regarding future market conditions. It may differ since last quarter and yearly production figures are based on the assumption that 50% of the capacity added one year is available for production.
  - ***Base case:*** Refer to the short term forecast. It is based on the estimation that all firm and binding turbine contracts yet reported are realised together with some new projects. That is our assessment of the most realistic scenario and is the official forecast.
  - ***Low case:*** Assumes only projects where turbine contracts (firm and binding) have been signed will be realized. In this scenario no further investment decisions are made. Thus, this scenario defines the lower limit of wind power growth in Sweden.
  - ***High case:*** Projects with turbine contracts (firm and binding) are realized and on top of that an estimation that most projects considered favorable are realized.

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