

Statistics and forecast Q4 2020

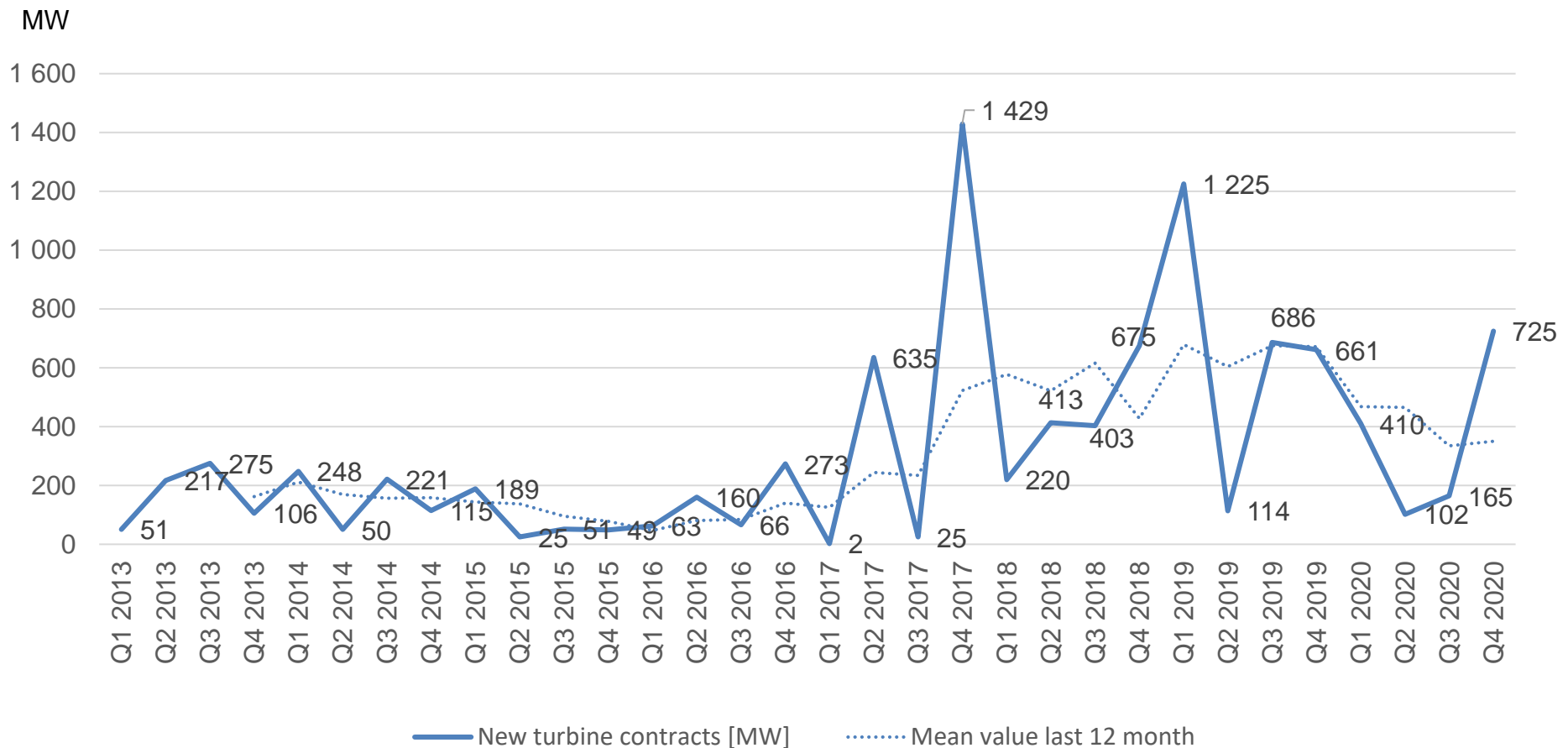
This is SWEA:s quarterly statistics and forecast for the Swedish wind power market. The figures are produced with data from turbine manufacturers and wind power developers acting on the market.

SWEA, Swedish Wind Energy Association - Svensk Vindenergi

2021-02-08

New turbine contracts* (firm and binding)

The market bounced back strong in Q4 2020, closing the year with strong order entry.
 New contracts will add another 725 MW to be realized 2022 and 2023 (corresponding to about 2,3 TWh).

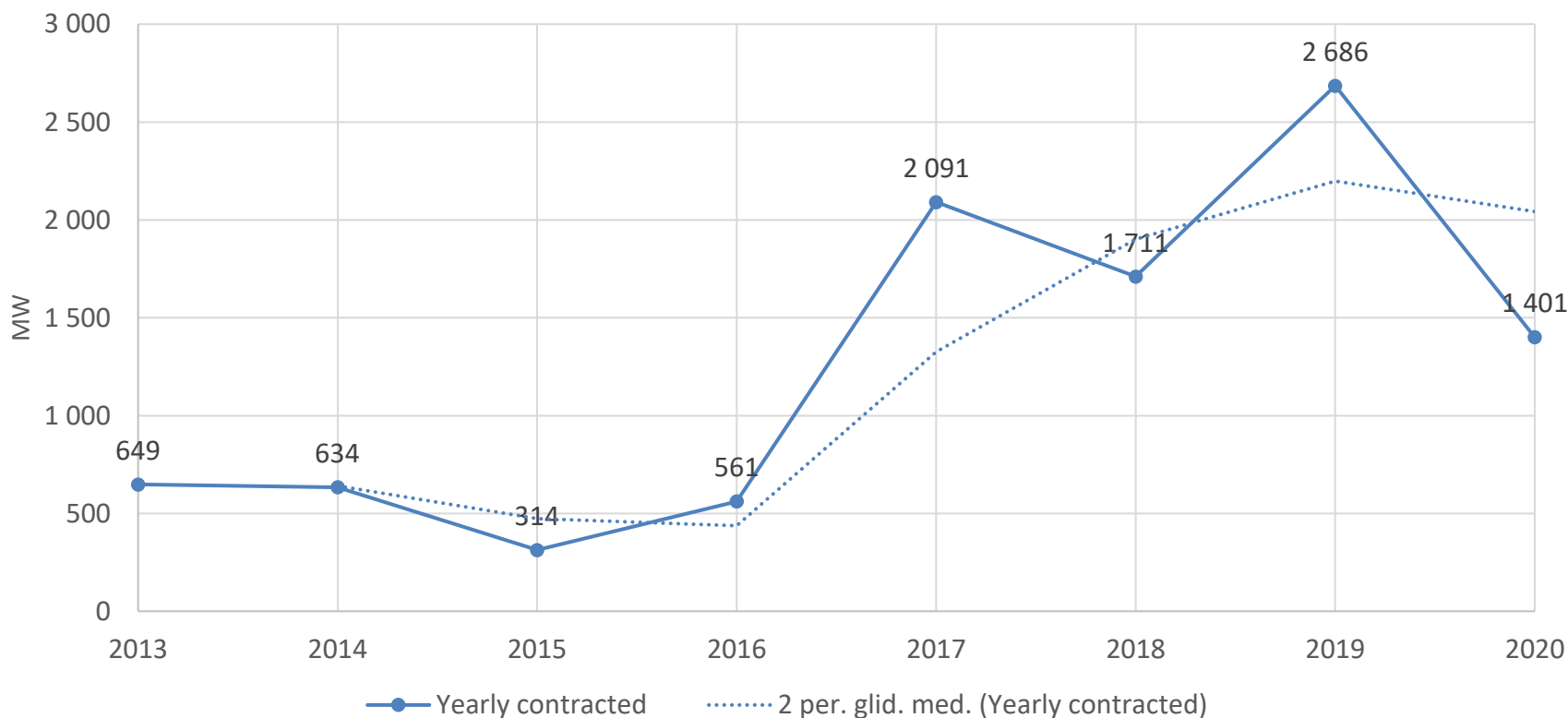


* Figures from all turbine manufacturers acting on the Swedish market

Annual comparison 2013 - 2020

- New turbine contracts* (firm and binding)

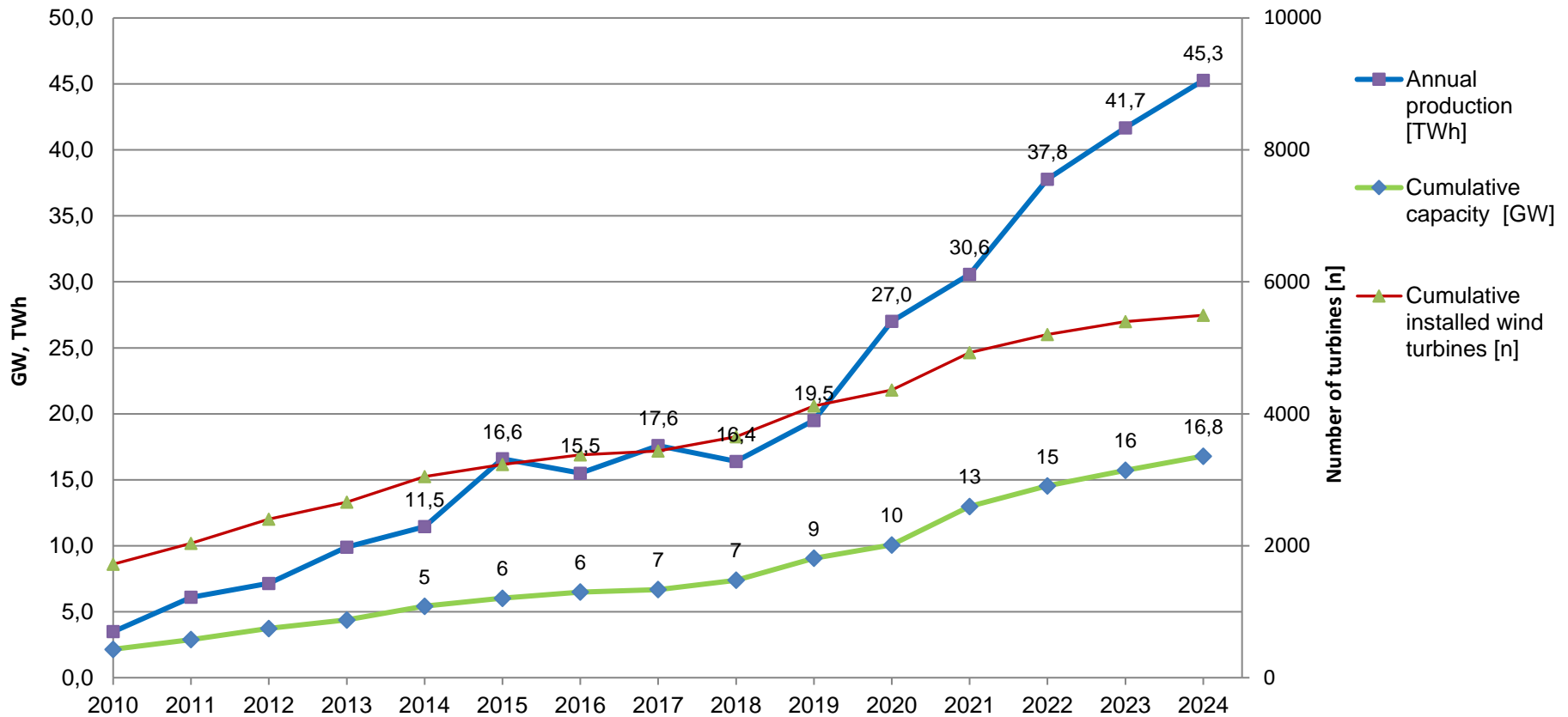
The market was slightly down but remained on a fairly high level for the full 2020.
New contracts of 1400 MW in total corresponding to 4,5 TWh annual normal production.



* Figures from all turbine manufacturers acting on the Swedish market.
Undisclosed orders are not always included

Short term forecast, 2021-02-06

The installed wind power capacity growth is continuing even if significant delays happen during 2020. Towards 2024 the installed power is reaching above 16 GW. While production (TWh) and installed capacity (GW) will increase significantly in the coming years, the number of installed turbines will remain around 5000 - as every turbine has a ever higher yield.

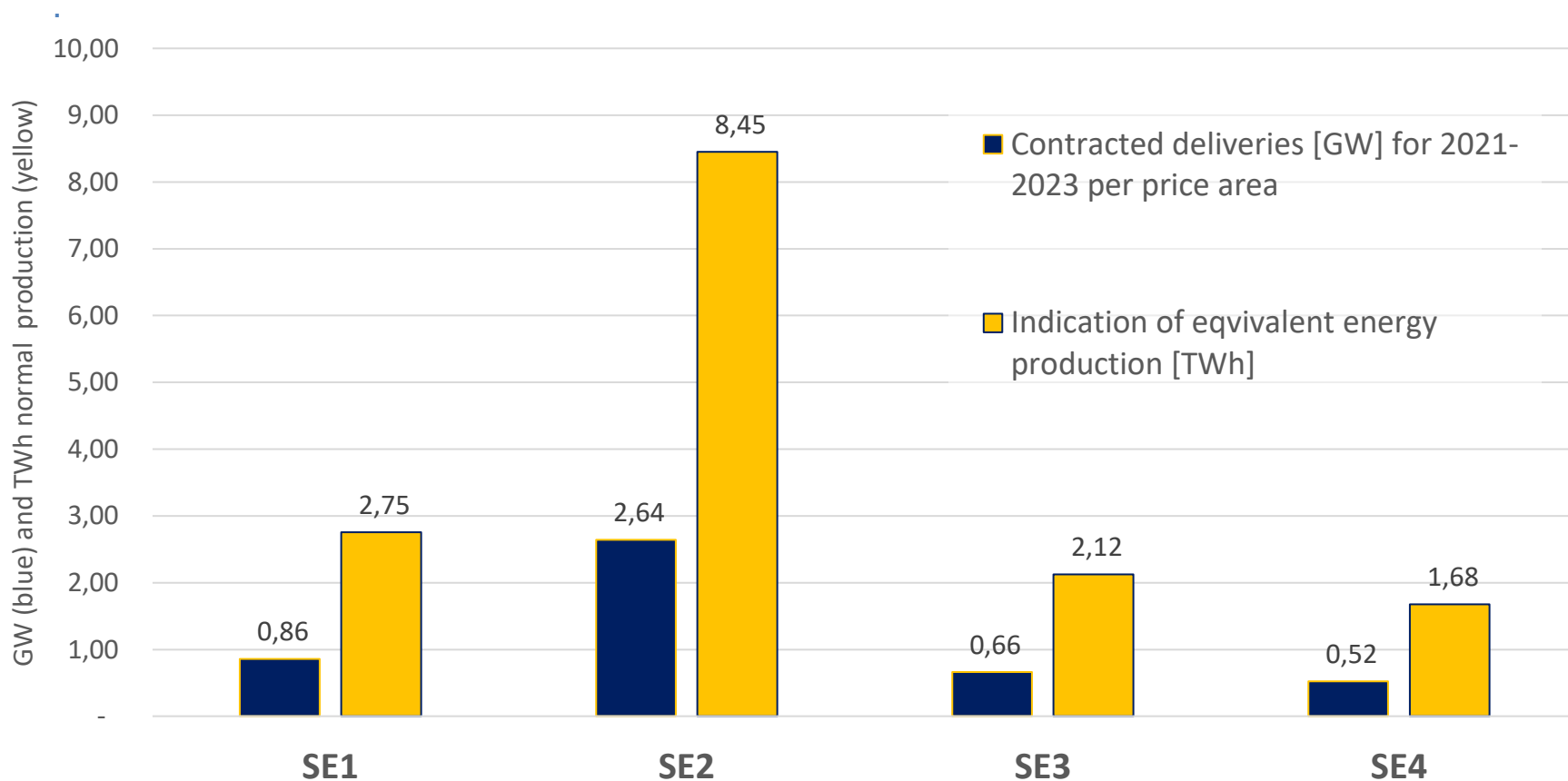


* Figures based on reported firm and binding contracts from all turbine manufacturers acting on the Swedish market. This scenario is the official short term forecast of SWEA and updated quarterly. The long term forecast (2040) is found on the [homepage of SWEA](#)

Commissioning 2021-2023 [GW, TWh / Price area]

Energy and capacity additions [GW and TWh] are strongly dominated by SE2 which accounts for 65% of installations in 2021 and 51% of installations in 2022.

SE3 is increasing from 161 MW in 2020 and 252 MW in 2021 to 344 MW in 2022 with a predicted further increase.



* Figures from all turbine manufacturers acting on the Swedish market

Commissioning [MW] – massive delays during 2020

Time plan according to turbine manufacturers for wind power installations during year (MW)*.

Delays** in projects are influencing scheduled commissioning.

About 550 MW were delayed from 2020 leading to a record 3000 MW being scheduled for construction in 2021.

Further delays are considered likely – which makes forecasting changeable.

2019	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2020 (Tot)	2021	2022	2023	2024	
1614	132	191	141	542,8	1007	2919	1112	658	0	
					<i>Difference since Q3 2020:</i>	-570	+535	+700	+71	+0

* Figures from all turbine manufacturers acting on the Swedish market

** Delays depend on various reasons. E.g. windy conditions, supply chain constraints and covid-restrictions

Installations in 2021

Total by the end of 2020

Turbines: 4 363

Capacity: 10 GW

Actual production: 27 TWh*

Annual normal production (estimate): 26 TWh**

Added capacity in 2021

1st quarter: - MW (to be estimated)

2nd quarter: - MW (to be estimated)

3rd quarter: - MW (to be estimated)

4th quarter: - MW (to be estimated)

Total: 2 919 MW

Total by the end of 2021 - forecast

Turbines: 5 006

Capacity: 13 GW

Actual production: 30,6 TWh***

Annual normal production (estimate): 35,2 TWh**

** Actual production is the real production and depends on wind conditions and when installations are made during the year.*

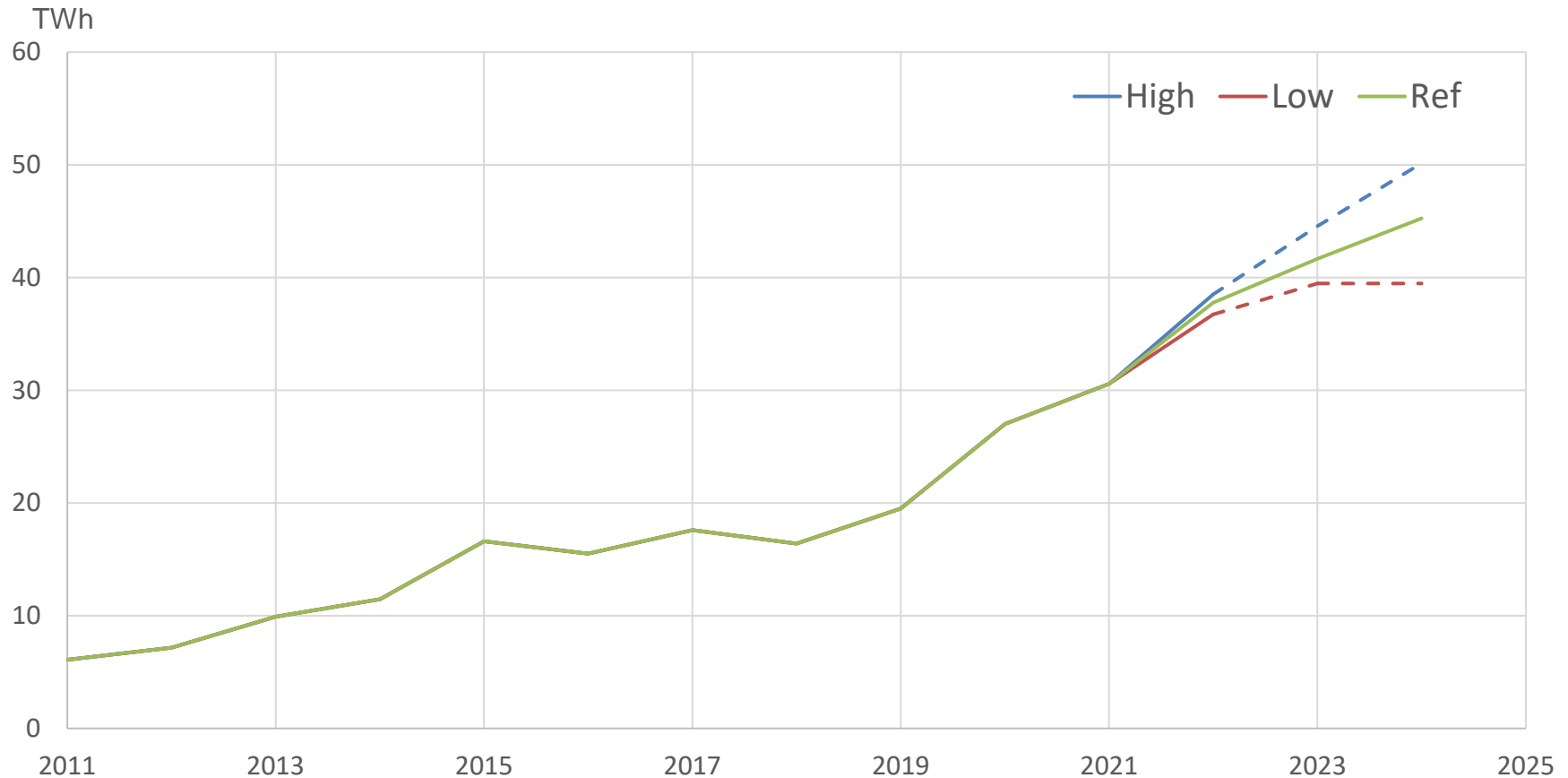
*** Annual normal production is the estimated annual production of electricity, considering all capacity in operation at the end of the year produced during the whole year with normal wind conditions.*

**** Estimations for the remainder of 2021 based on the assumption of new projects coming on line successively and normal wind conditions*

Wind power production forecast – all cases

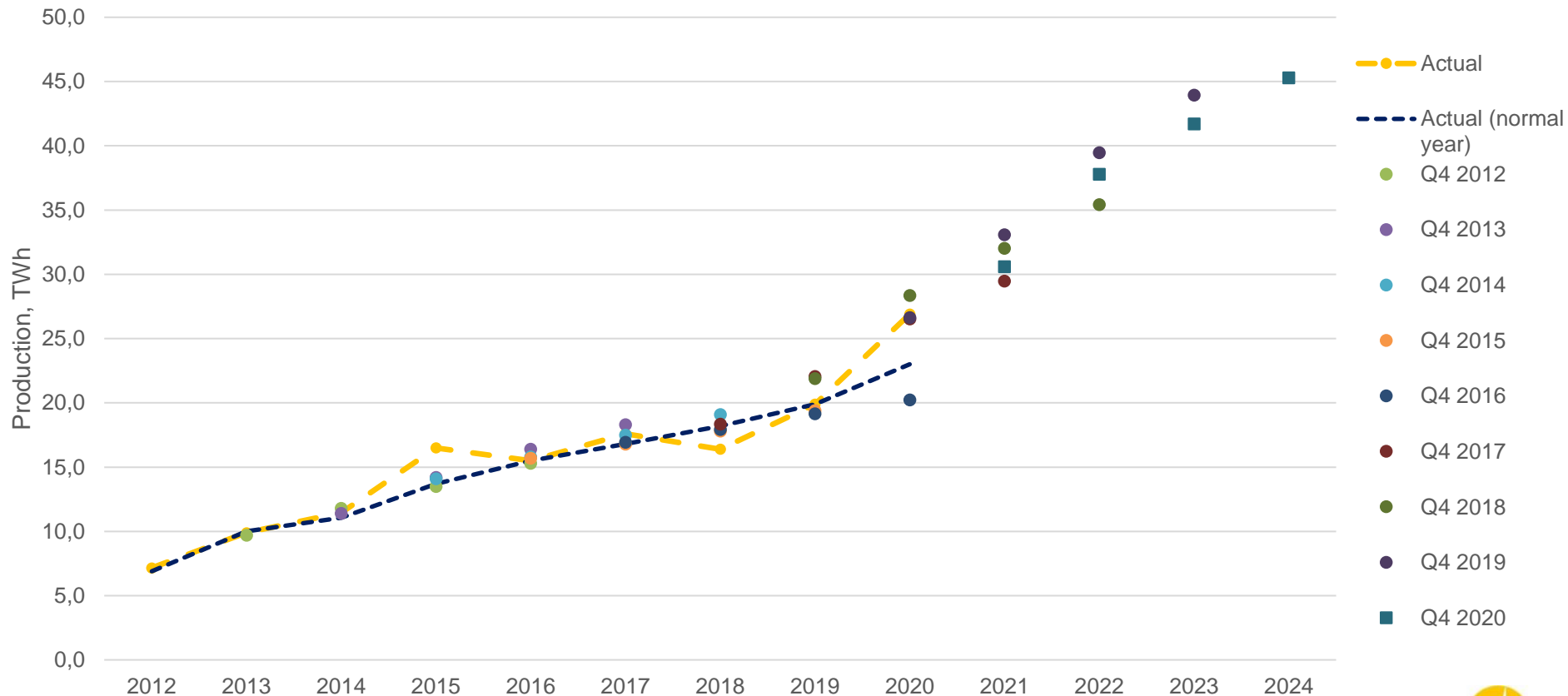
Production is quickly doubling from 2019-levels and is now close to 30 TWh yearly.

The wind power production 2024 is likely to be between 40 and 50 TWh, depending on further addition of contracts/ capacity.



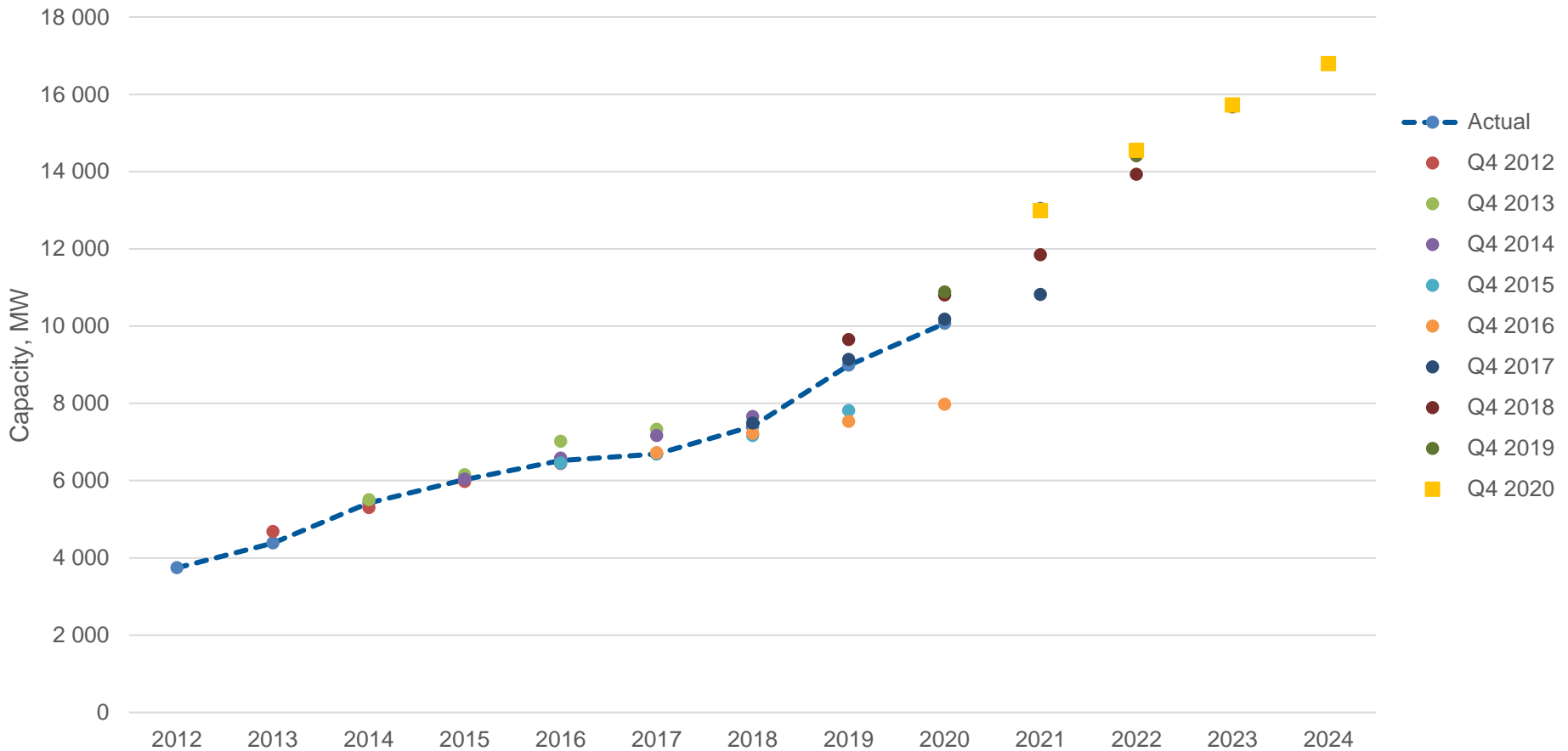
Evaluation of previous forecasts of annual wind power production (base case)

The graph shows previous forecasts (dots) and actual production as well as actual normal production (line). SWEA's previous forecasts shows a solid track record.



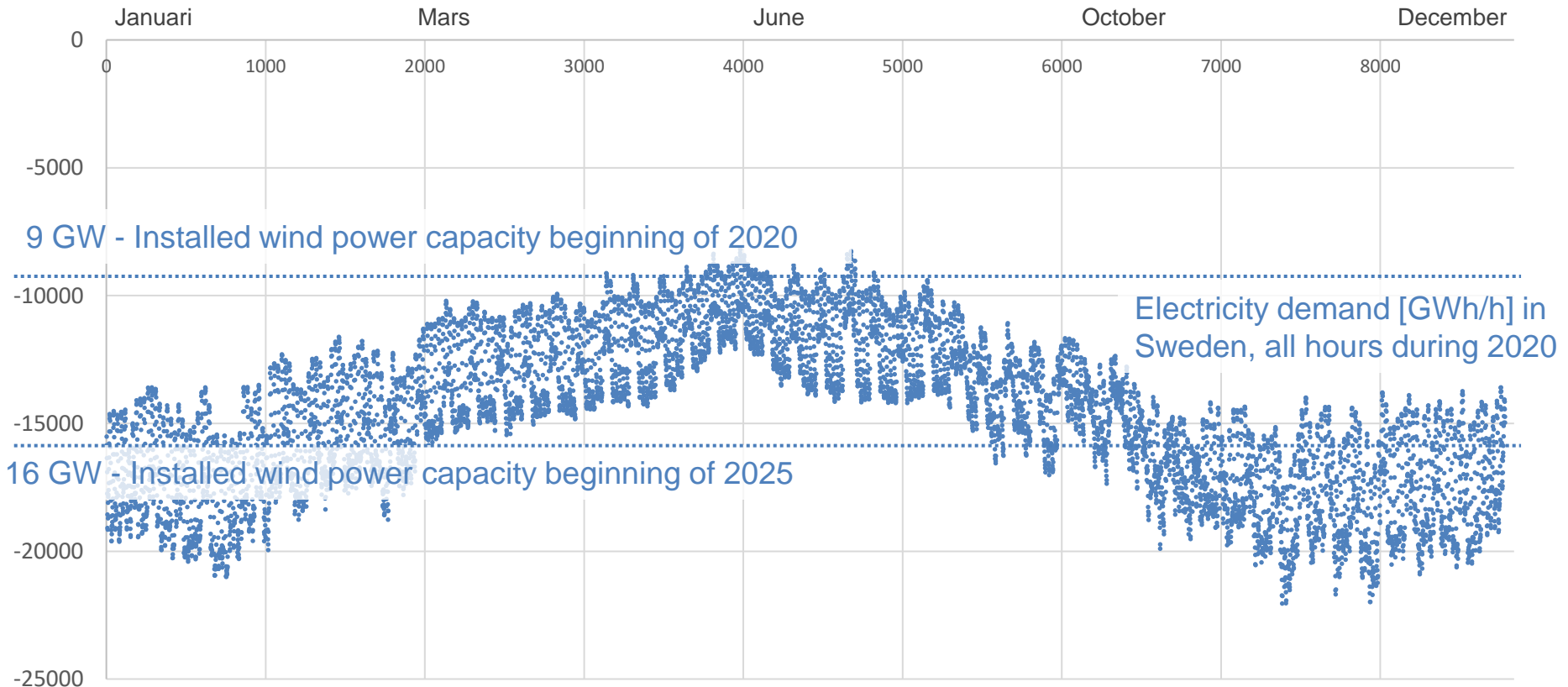
Follow up – installed capacity [MW]

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



System impact from wind power capacity addition:

Wind power will on hourly basis more often cover an ever bigger part of Swedens electricity demand. Comparison load and installed wind power capacity, hourly data from 2020.



* Figures regarding Electricity demand/load published by the TSO (svk). Note that the load in Sweden was lower in 2020 than normally, due to low industrial activity and mild weather.



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The statistics and forecast

- **The statistics** are mainly based on sales figures reported by the turbine manufacturers and project figures from project developers, combined with official sources.
- **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.