

Statistics and forecast

This is quarterly edition of statistics and forecasts for the Wind Power Market, covering data from turbine manufacturers and wind power developers acting on the Swedish market (estimated coverage is 100 percent respectively 95 percent of the total Swedish market)

Q2 2019

Svensk Vindenergi – Swedish Wind Energy Association, SWEA

The statistics and forecast

- **The statistics** are based on the order books of the turbine manufacturers and project portfolios of the wind power developers presented at aggregated level
- **The forecast** consists of three future scenarios (low, base, high). They are based on assumptions regarding which projects will be realized - considering today's market situation and the future's.
- **Low case:** Only projects where turbine contracts (firm and unconditional) have been signed will be realized. In this scenario no further investment decisions are made, hence this scenario defines the lower limit of wind power growth in Sweden.
- **Base case:** Projects with signed turbine contracts, approximately 20 percent of permitted projects and 10 percent of projects under permission process will be realized. This is the most realistic scenario and is the official forecast.
- **High case:** Projects with signed turbine contracts, around 30 percent of permitted projects and 15 percent of projects under permission process will be realized. This scenario may be relevant in circumstances leading to higher power prices and sets the ceiling for growth of wind power in Sweden.

Installations in 2019

Total by the end of 2018

Turbines: 3 652

Capacity: 7 395 MW

Actual production: 16,4 TWh *

Annual production (estimated): 19,5 TWh **

Added capacity in 2019 (forecast)

1st quarter: 192,8 MW

2nd quarter: 266,4 MW

3rd quarter: 530,7 MW

4th quarter: 1252,0 MW

Total: 2242 MW



Total by the end of 2019 (forecast)

Turbines: 4 241

Capacity: 9 637 MW

Actual production: 22,1 TWh *

Annual production (estimated): 27,1 TWh **

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

*** Estimated annual production is the annual production the turbines are expected to produce when in operation during a whole year with normal wind conditions.*

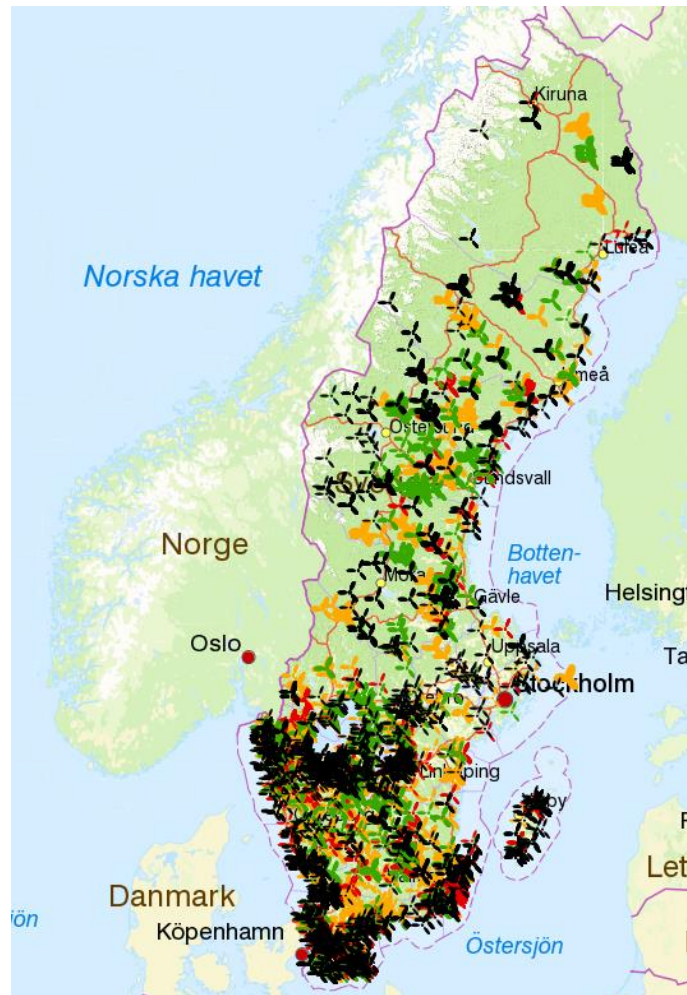
Project portfolio, status by 2019-06-30

| | In operation | Onshore | Offshore | Total | <i>Quarterly change</i> |
|-----------|------------------------------|----------------|-----------------|--------------|-------------------------|
| | Windturbines | 3 699 | 79 | 3 778 | (+72) |
| | Capacity (MW) | 7 665 | 190 | 7 855 | (+266) |
| * | Under construction | Onshore | Offshore | Total | |
| | Windturbines | 1 049 | | 1 049 | (-45) |
| | Capacity (MW) | 4 244 | | 4 244 | (-183) |
| ** | Permitted | Onshore | Offshore | Total | |
| | Windturbines | 2 589 | 473 | 3 062 | |
| | Capacity (MW) | 8 378 | 1 327 | 9 705 | |
| ** | In permission process | Onshore | Offshore | Total | |
| | Windturbines | 1 586 | 275 | 1 861 | |
| | Capacity (MW) | 3 316 | 925 | 4 241 | |





* Firm and unconditional turbine order based on investment decisions

** Estimations

Geographical spread

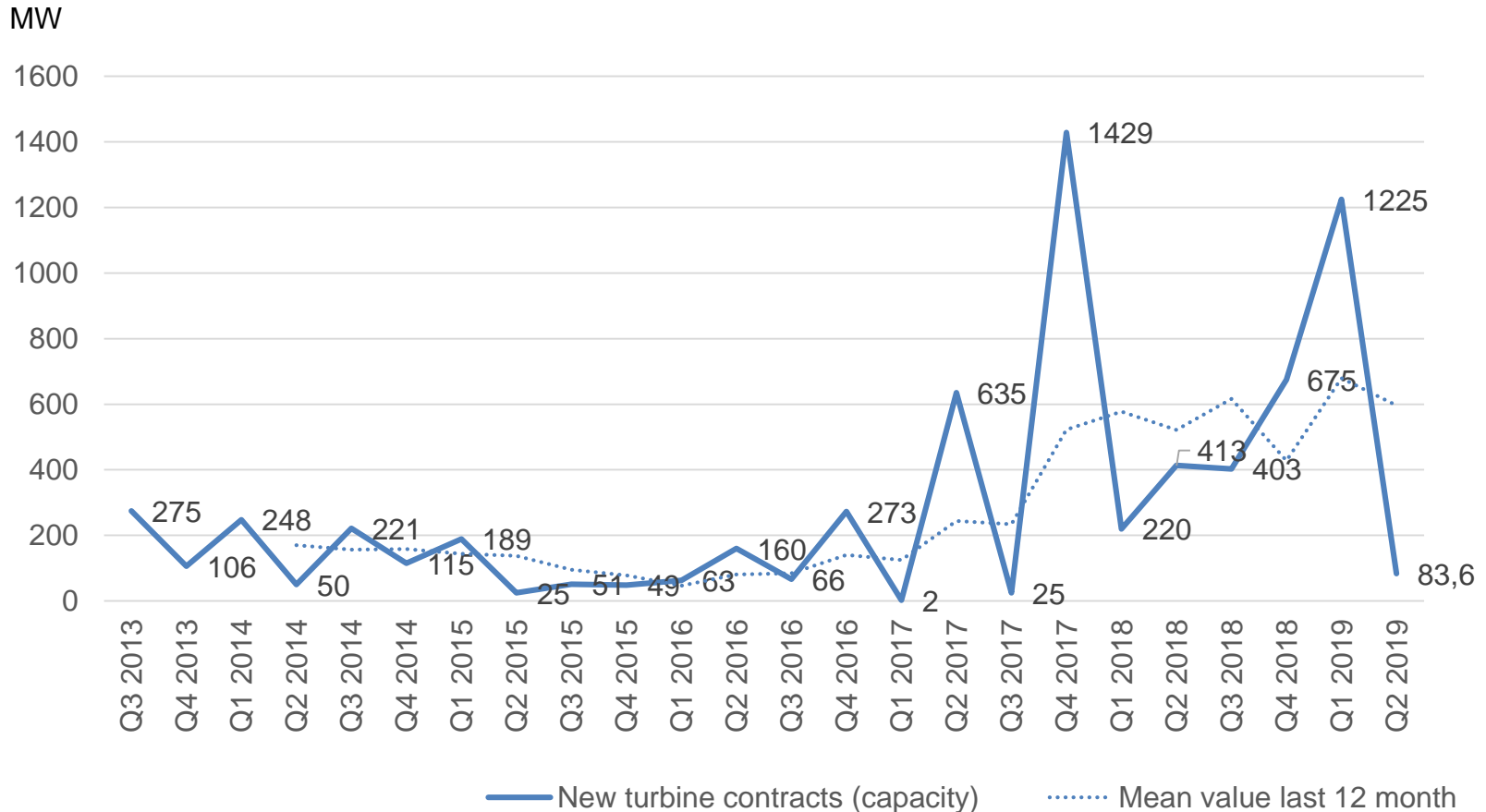


Project status

-  In operation
-  Permitted
-  Rejected
-  In permitting process

Source: Vindbrukskollen.se

New turbine contracts (firm and binding)



* Figures from all turbine manufacturers acting on the Swedish market

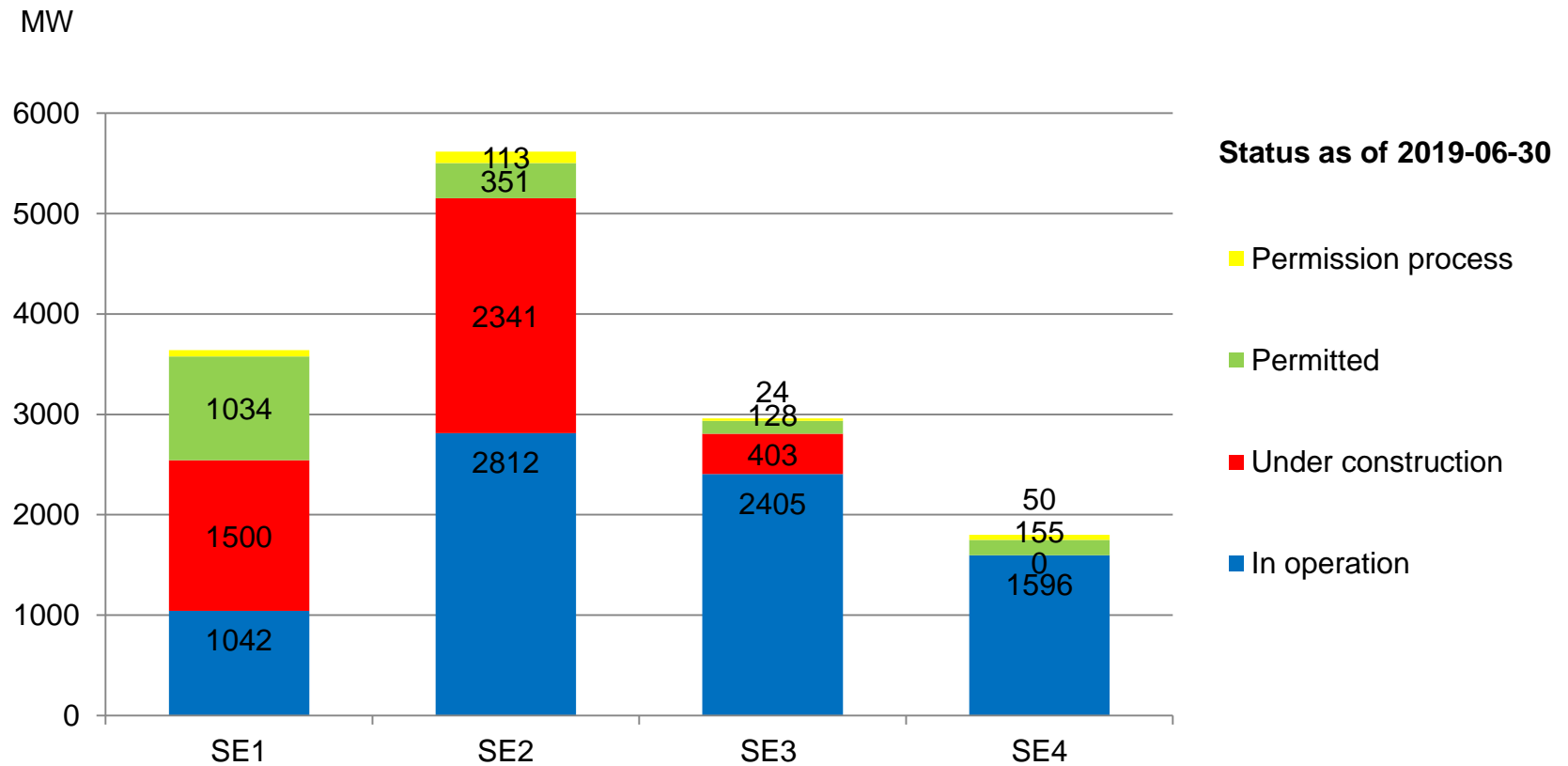
Order books

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

| 2018 | 2019 Q1 | 2019 Q2 | 2019 Q3 | 2019 Q4 | 2019 (Tot) | 2020 | 2021 |
|------|---------|---------|---------|---------|------------|------|------|
| 716 | 193 | 266 | 531 | 1252 | 2242 | 1311 | 1151 |

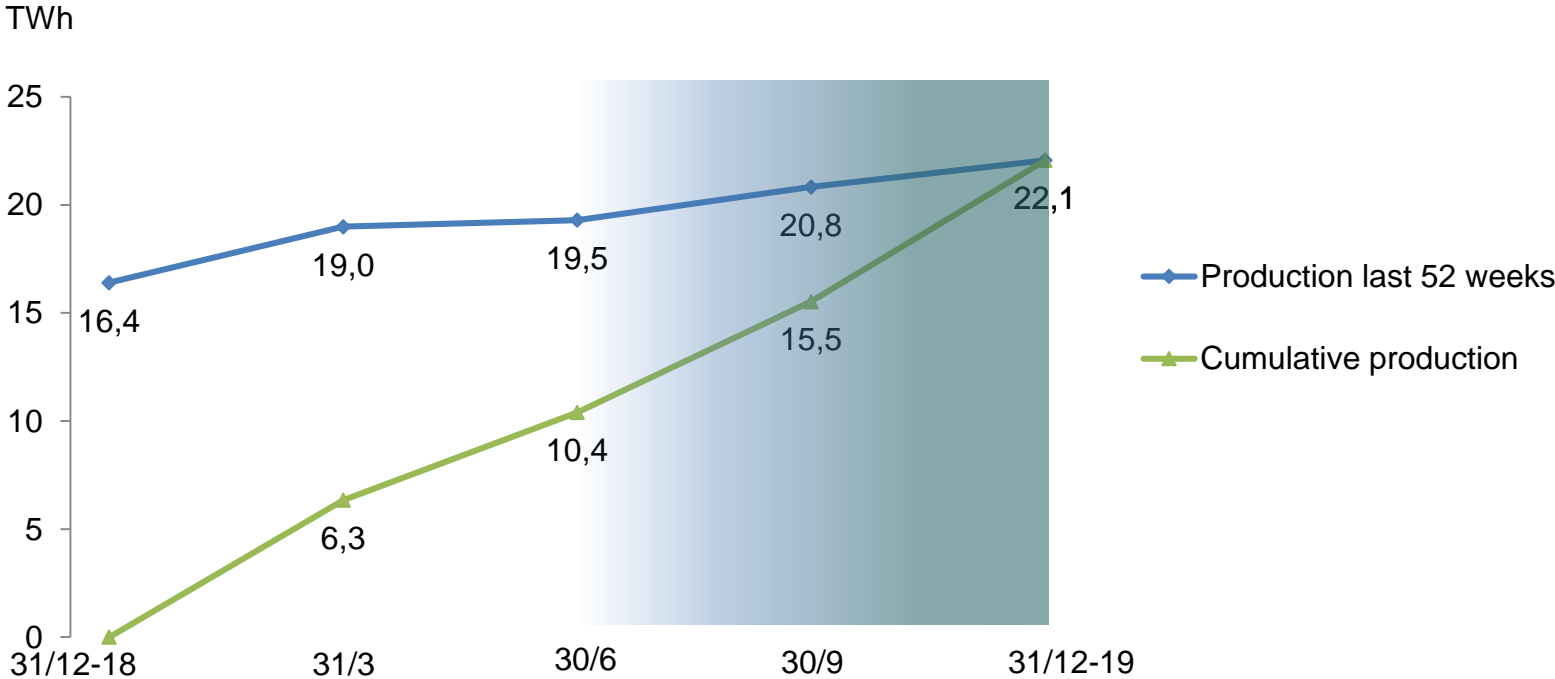
* Figures from all turbine manufacturers acting on the Swedish market

Installed capacity by price area 2022-12-31 (forecast)



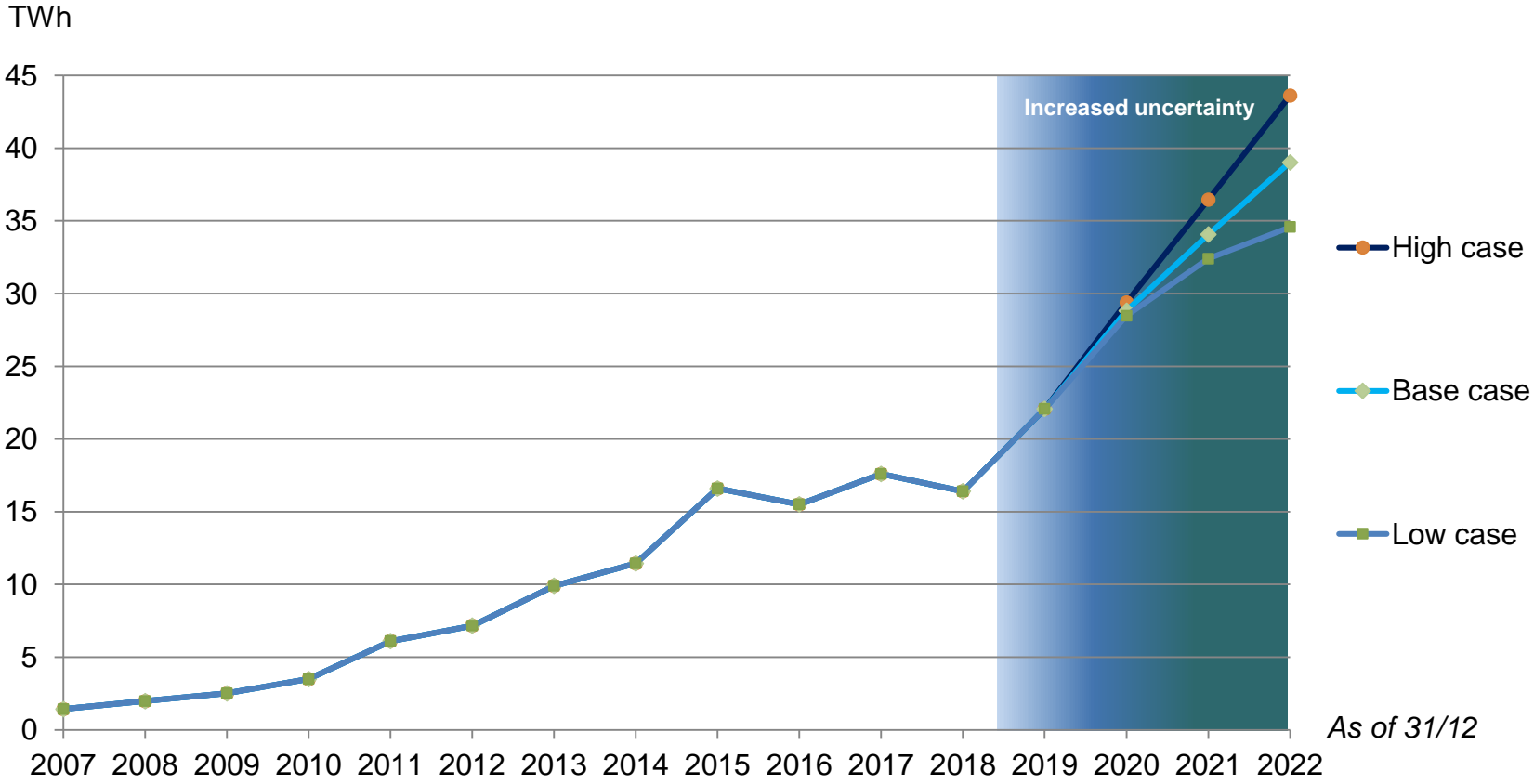
Wind power production 2019 (forecast)

Actual and forecast



Wind power production – different scenarios

Actual and forecast

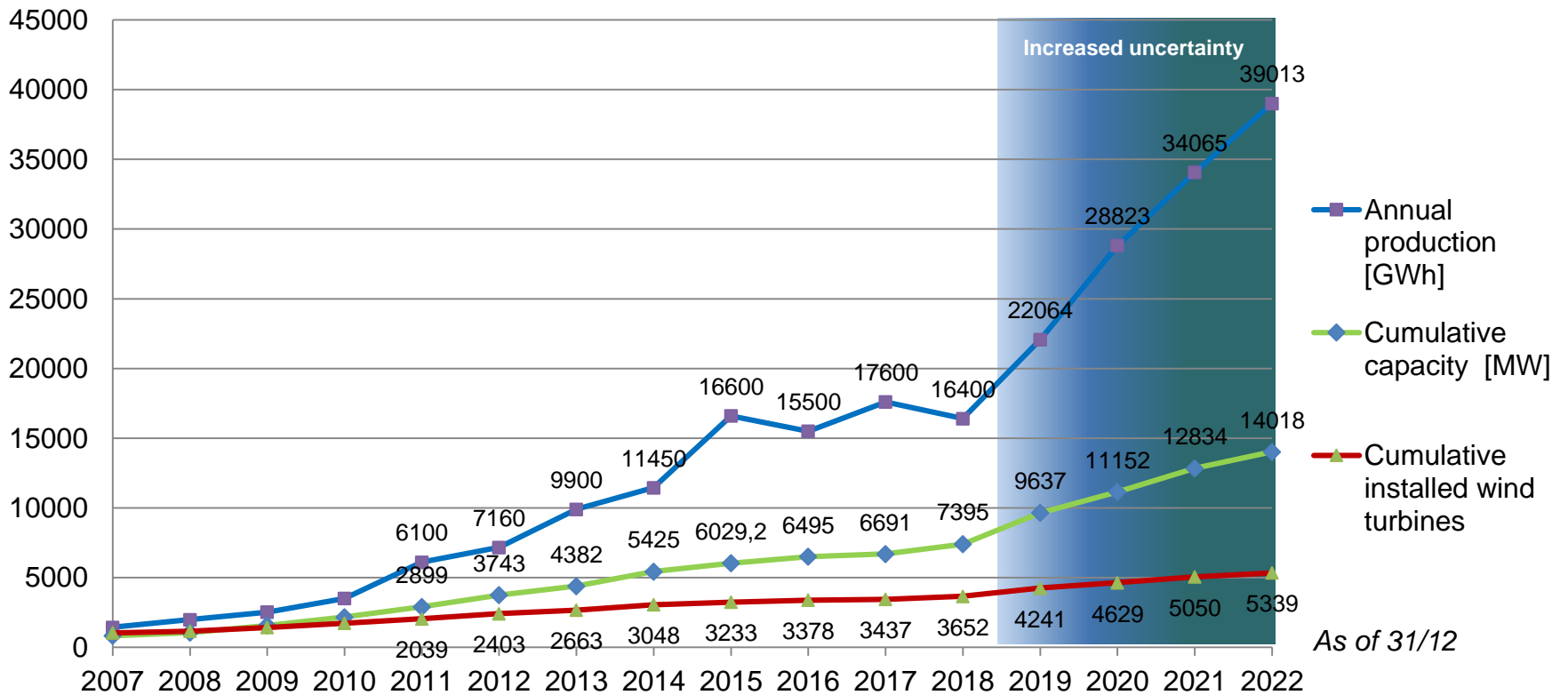


As of 31/12

Base case

This scenario is the most realistic and official forecast of Svensk Vindenergi

Actual and forecast



As of 31/12

Assumptions

Part of wind power project portfolio capacity expected to be realized within given time frame depending on scenario (approximate figures)

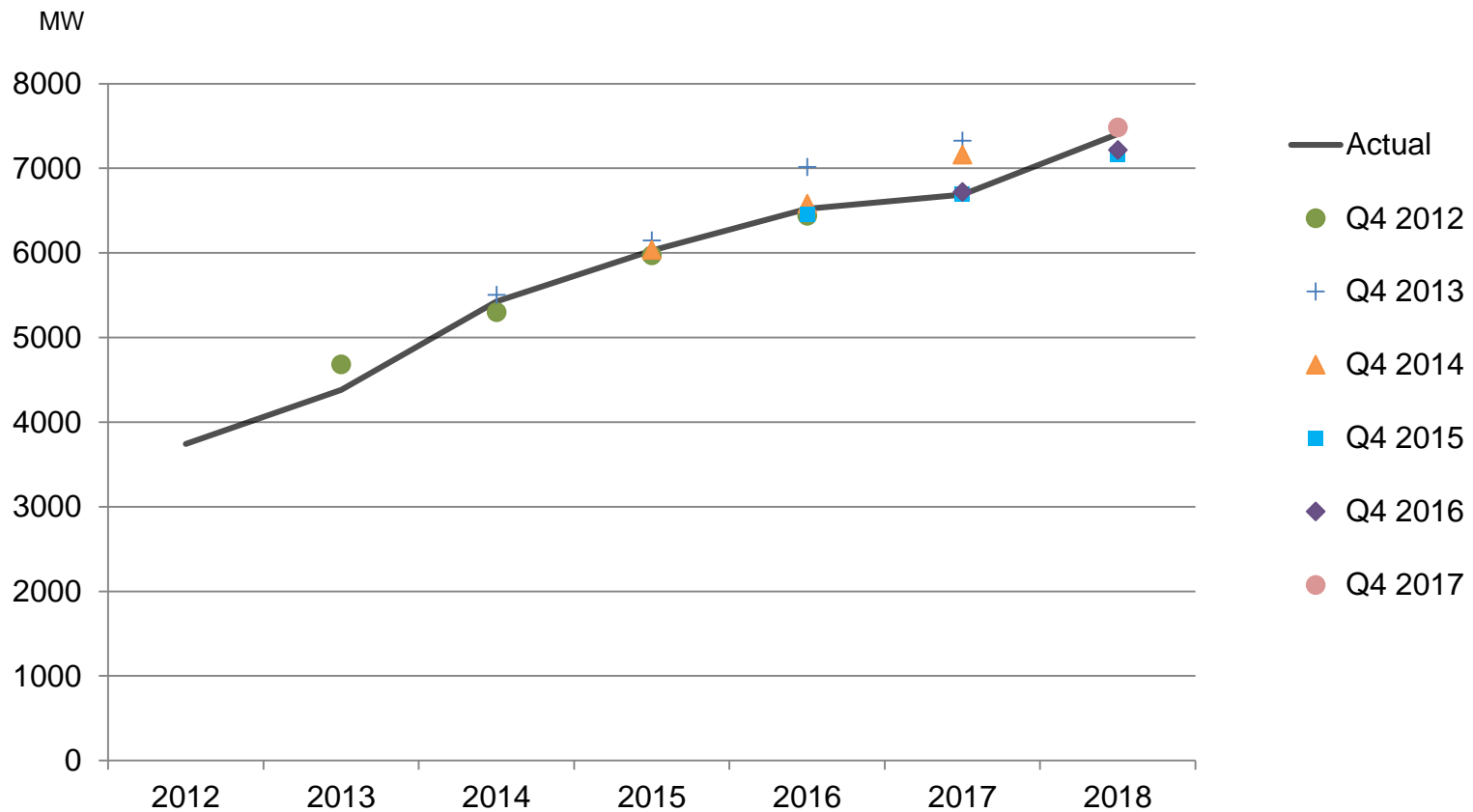
| Status | High | Base ** | Low |
|-------------------------|-------|---------|------|
| Under construction | 100 % | 100 % | 95 % |
| Permitted * | 30 % | 20 % | 0 % |
| In permission process * | 15 % | 10 % | 0 % |

* Only onshore wind power are expected to be built.

** The base case reflects a possible scenario based on an assessment of current and future market conditions.

Follow up

Previous forecasts and actual installed wind power capacity



Follow up

Previous forecasts and actual annual wind power production

