

# Statistics and forecast

This is quarterly statistics and forecast covering data from turbine manufacturers and wind power developers acting on the Swedish market (estimated 100 percent respectively 95 percent of the total Swedish market)

Q4 2016

# Svensk Vindenergis statistics and forecast

- **The statistics** is 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 and future market situation.
- **Low case:** Only projects where turbine contracts (firm and uncondition) have been signed will be realized. In this scenario no further investment decisions are to be made, hence this scenario defines the lower limit of wind power growth in Sweden.
- **Base case:** Projects with signed turbine contracts and additional projects with approximately 10 percent of permitted projects and 5 percent of projects under permission process will be realized. This is the most realistic scenario and is the official forecast.
- **High case:** Project with signed turbine contracts and additional projects with around 15 percent of permitted projects and 10 percent of projects under permission process will be realized. This scenario may be relevant in circumstances leading to higher prices for electricity and green certificates and sets the ceiling for growth of wind power in Sweden.

# Last year...

## Total by the end of 2015

Turbines: 3 233

Capacity: 6 029 MW

Annual production: 16,6 TWh \*

Annual production (estimated): 15,2 TWh \*\*

## Added capacity in 2016

1st quarter: 178 MW

2nd quarter: 131 MW

3rd quarter: 103 MW

4th quarter: 81 MW

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**Total: 493 MW**

## Decommissioned capacity during 2016

**- 2 MW**

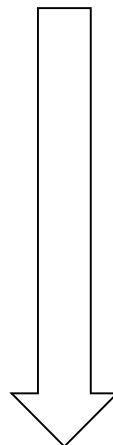
## Total by the end of 2016

Turbines: 3 386

Capacity: 6 520 MW

Annual production: 15,4 TWh

Annual production (estimated): 16,7 TWh



\* Annual production is the actual 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.

# Installations in 2016

## Total by the end of 2016

Turbines: 3 386

Capacity: 6 520 MW

Annual production: 15,4 TWh \*

Annual production (estimated): 16,7 TWh \*\*

## Added capacity in 2016 (forecast)

1st quarter: 23 MW

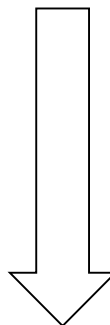
2nd quarter: 0 MW

3rd quarter: 171 MW

4th quarter: 7 MW

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**Total: 201 MW**



## Total by the end of 2017 (forecast)

Turbines: 3 451

Capacity: 6 721 MW

Annual production: 16,9 TWh

Annual production (estimated): 17,3 TWh

\* Annual production is the actual 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.

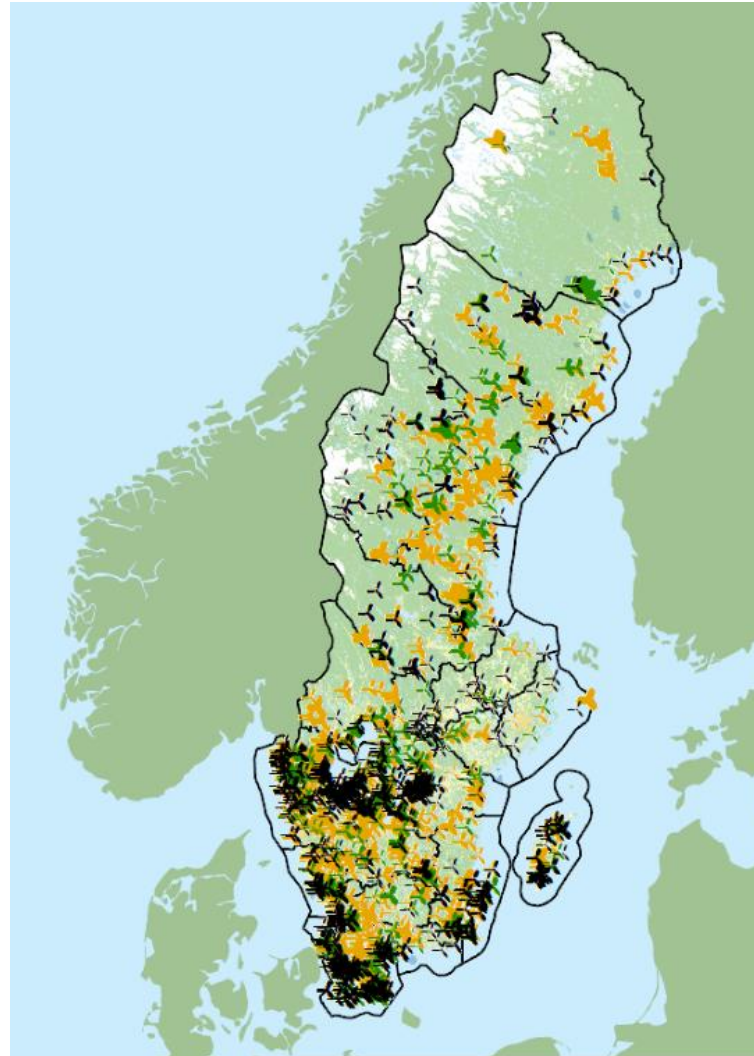
# Projectstatus by 2016-12-31

	<b>Onshore</b>	<b>Offshore</b>	<b>Total</b>	<i>Change Q3</i>
<b>In operation</b>				
Windturbines	3 312	74	3 386	(+21)
Capacity (MW)	6 330	190	6 520	(+79)
<b>* Under construction</b>	<b>Onshore</b>	<b>Offshore</b>	<b>Total</b>	
Windturbines	154		154	(+43)
Capacity (MW)	517		517	(+192)
<b>** Permitted</b>	<b>Onshore</b>	<b>Offshore</b>	<b>Total</b>	
Windturbines	2 838	503	3 341	
Capacity (MW)	8 778	2 267	11 045	
<b>** In permission process</b>	<b>Onshore</b>	<b>Offshore</b>	<b>Total</b>	
Windturbines	2 817	275	3 092	
Capacity (MW)	8 233	925	9 158	

\* Firm and unconditional turbine order based on investment decisions

\*\* Estimations

# Geographical spread



## Installed

— Uppfört

## Approved

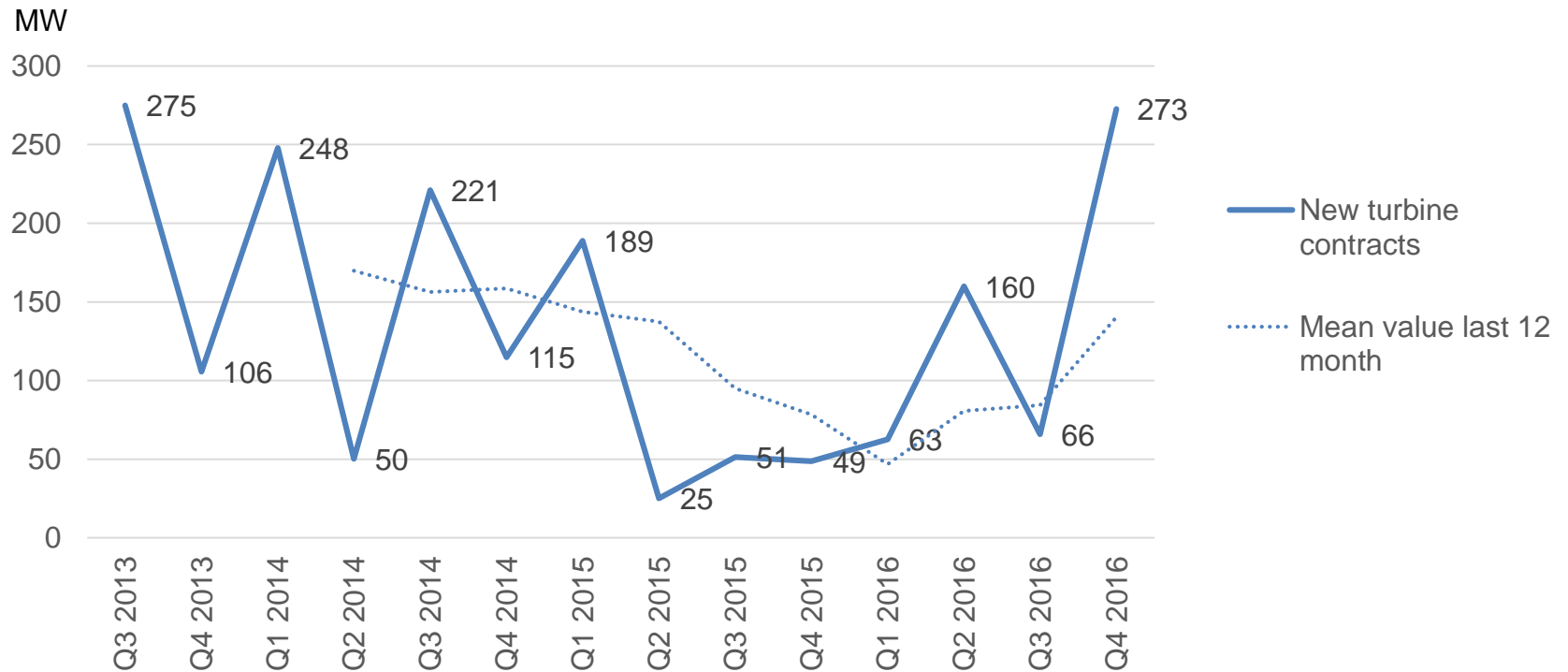
— Beviljat

## In permitting process

— Handläggs

Source: Vindbrukskollen

# New turbine contracts (firm and binding)



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

# Order books

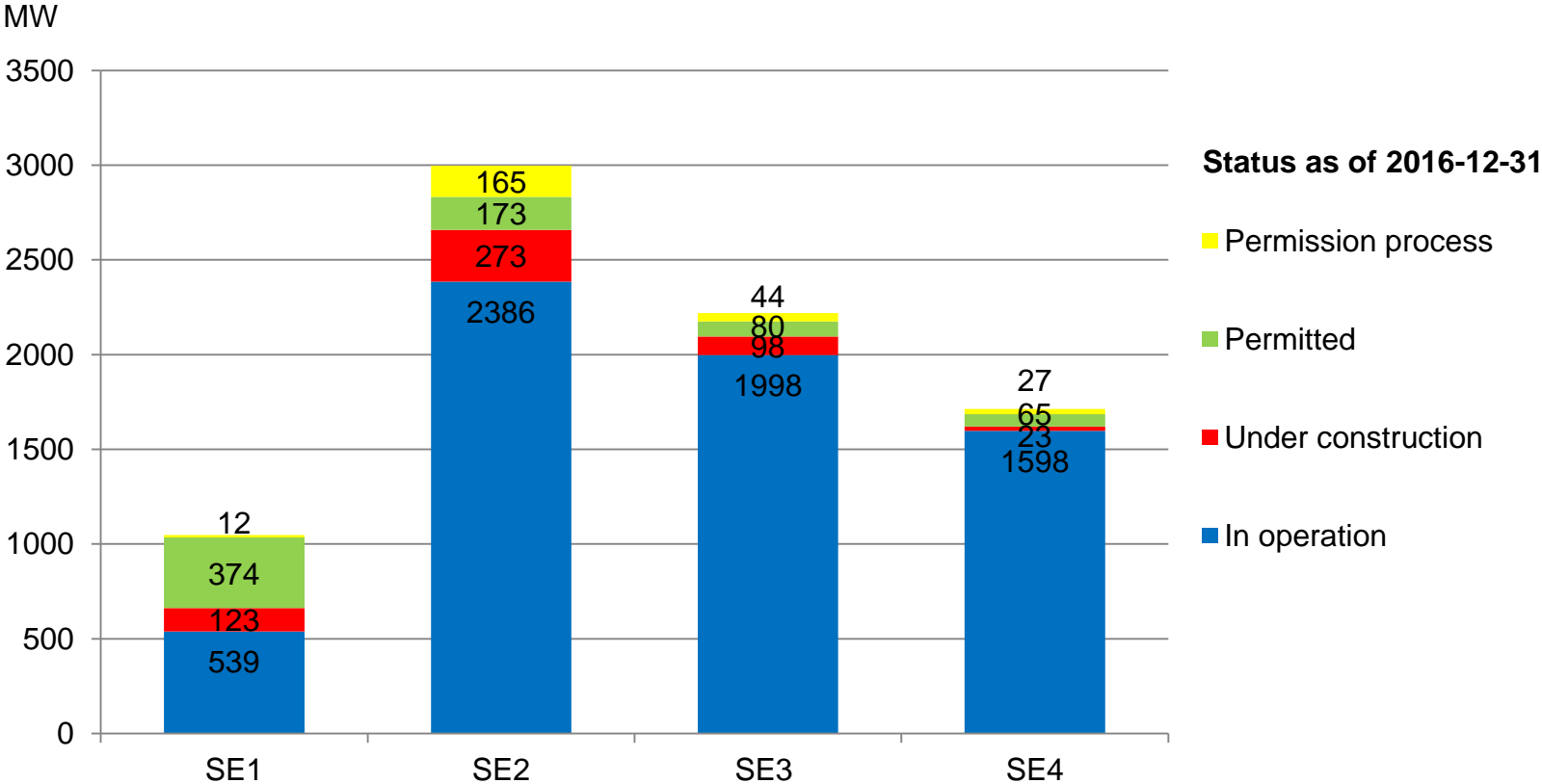
Time plan according to turbine manufacturers for wind power installations during year(MW) \*

2016	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2017 (Tot)	2018
493	23	0	171	7	201	316

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

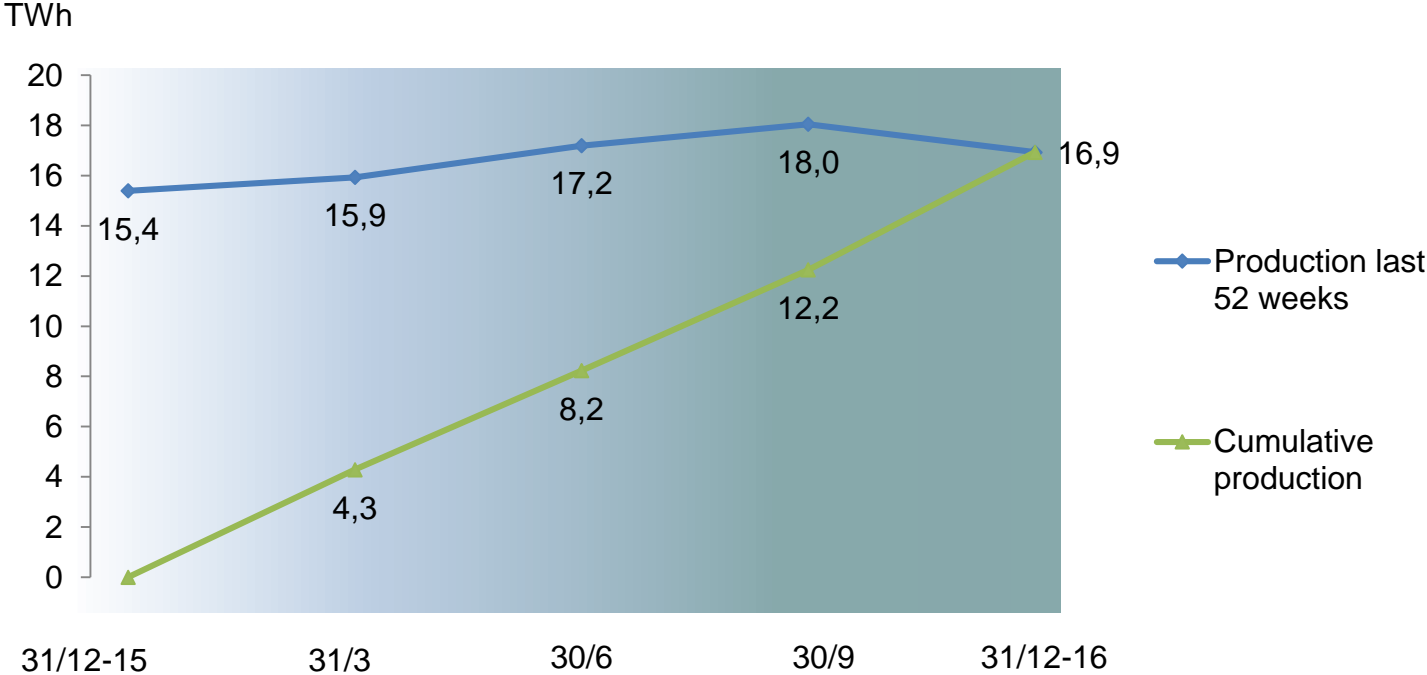


# Installed capacity by pricing area (base case)



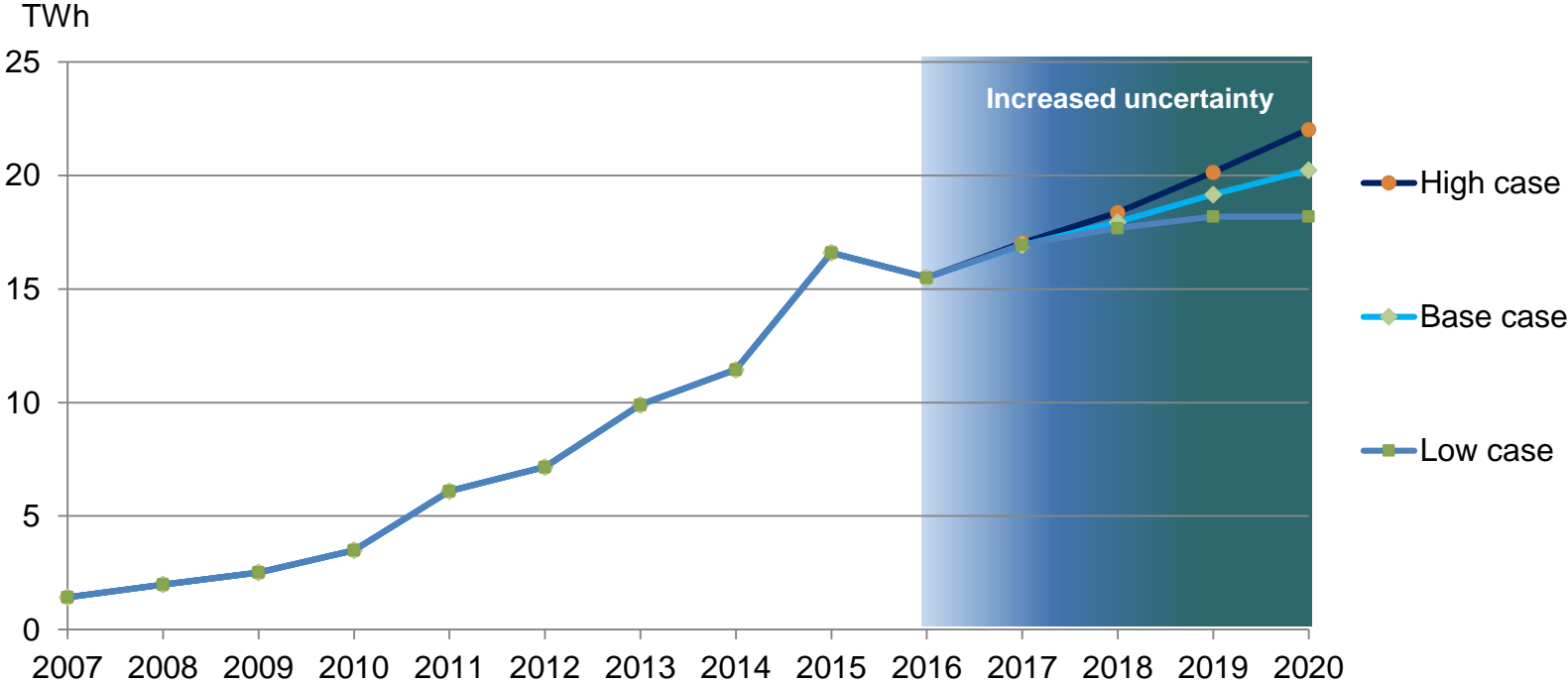
# Wind power production 2016 (forecast)

Actual and forecast



# Wind power production – different scenarios

Actual and forecast

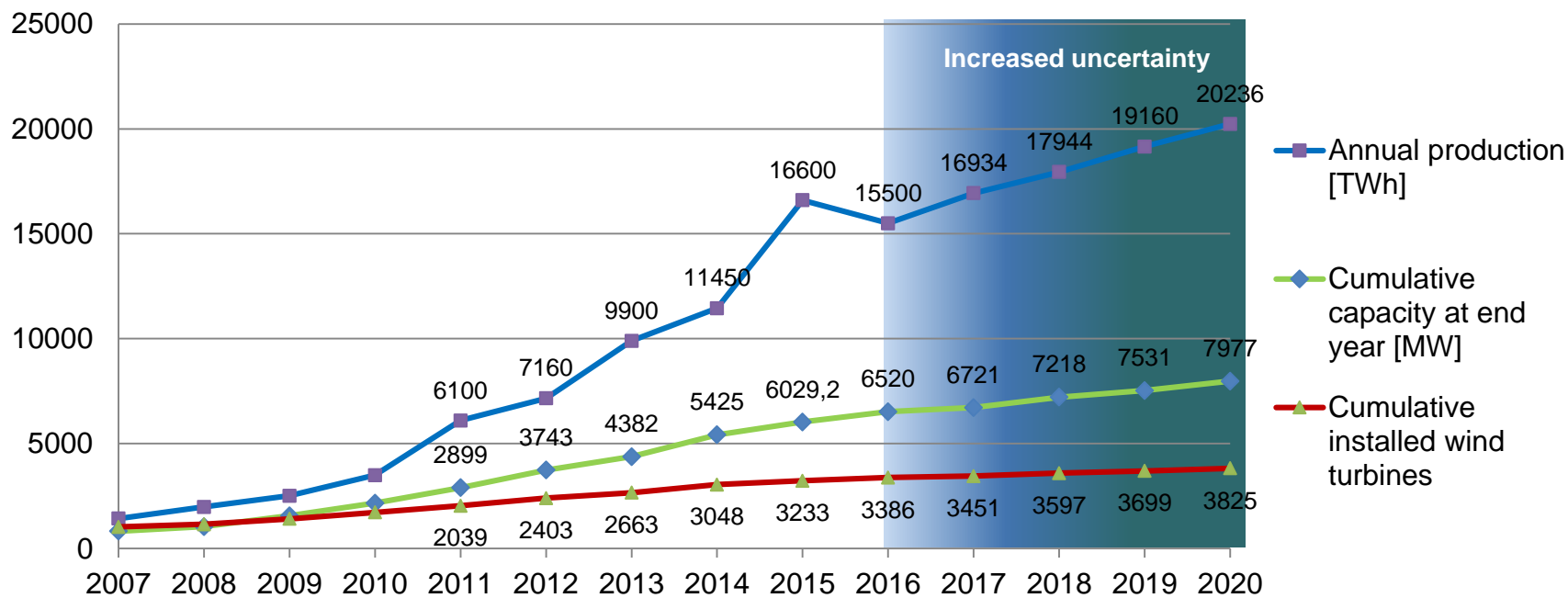


Per 31/12 varje år

# 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 capacity expected to be realized within given time frame depending on scenario (approximate figures)

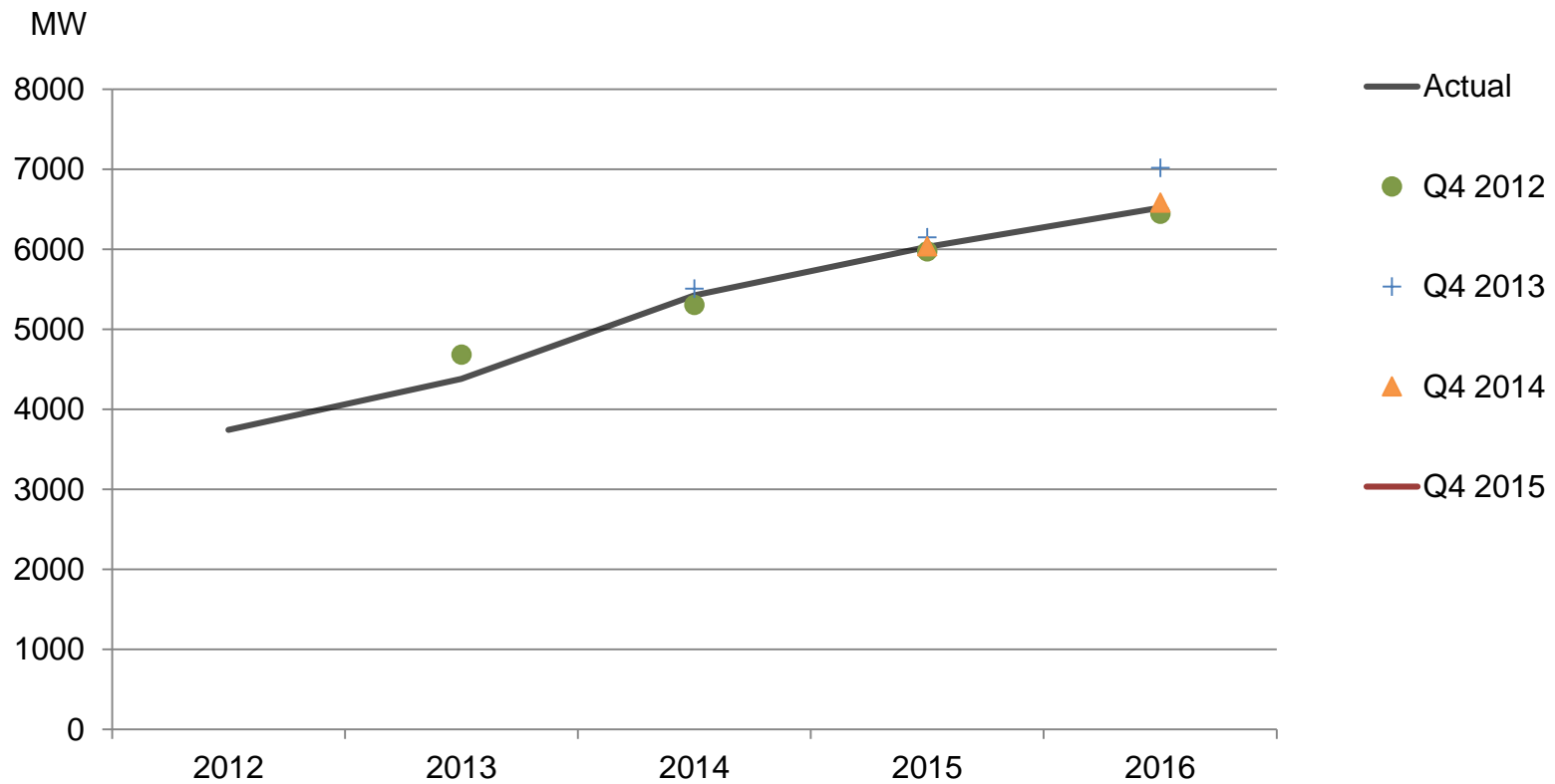
Status	High	Base **	Low
Under construction	100 %	100 %	95 %
Permitted *	15 %	10 %	0 %
In permission process *	10 %	5 %	0 %

\* 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 wind power production

