1:st quarter 2022

Swedish wind power market

Statistics and forecast

Swedish Wind Energy Association

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

SWEA, Swedish Wind Energy Association - Svensk Vindenergi

2022-04-30

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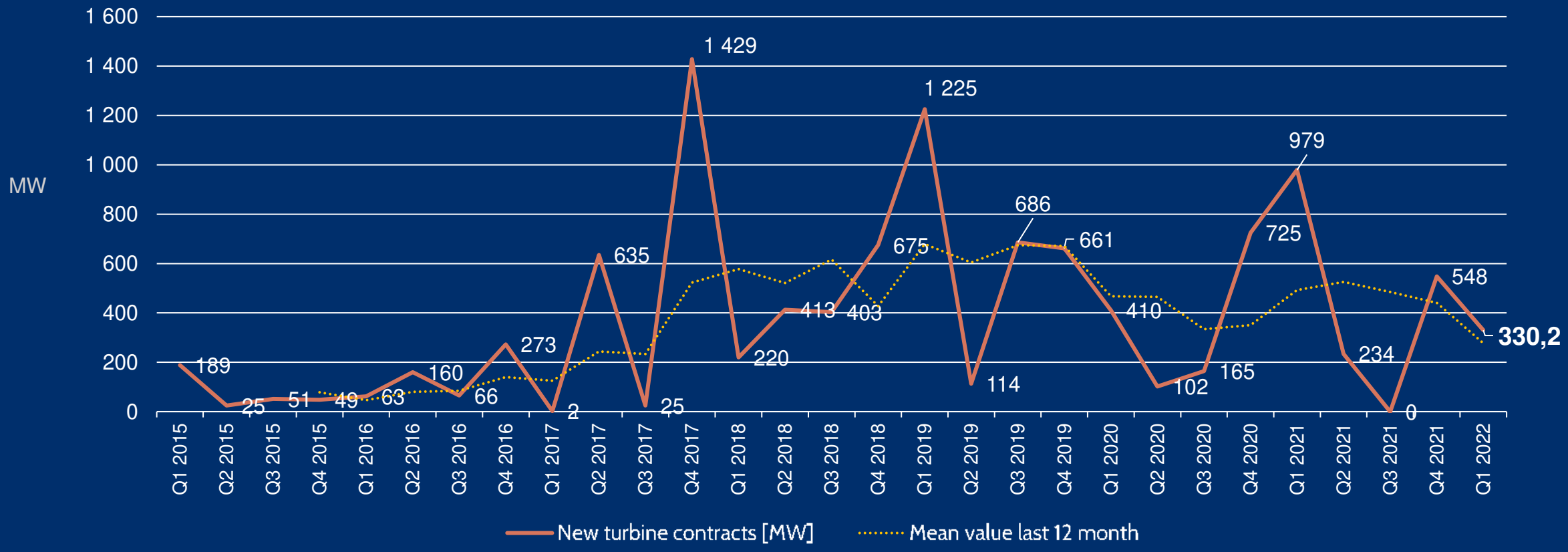
Turbine contracts per quarter

330 MW of new tubine orders were signed in the 1:st quarter of 2022.
Compared with the 1:st quarter average of 633 MW for the last 5 years that is a 48% down.



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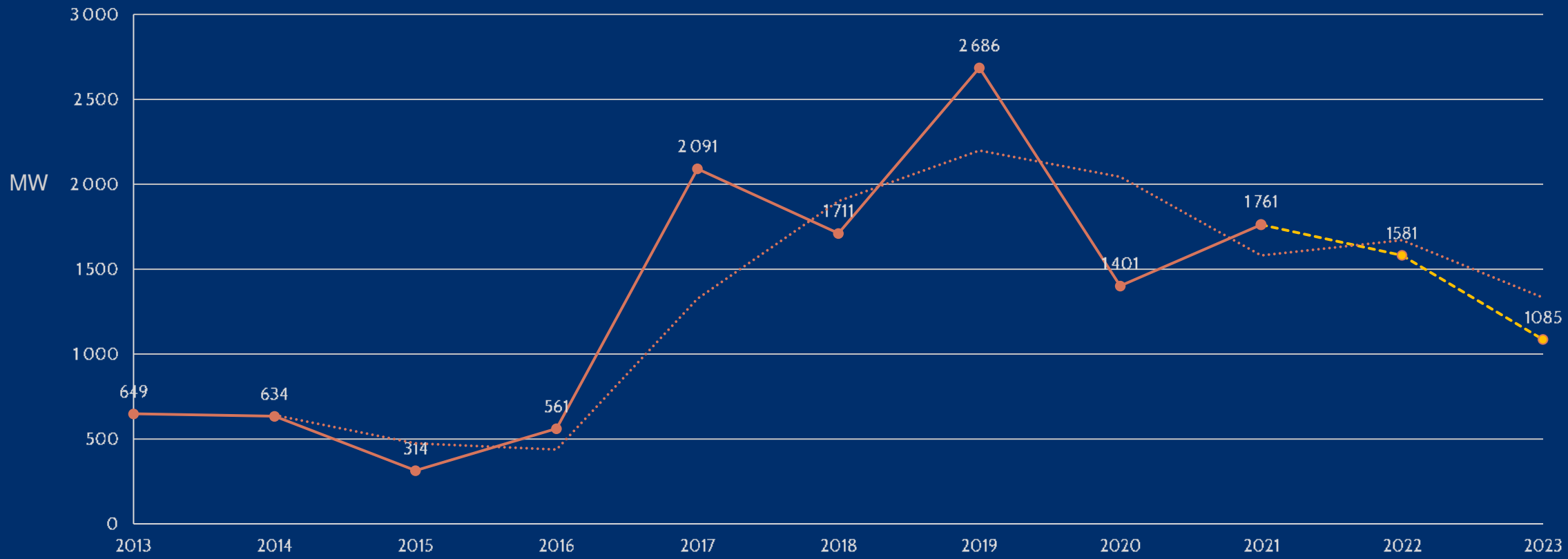
Annual wind power market in Sweden

The swedish market continue to attract investments, but is forecasted to decrease due to lack of projects. Turbines are normally comissioned 1-2 years after sales are reported.



Graph including periodic mean value (thin scattered line). Numbers for 2022, 2023 (yellow) are estimates

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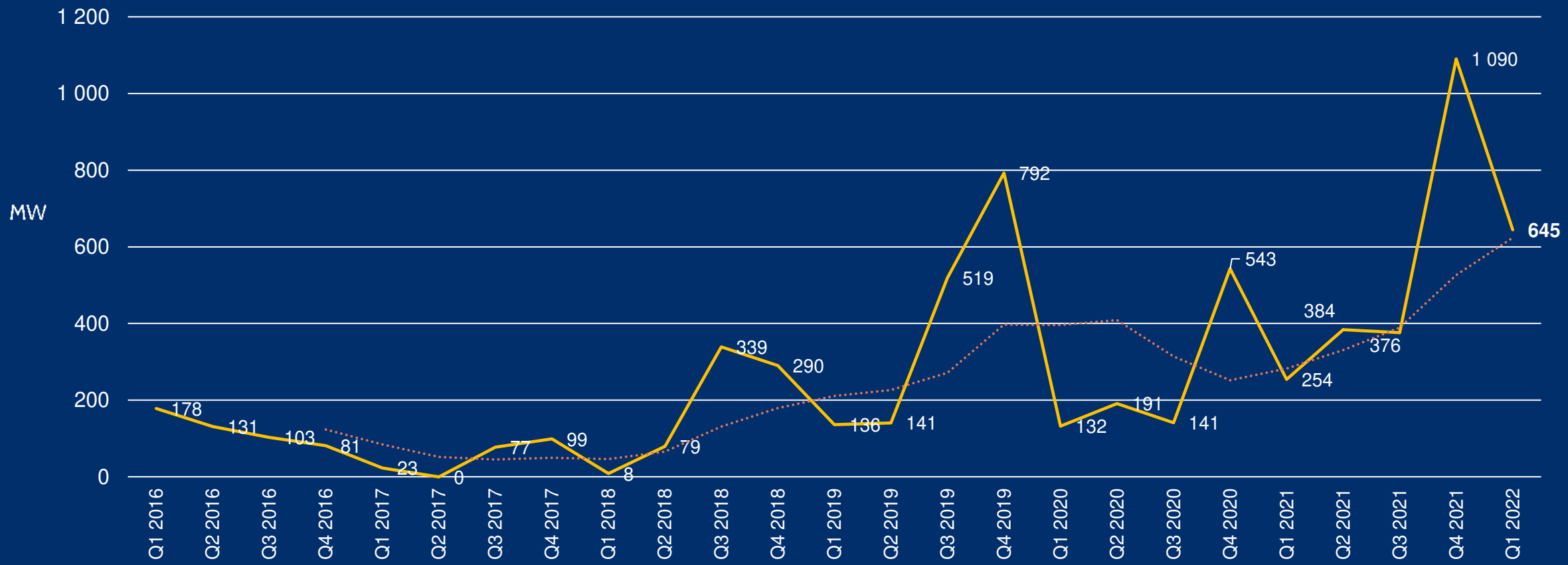
Comissioning per quarter [MW/quarter]

Commissioning soared to a new record 1:st quarter high of +600 MW. The OEMS are aiming sky high for the record number of 2400 MW for 2022. Decomission is not measured and considered negligible.



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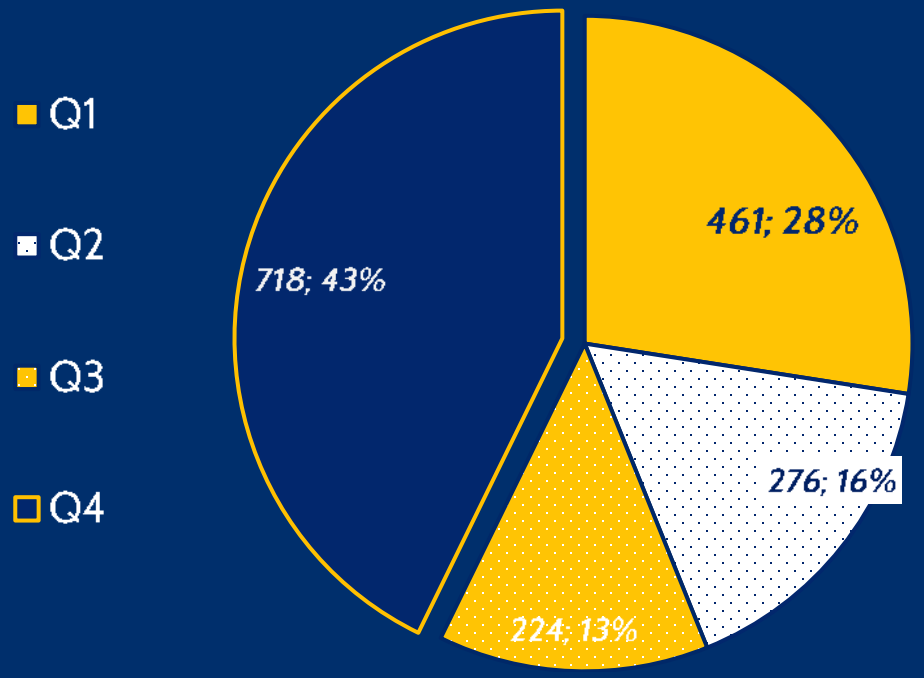
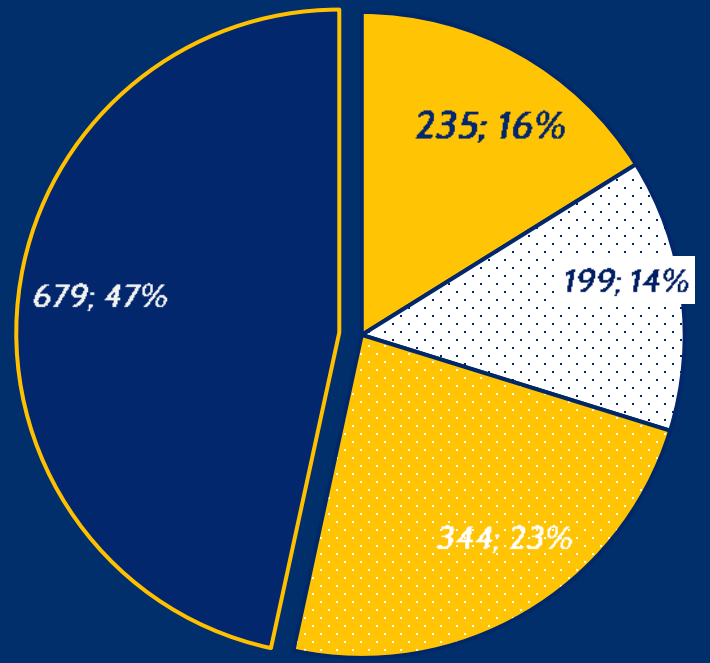
Turbine contracts vs comissioning [MW] average 2016-2021

First quarter is normally slow in terms of comissioning but strong in terms of sales. 1Q 2022 deviates from that trend. When, over time, comissioning is higher than sales, policy measures to promote project development are neded.

Turbine contracts [MW] average and share per quarter on the Swedish market (2016-2021)



Comissioning and share per quarter on the Swedish market (2016-2021)



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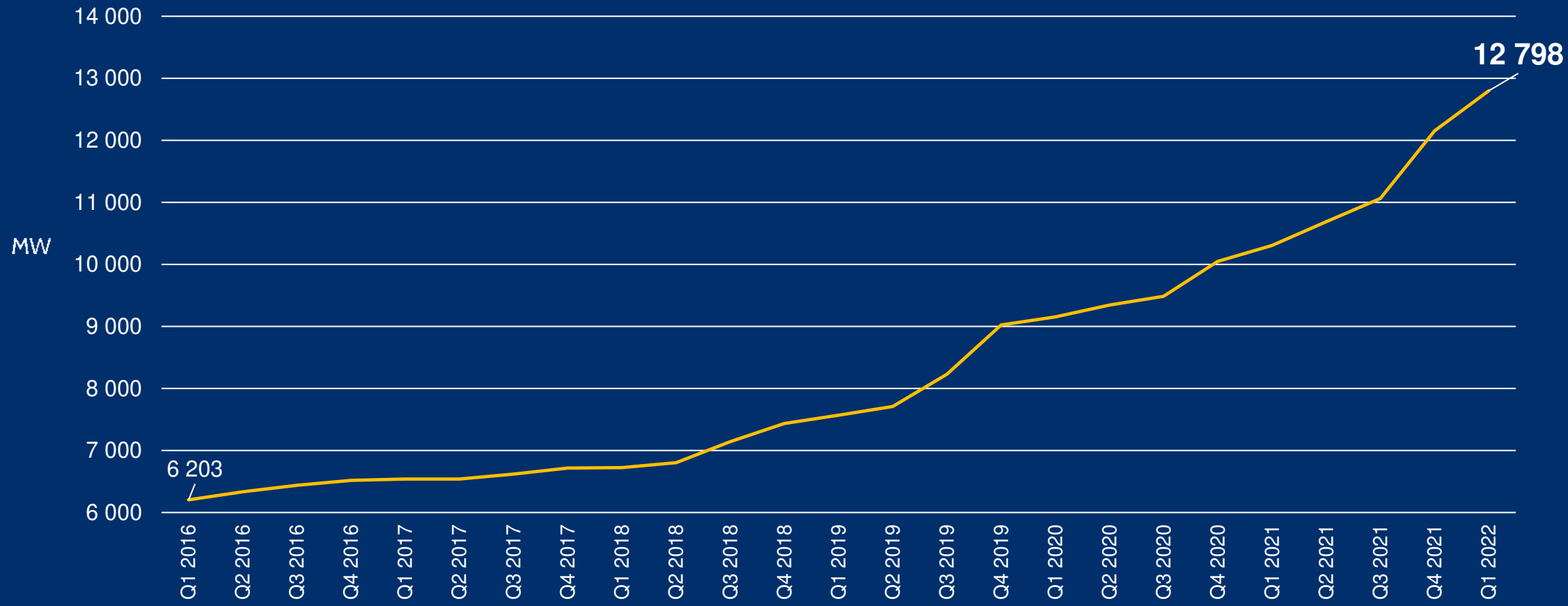
Aggregated comissioning
– and total wind power capacity in Sweden



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Scheduled comissioning
– record high scheduled comission for 2021 and 2022

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

2021	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2022 (Tot)	2023	2024
2013	645	510	641	618	2414	1651	799
				Difference since last quarter:	--*	-- *	--*

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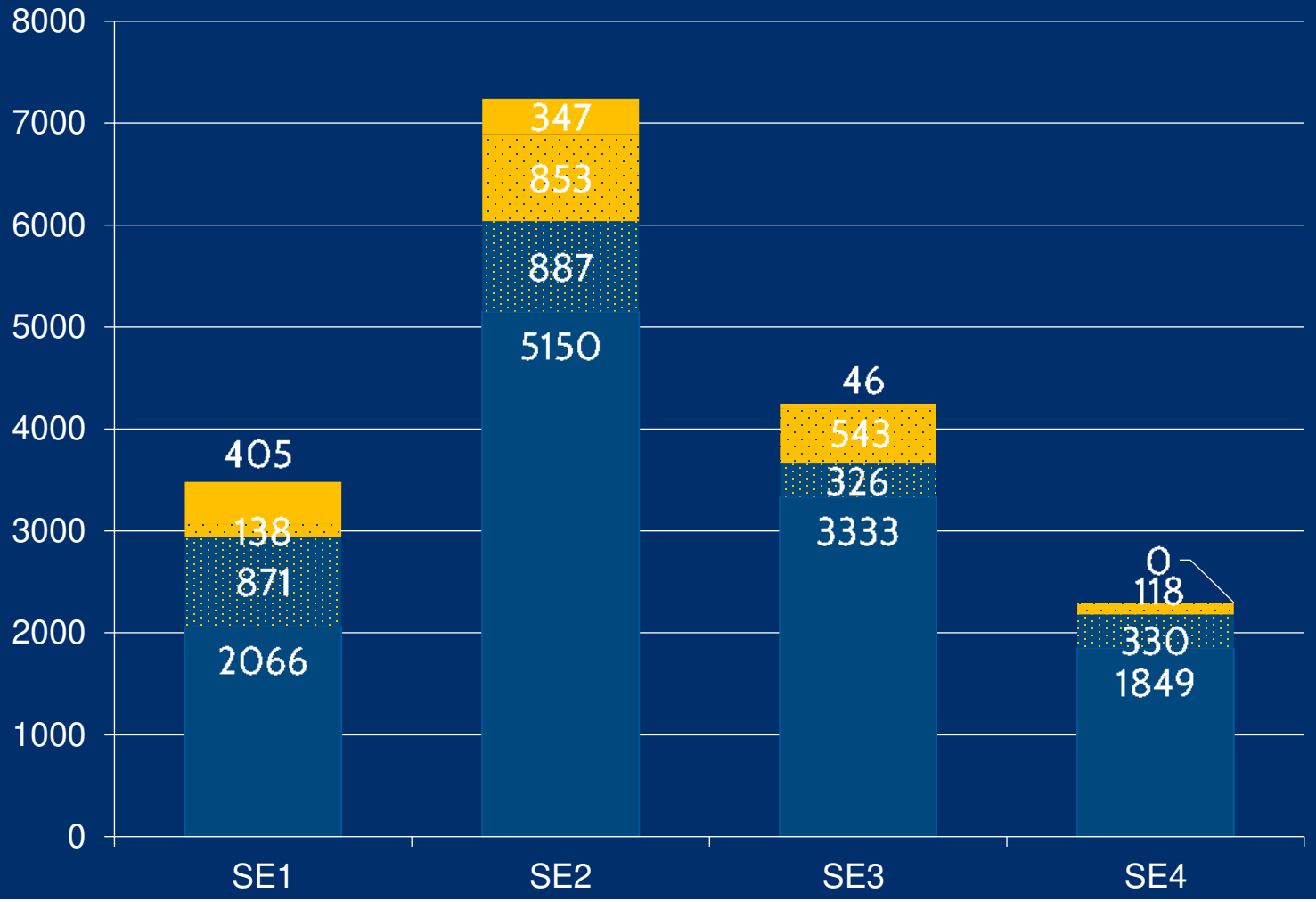
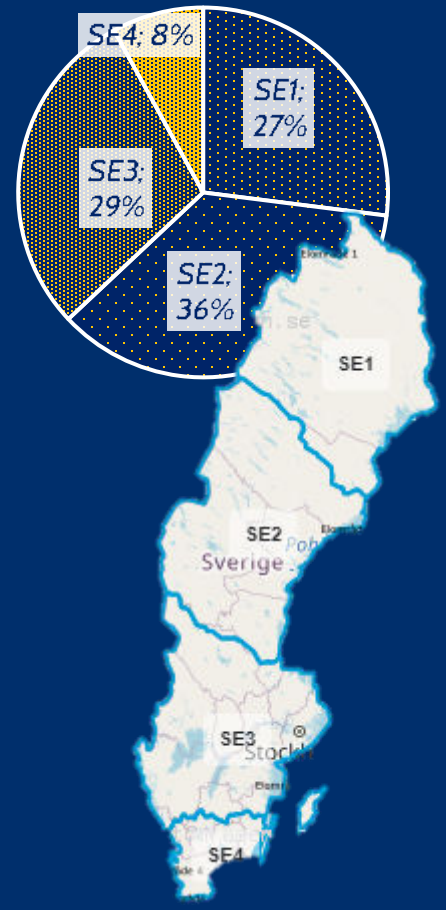
Bidding area break down of scheduled comissioning [MW]

SE1 and SE2 has a bigger area and punches despite that somewhat above its size.



- Added 2024 (signed)
- Added 2023 (signed)
- Added 2022 (signed)
- In operation 31/12 2021

Estimated Bidding-zone-area of total land area in Sweden [% of 450 000 km2]



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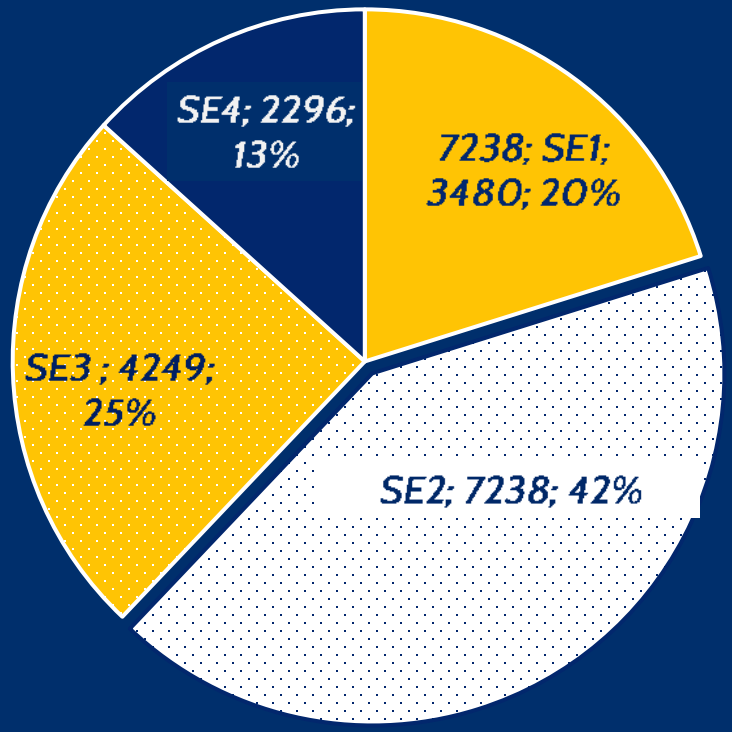
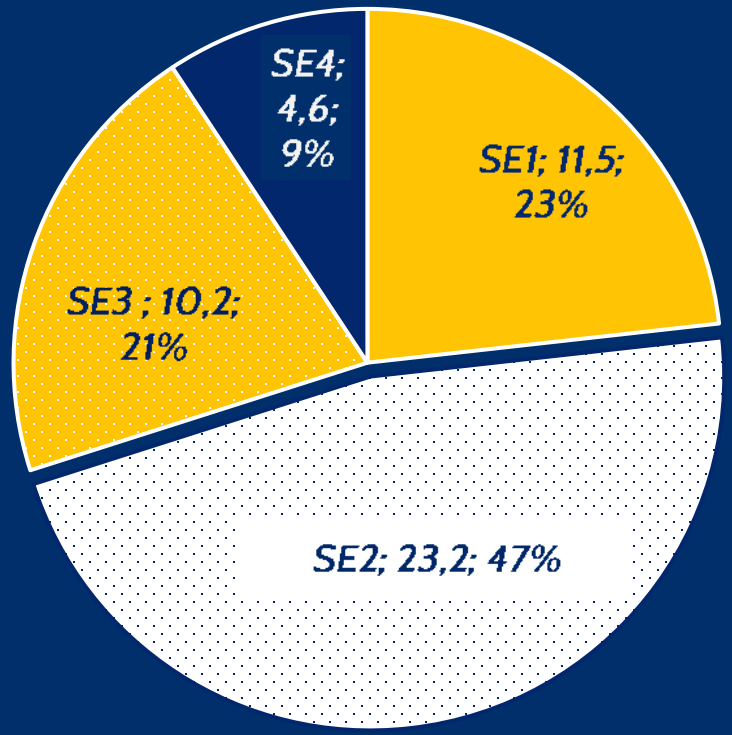
Capacity and electricity production from scheduled wind power per bidding area

Capacity [MW] when scheduled installations are finished



Estimated production [TWh] when scheduled installations are finished. Utilisation factor differs based on average comissioning-year



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Short term forecast, 2022-04-30

- The capacity growth is at record high levels [8 TWh or 2500 MW per year]
- Investment pressure is high on permitted projects, even older projects in SE3 and SE4.
- The rate of addition is likely to slow down after 2024, due to lack of permits, if not the situation with permits is changed.
- Towards 2025; the ackumulated installed wind power is likely reaching 18 000 MW, with actual production reaching above 50 TWh and normal year production of about 52 TWh, making wind power the second largest source of power in Sweden.
- The short term forecast is based on investment descisions and an estimation of buildable projects and new projects based on the permitting situation.

Short term forecast, 2022-04-30

Figures may differ from other scources. E.g.production for 2021 (27,5 TWh) is aligned with figures from svk/Energiföretagen figures but differs from Energimyndighetens regional wind power figures. Number of turbines and installed capacity differs from Energimydigheten records due to differences i method regarding definitions, frame and assumptions for decommisssioning.

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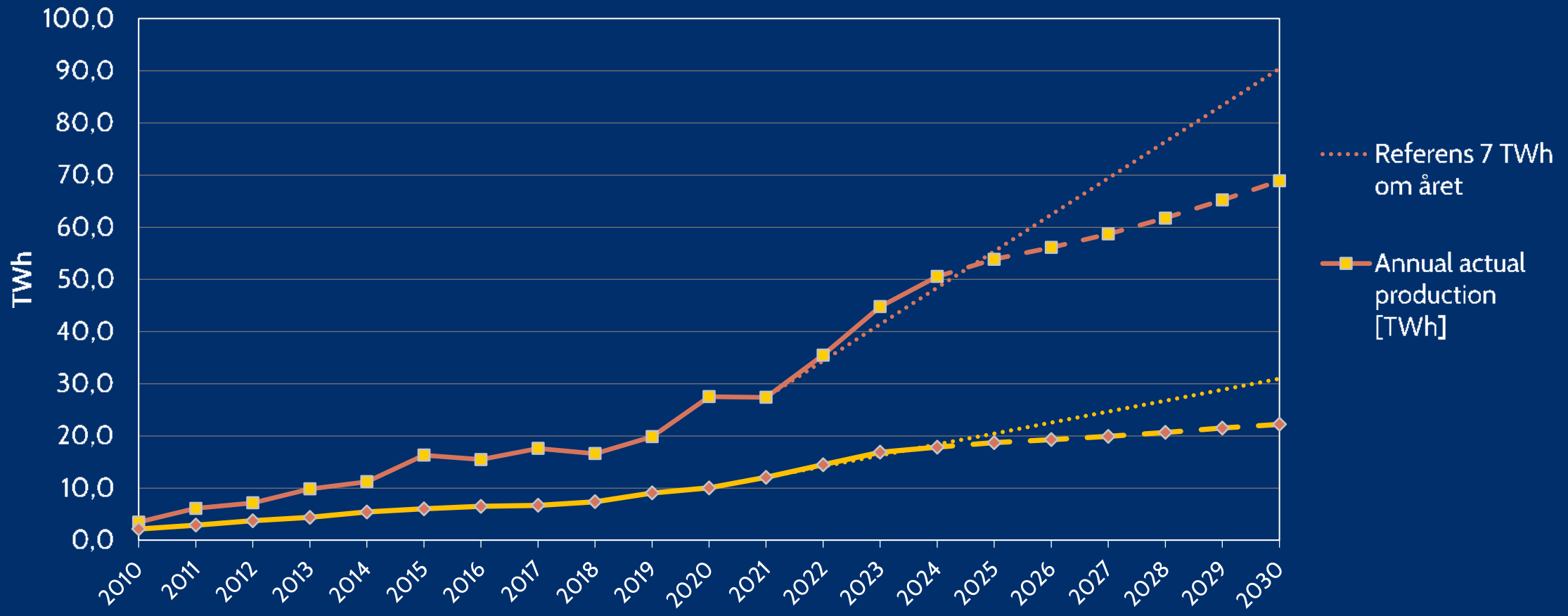
2030 long term forecast, 2022-02-08

- Three different scenarios; low, base and high
  - In Base, the future is based on estimation of success rate and lead time in todays project portfolio in permitting and consultation process. For future years there is an assumption of continuation of historical trend.
  - Stop-scenario is included as a reference, with no new sales after 2023 and no new comissioning after 2025
- Investment pressure is high on permitted projects, and getting higher, but without new permits, no investments can be made.
- The rate of addition is key to keep up electrification, hence the reference line at 6, 7, 8 TWh in figures.
- Lead times are up to 10 years for wind power, why actions in the past years are influencing market possition in the future.
- The capacity growth is during 2022-2023 at record high levels [7 TWh or +2 000 MW per year] but is likely to decreasing due to lack of buildable projects

Wind power production forcast – base scenario with reference line at 7 TWh

The near term growth ratio is not set to last without further policy actions.



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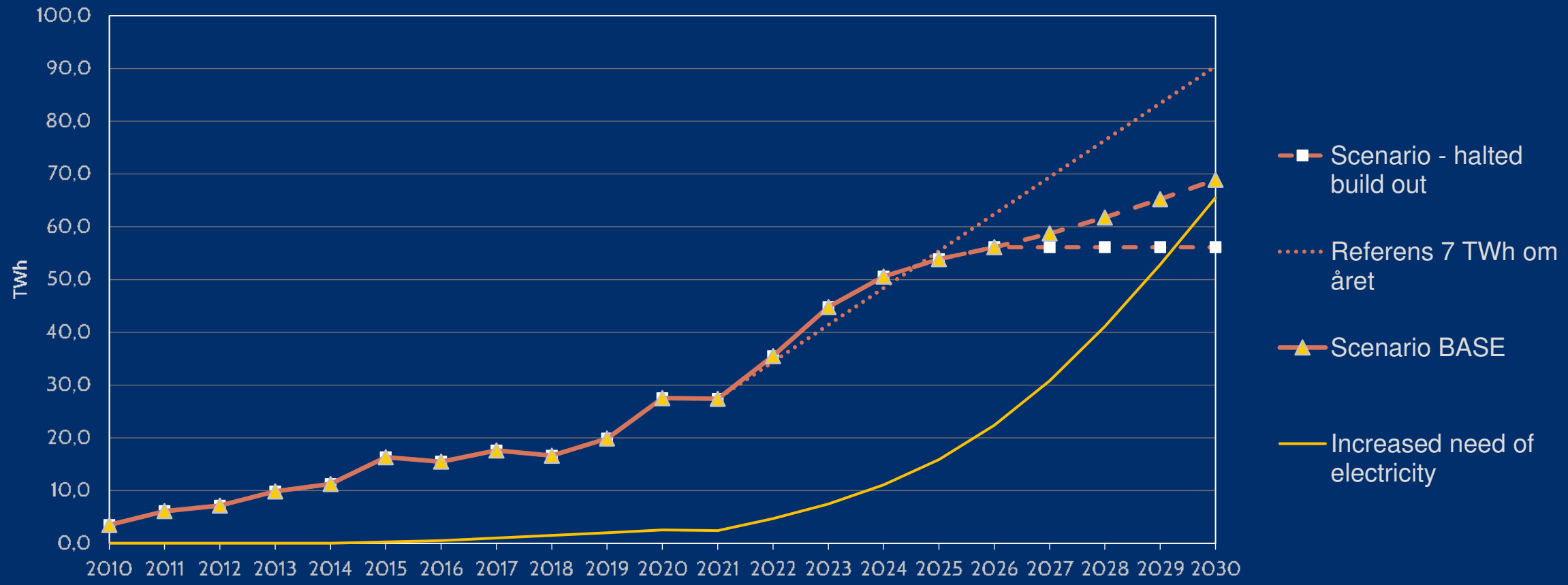
A halted wind power build out makes it hard to keep up export-levels, low electricity prices and meet the industries electricity demands towards 2030



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Theme: consultation process

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Comissioning is the last step and there are losses in each step...

Early asessment

- Basic conditions fulfilled. Wind rescource, grid, opposing interests

Consultation process

- Armed forces, Sapmi, Local interests, Nature, etc.

Environmental permit process

- Formal assessment of the environmental and societal aspects

Permit granted

- Going through the financing process. Is project competible?

Comissioning

- Turbines built and connected

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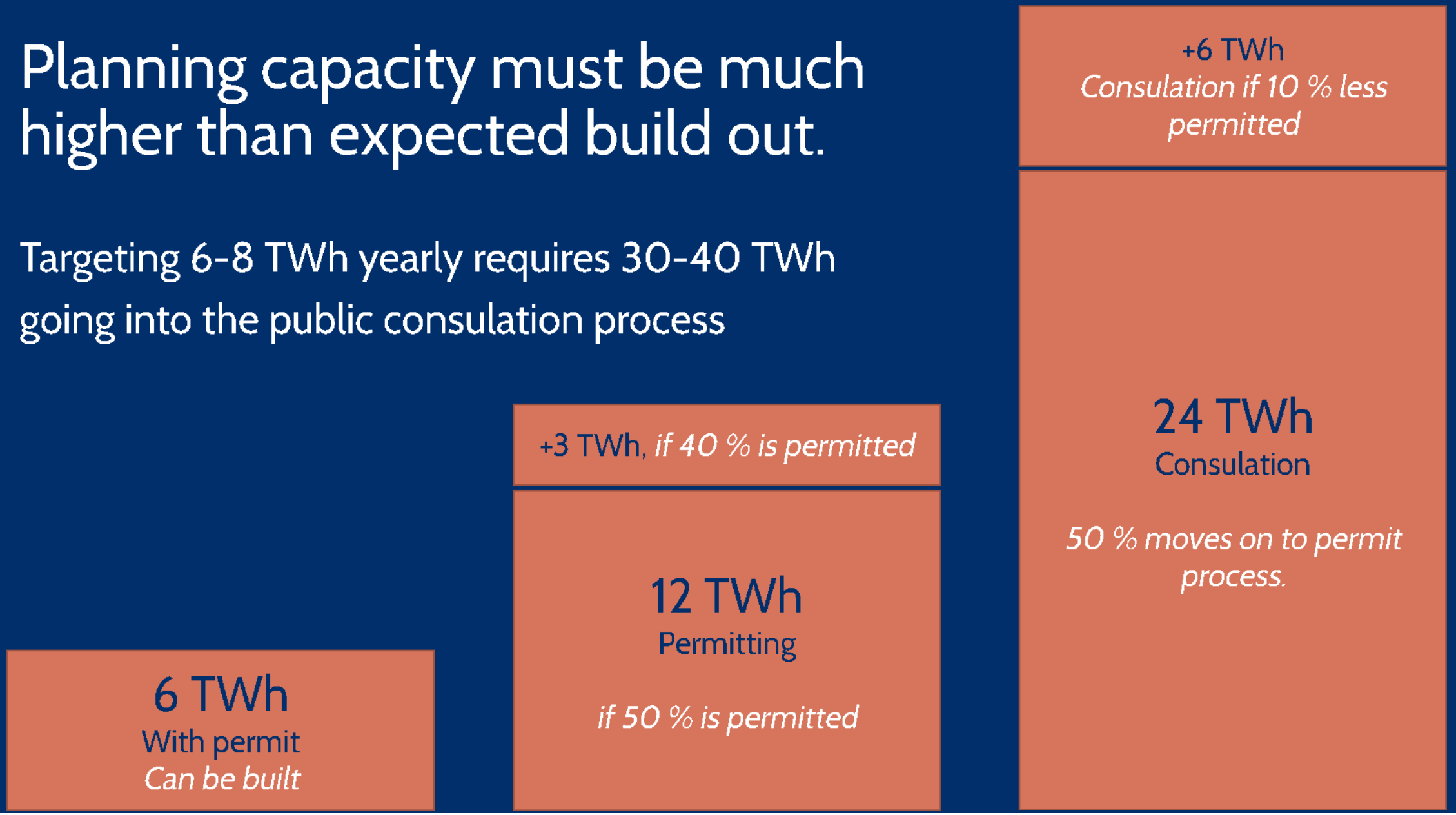
Planning capacity must be much higher than expected build out.

Targeting 6-8 TWh yearly requires 30-40 TWh going into the public consulation process



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