

3:rd quarter 2021

Statistics and forecast

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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

2021-10-20

Sumarize: Development 2021

Total by the beginning of 2021

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

Added capacity in 2021

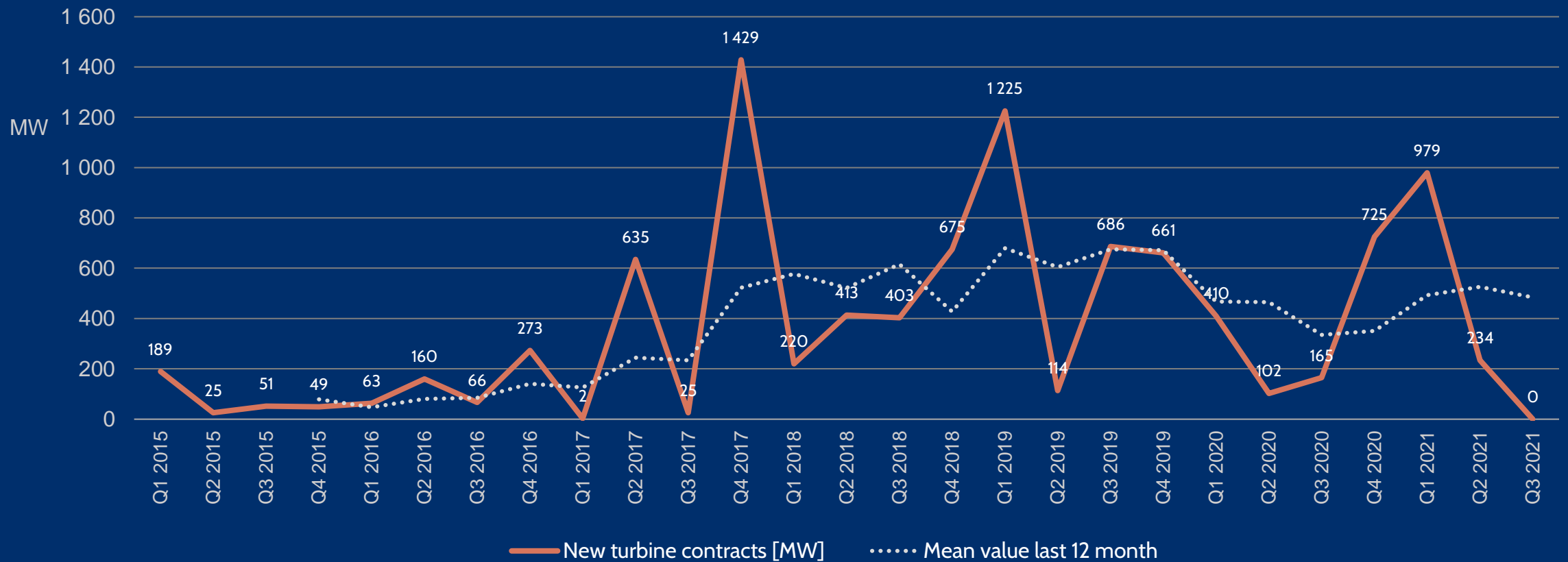
Total	2,22	GW
Turbines	608	Pcs
Annual normal production from added turbines	7,2	TWh
1:st year contribution from turbines added 2021**	2,3	TWh
1:st year utilisation of added capacity	32%	
Wind index so far 2021:	91	

Total by the end of 2021 – forecast

Turbines	4864	Pcs
Capacity	12,3	GW
Estimated actual production***	28,6	TWh
Annual normal production	33,4	TWh

Turbine contracts per quarter

No new turbine contracts were signed in the 3:rd quarter 2021. In total, 1,2 GW has been contracted so far during 2021, compared with the average of 2 GW annually for the last years.

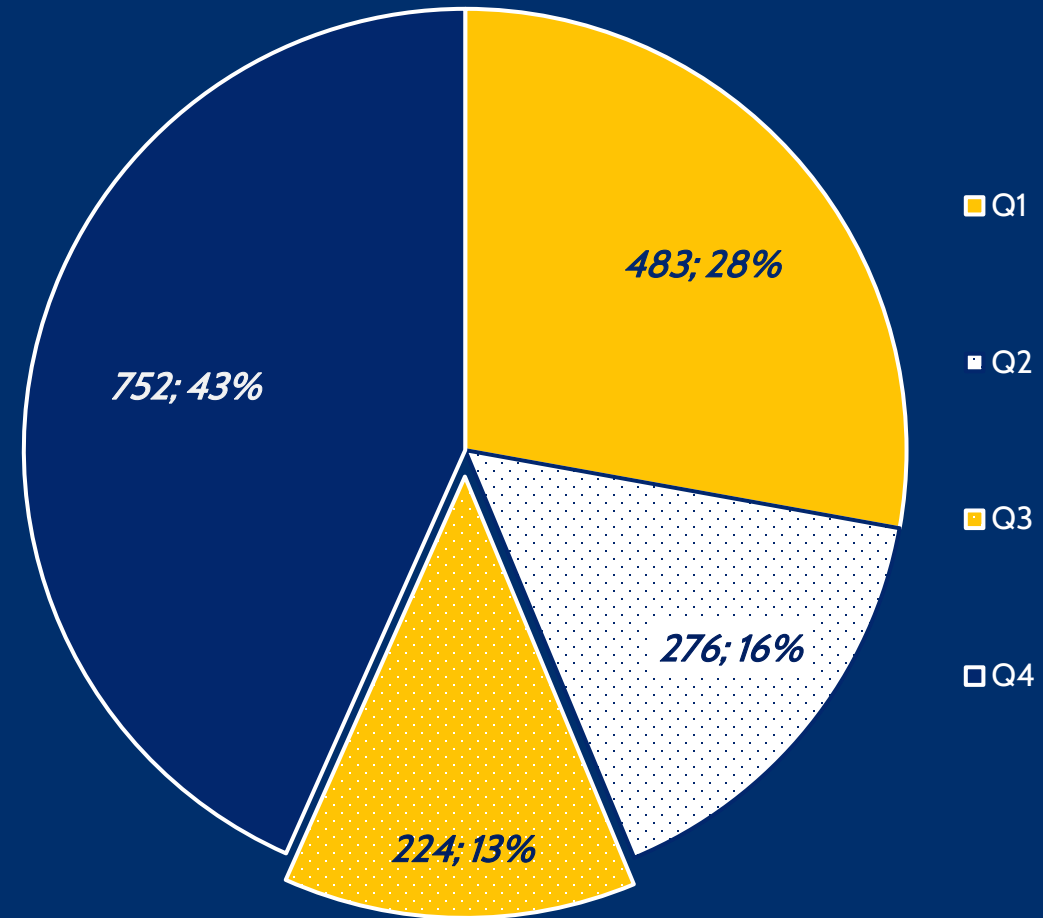


Turbine contracts [MW]

- share of orders signed per quarter (2016-2021)

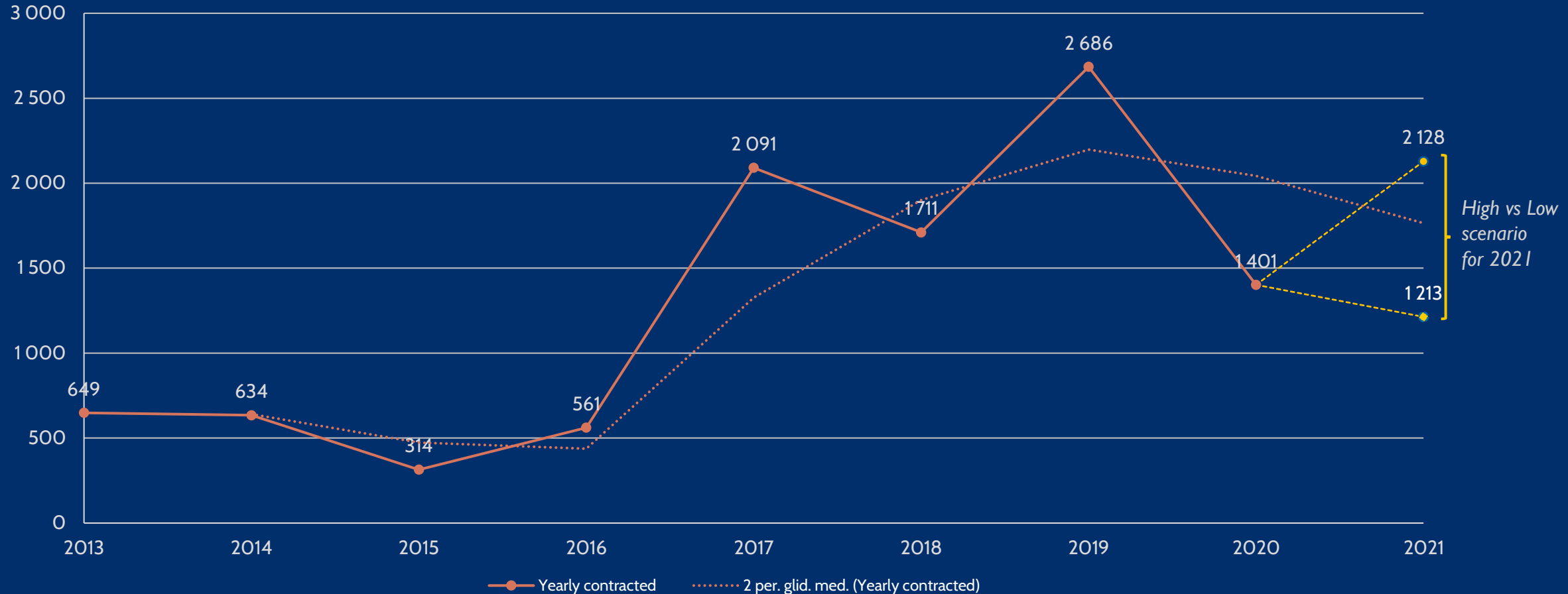
Why are there the Q3 numbers 2021 so low?

- Q3 is normally the weakest quarter, due to vacations in the summer and companies aiming for closure in Q4*
- Hard to manage price risk due to extraordinary circumstances on energy markets.
– long futures and EPADs become more expensive, even if fundamentals are the same.*
- This year, post covid effects on supply chains, e.g. transportation, raw materials or components have seen increasing costs. OEM has to absorb costs or add it on the turbine price tag*



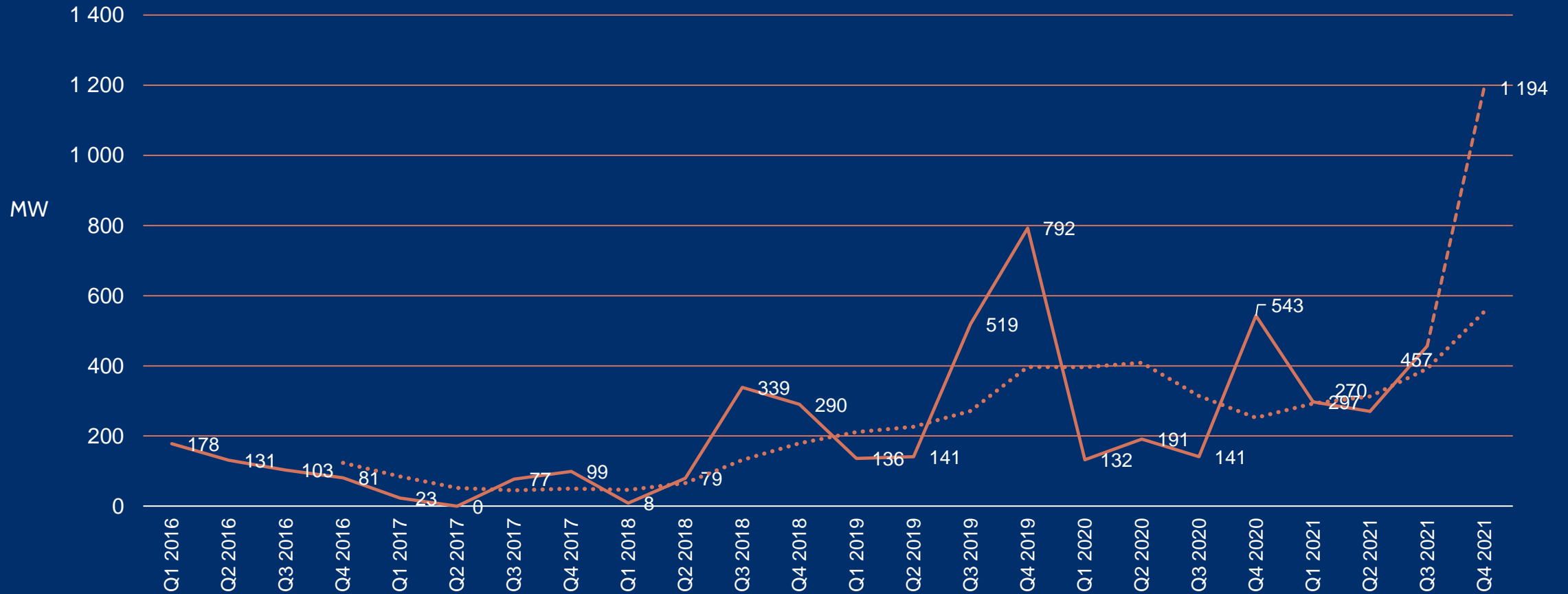
Annual wind power market

Turbine contracts, Sweden [MW]



Commissioning per quarter [MW/quarter]

Akkumulatet installerat kraft 1/10 2021 är 11 073 MW



Comissioning

– record high scheduled comission for 2021 and 2022

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

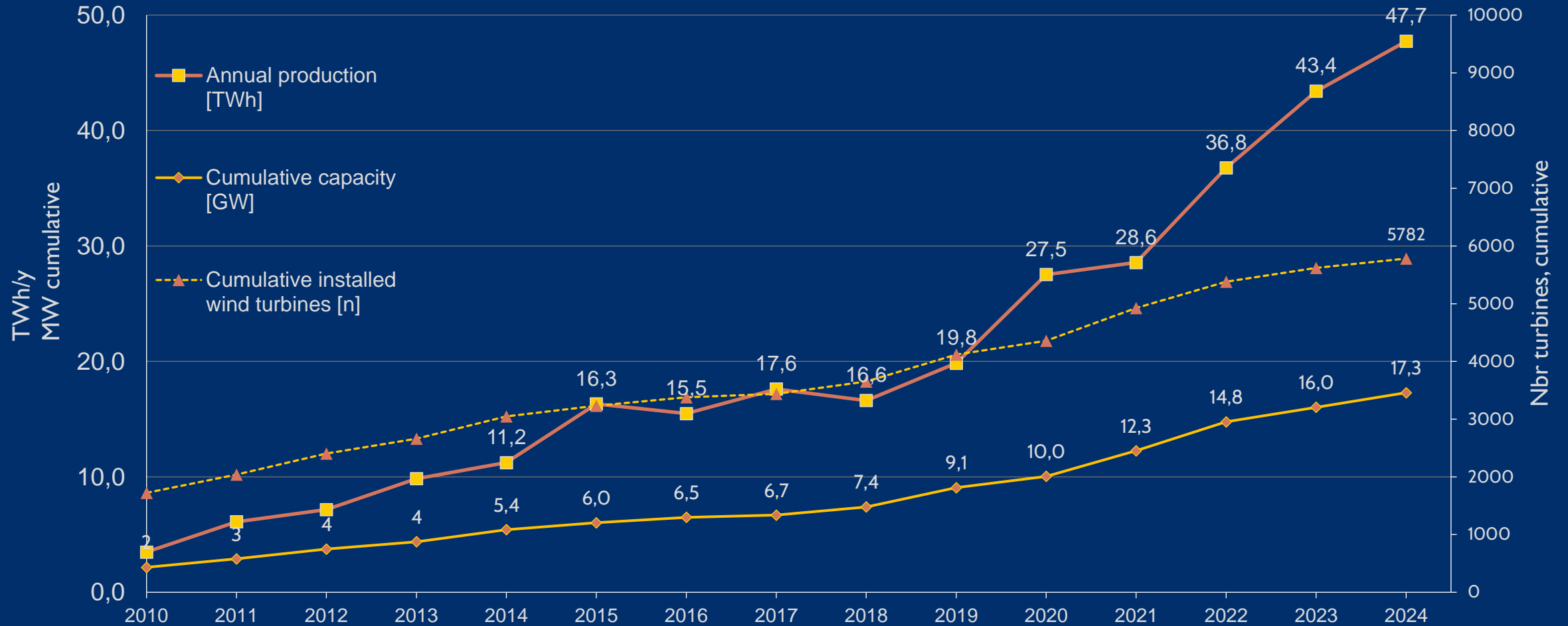
2020	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2021 (Tot)	2022	2023	2024	
988	297	270	457	1194	2218	2499	598	405	
					<i>Difference since last quarter:</i>	-501	+294 *	+216 *	+0

*When delayed, turbine ratings may change, why sum is not always "0"

Short term forecast, 2021-10-20

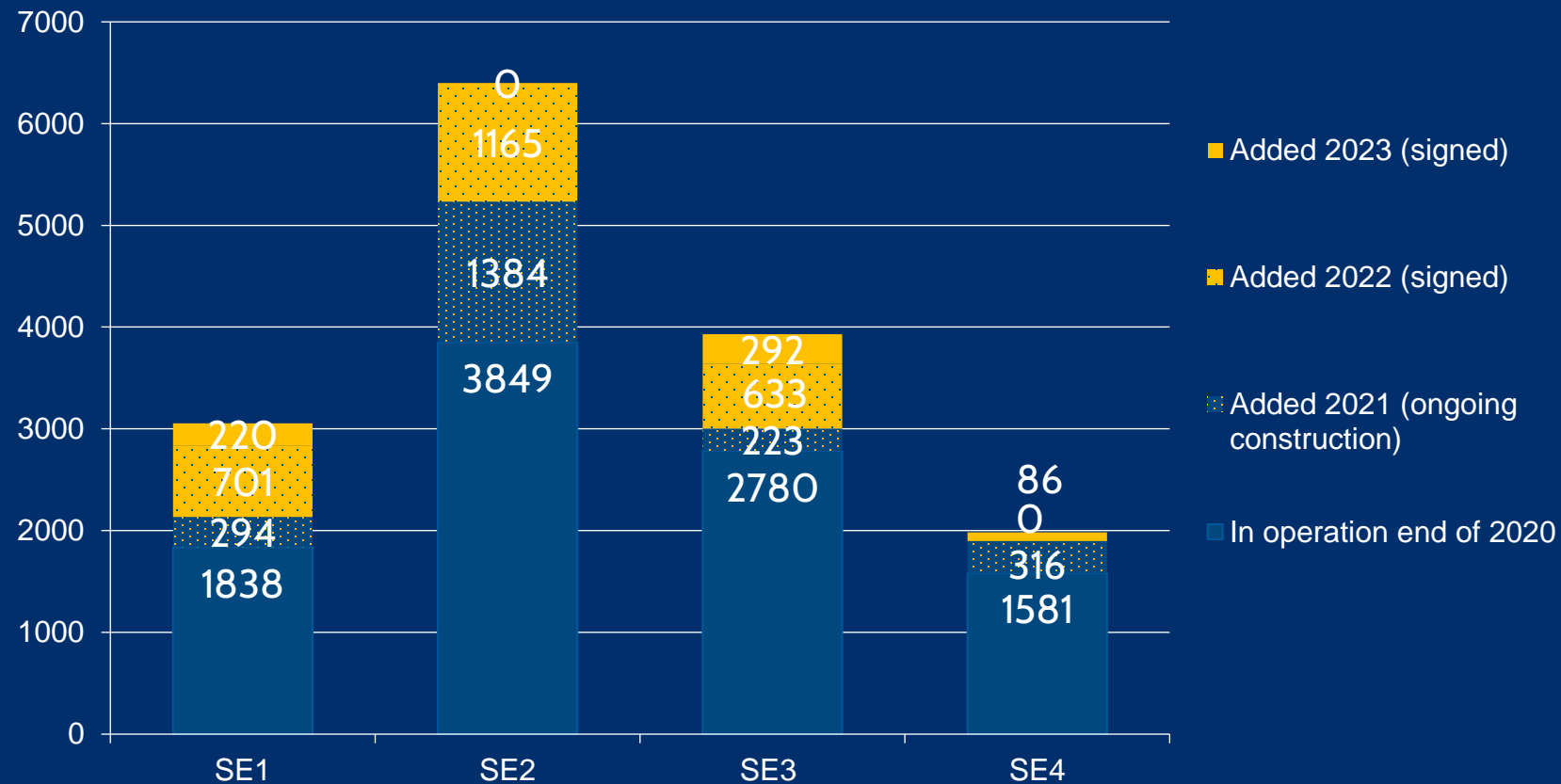
- The growth is at record high levels [8 TWh or 2,5 GW per year]
- The rate of addition is likely to slow down, due to lack of permits, especially in the southernmost bidding area, SE4.
- Towards 2024; the accumulated installed wind power is likely reaching above 17 GW, with normal year production reaching almost 50 TWh, making wind power the second largest source of power in sweden

Short term forecast, 2021-10-20

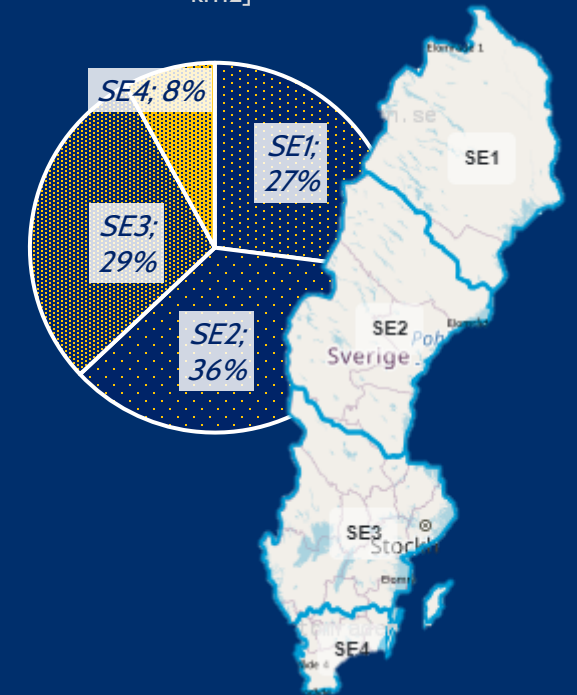


Bidding area break down of scheduled commissioning [MW]

SE2 remains dominant in 2021 and 2022.



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

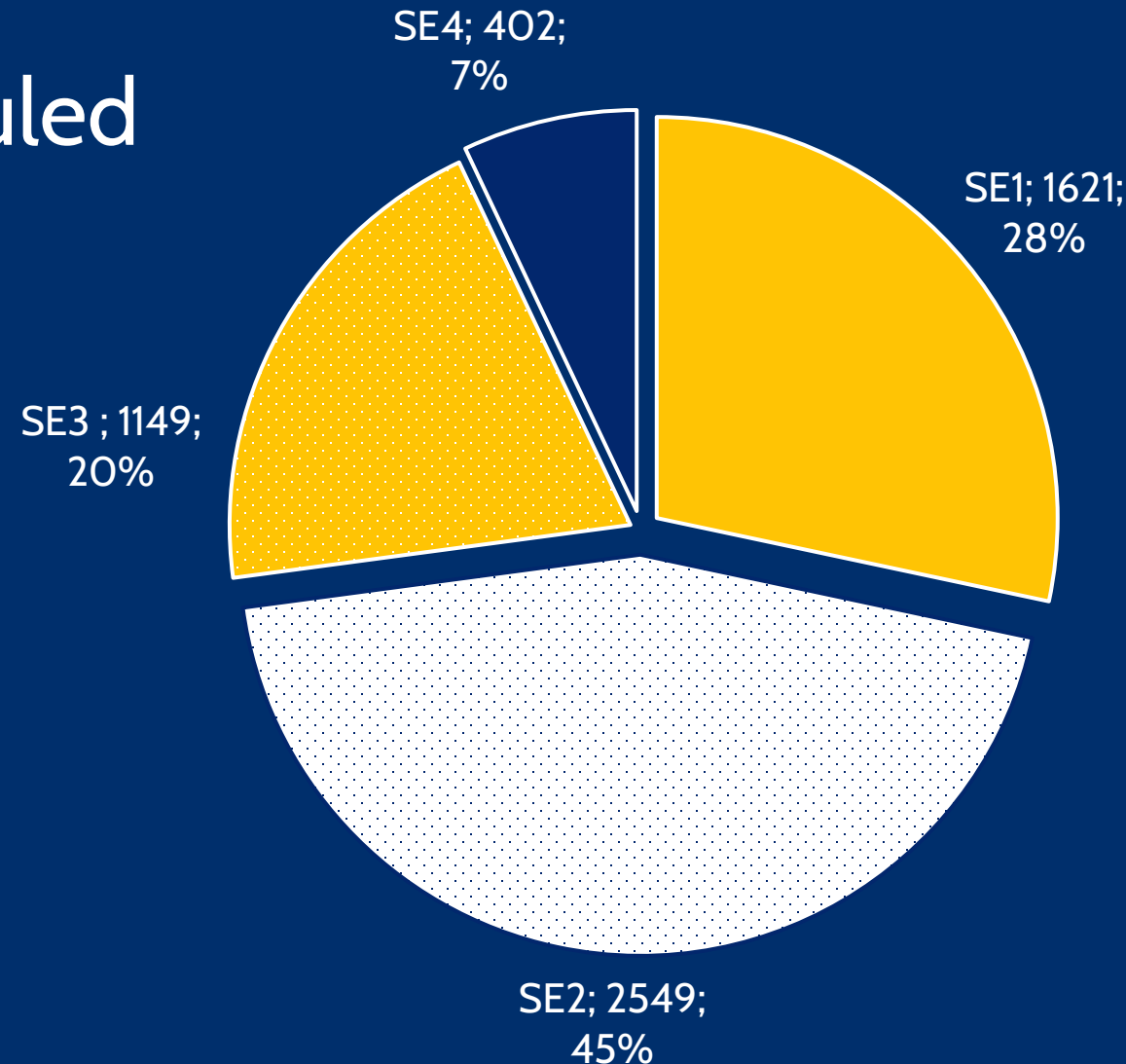


Turbine contracts [MW]

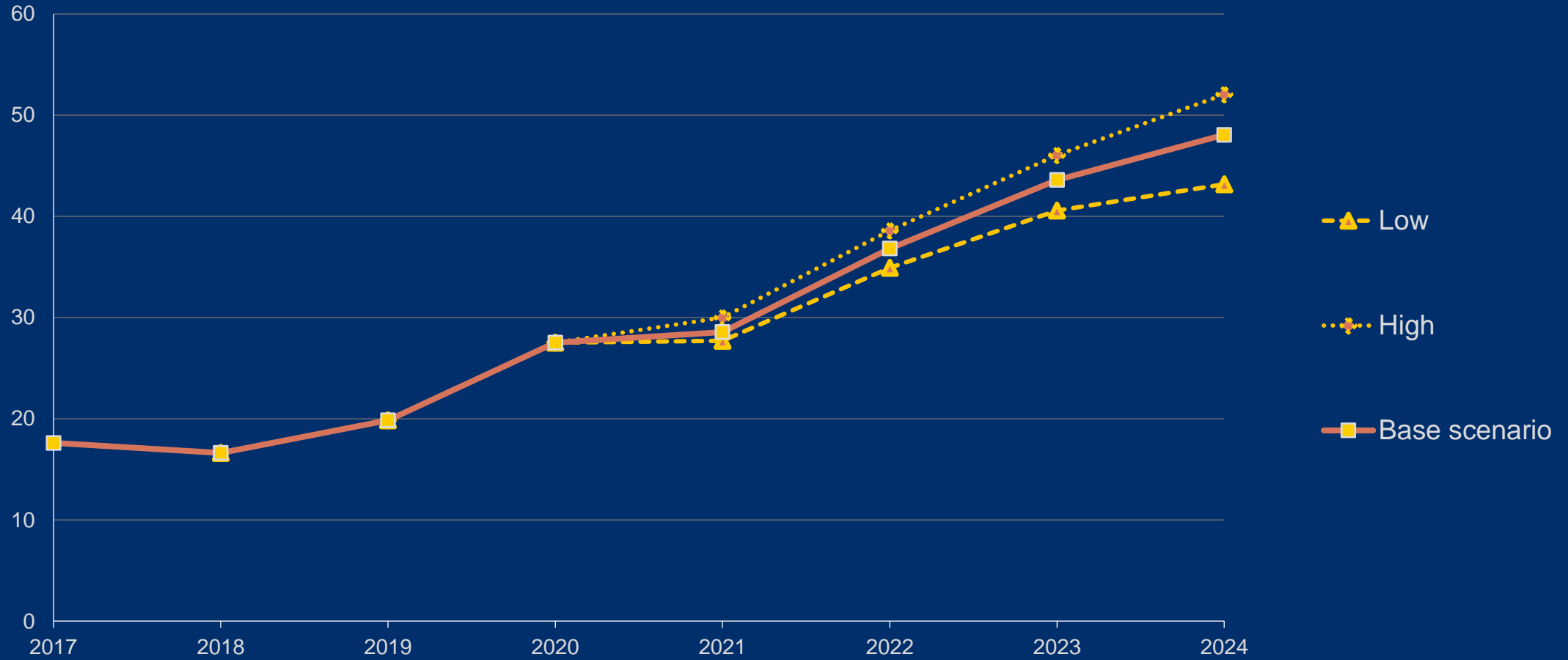
- share of ongoing and scheduled commissioning on bidding zone

Why are there the SE4 numbers so low?

- *Few new projects with allowance to utilise the best possible technology*
- *Many municipalities use their "veto" to avoid project development*
- *Rigid restrictions linked to Swedish armed forces and airports lock out many locations*
- *Despite stronger price signals on both electricity market and grid fees, it has yet not given results since the opposition is influential*

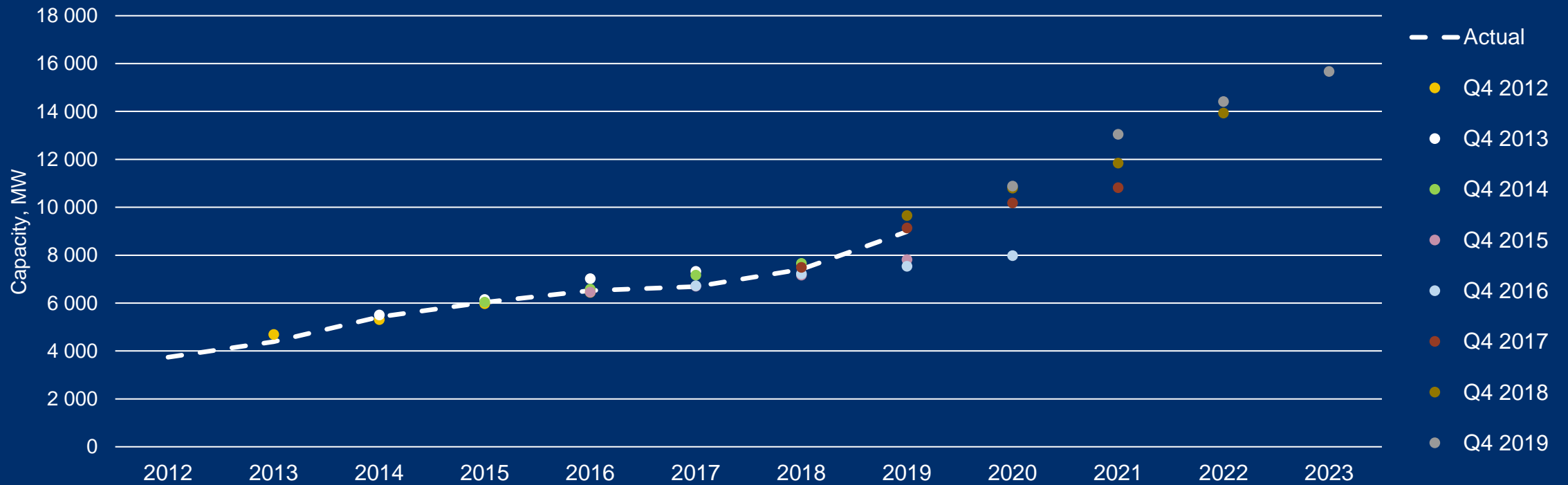


Wind power production forecast – all cases

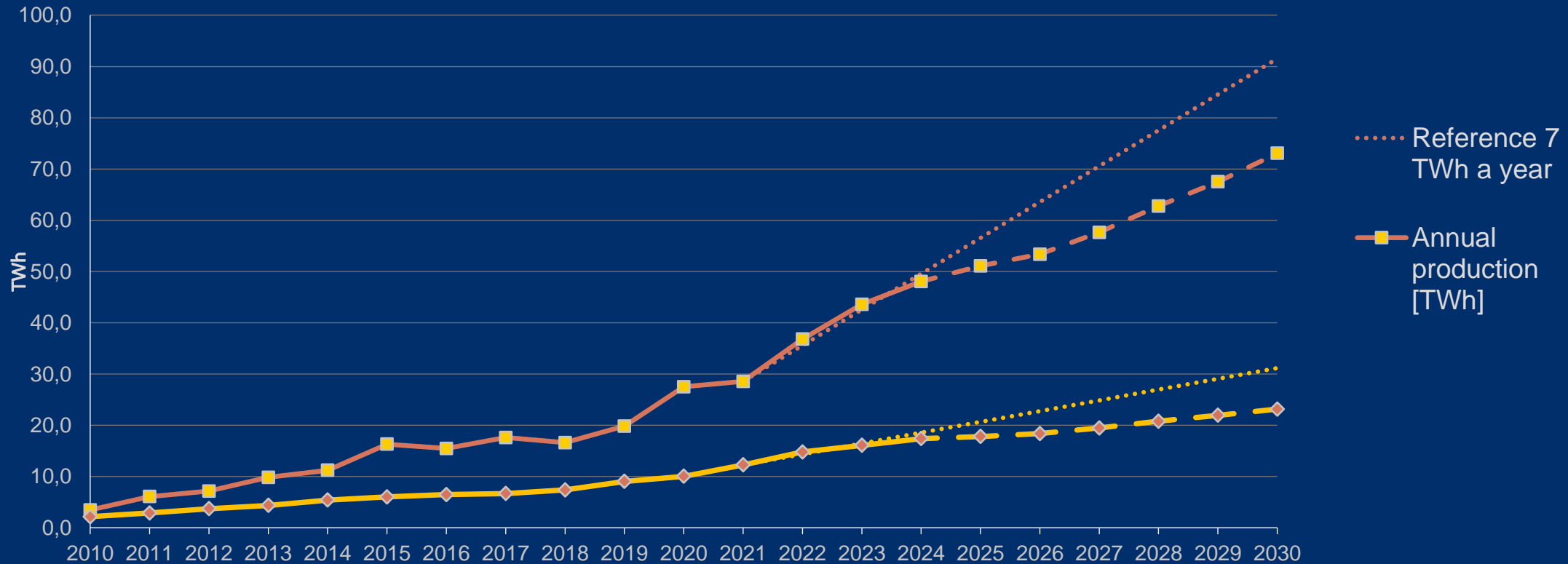


Evaluation of previous forecasts

Previous forecasts and actual installed wind power capacity



Can we keep up the pace after 2024?



Theme: consultation process

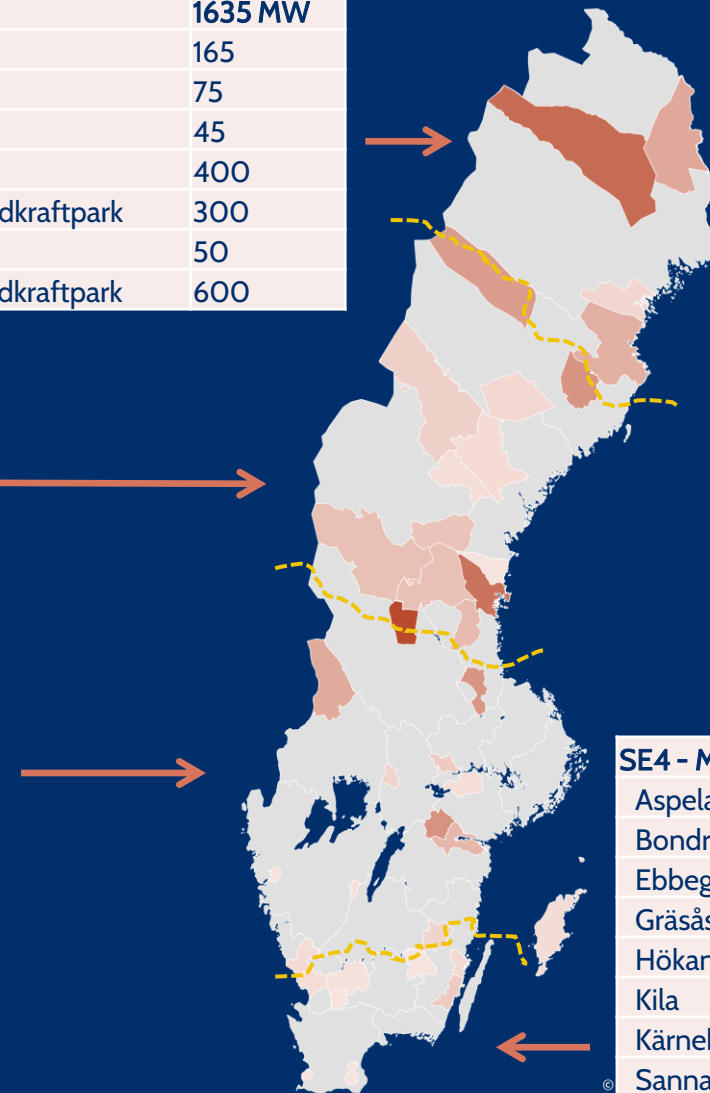
Only 6315 MW in public consultation (samråd) right now...

SE1 - Luleå	1635 MW
Blisterliden	165
Blåsmark	75
Källbomark	45
Olofsberg	400
Selkävaara Vindkraftpark	300
Smygheden	50
Storlandet Vindkraftpark	600

SE2 - Sundsvall	2663 MW
Bleka	99,9
Flakaberget	35
Granåsen	33
Gretas Klackar 1	535
Grubban	180
Jiltjaur	360
Järvsjökullen	60
Källmyrberget	180
Lillås	145
Marktjärn	5
Nallkullen	12
Norrberget	60
Nyvallsåsen	5
Orsa Norr	768
Silja	30
Storåsen	155

SE3 - Stockholm	1624 MW
Galmsjömyran	200
Högsjön	85
Jättebergen	75
Kedjeåsen	85
Klintaberget	150
Mörtsjö	170
Näsudden Öst Vindkraftpark	40
Ryfors	27
Rämma	10
Röknölen	285
Skybygget	150
Stora Uvberget	30
Stormossen	192
Tretjärnsberget	125

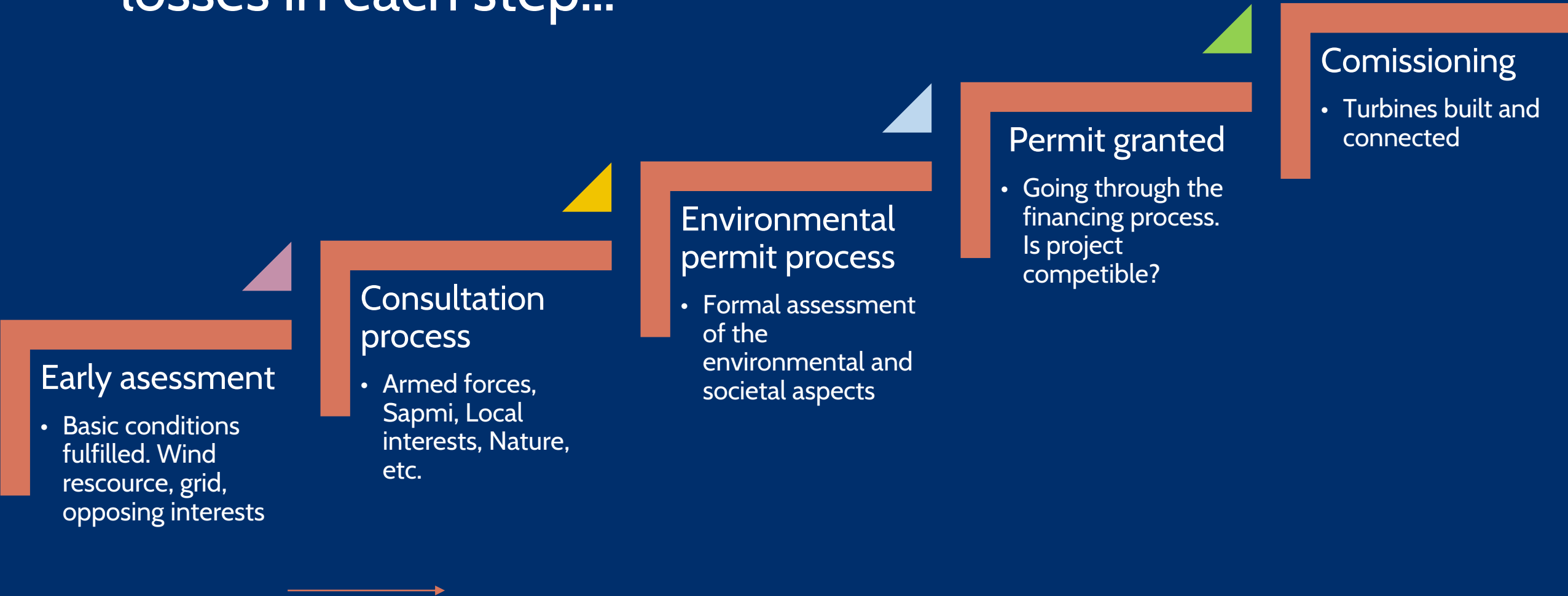
SE4 - Malmö	394 MW
Aspeland	85
Bondrum	10
Ebbegärde	125
Gräsås	35
Hökanäs-Hovgård	5
Kila	45
Kärnebo	35
Sannamåd	9
Sällebråten	15
Torp	20
Yttre ringvägen	10



MW i samråd. Totalt: 6315,9



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



Planning capacity must be much higher than expected build out.

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

