

## Are baseload PPAs a ticking bomb for Swedish wind power?



Bodecker Partners

[www.bodeckerpartners.com/en](http://www.bodeckerpartners.com/en)



# About Bodecker Partners

Bodecker Partners started in 2016 to be an *independent service provider of revenue risk management* for producers of renewable energy. Transparency and independency have been our guiding motto in all our assignments. We strive for the same incentives as our clients, which is the sole reason that we will never be a counterparty in any deals, sell balancing services ourselves, or provide own market access. Instead, we work on behalf of our clients for the best possible services, solutions, instruments and prices.

Bodecker Partners is a boutique consulting firm, dependent on always delivering to satisfied clients. For the last five years, we have relied solely on referrals and word of mouth for new assignments and clients.

Our main clients are investors and asset owners of large-scale renewable production assets in Sweden, Norway and Finland. Our services mainly comprise:

- Revenue Risk Management and financial hedging of renewable assets
- Tenders for balancing services and physical offtake
- PPA advisory and sourcing
- Physical performance evaluations of assets
- Market price analysis, balancing cost analysis, portfolio evaluations and risk assessments
- Re-structuring of PPAs and other hedging contracts
- Power Procurement strategies and PPA advisory to PtX/H2 sector and industry

# Are baseload PPAs a ticking bomb for Swedish wind power?

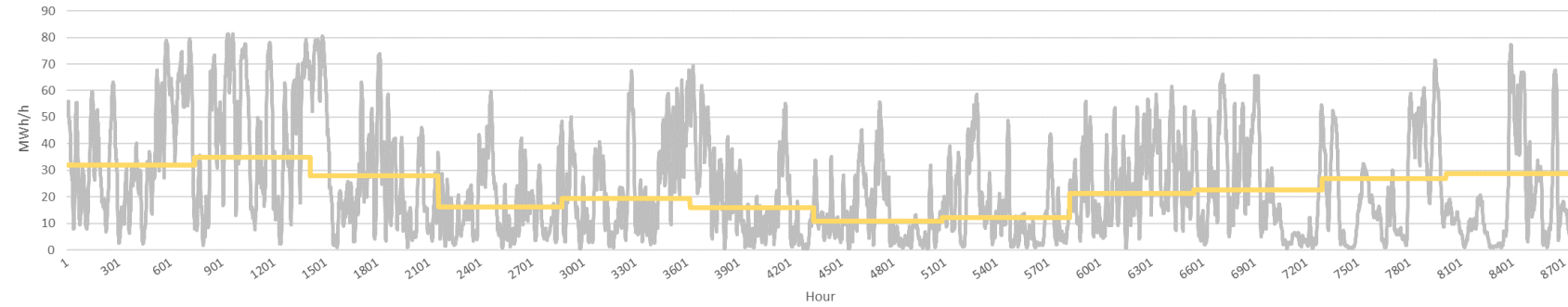


*The bomb has already gone off*

# Wind power production vs. Baseload PPA

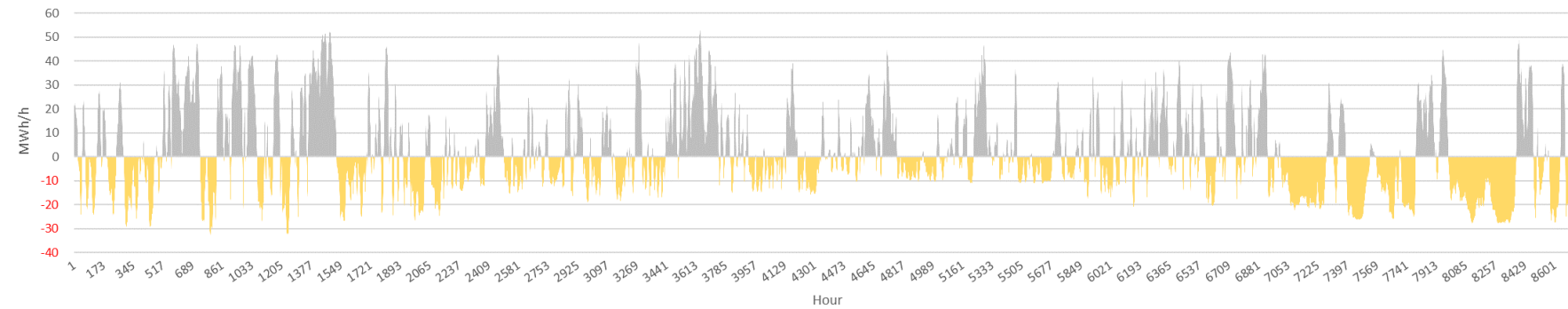
Hourly Outturn Production vs. Monthly Base Load Hedge

— Outturn Production — BL Hedge



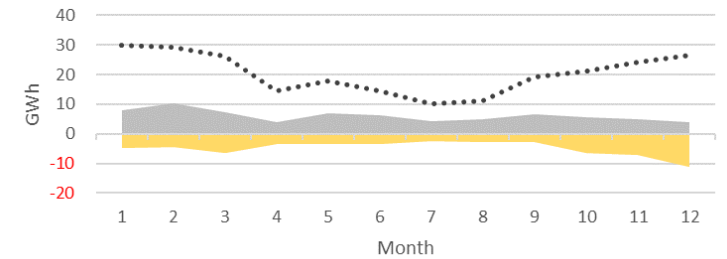
Hourly Outturn Production vs. Monthly Base Load Hedge

■ Outturn Spot Volume ■ Outturn Missing Volume



Volume deviation relative to P50

■ Outturn Spot Volume ■ Outturn Missing Volume ●●●● Est. P50 Production



# Cannibalization have worsened the effects

Little wind = high power prices  
Much wind = low power prices

Selling all at spot price would result in actual "captured" price ~70-75% of average annual spot.

Baseload PPAs force actions that worsen this effect

Baseload PPA was a popular tool to reduce price risk, but reduction in price risk will at a certain point be surpassed by an increase in profile- and volume risks.



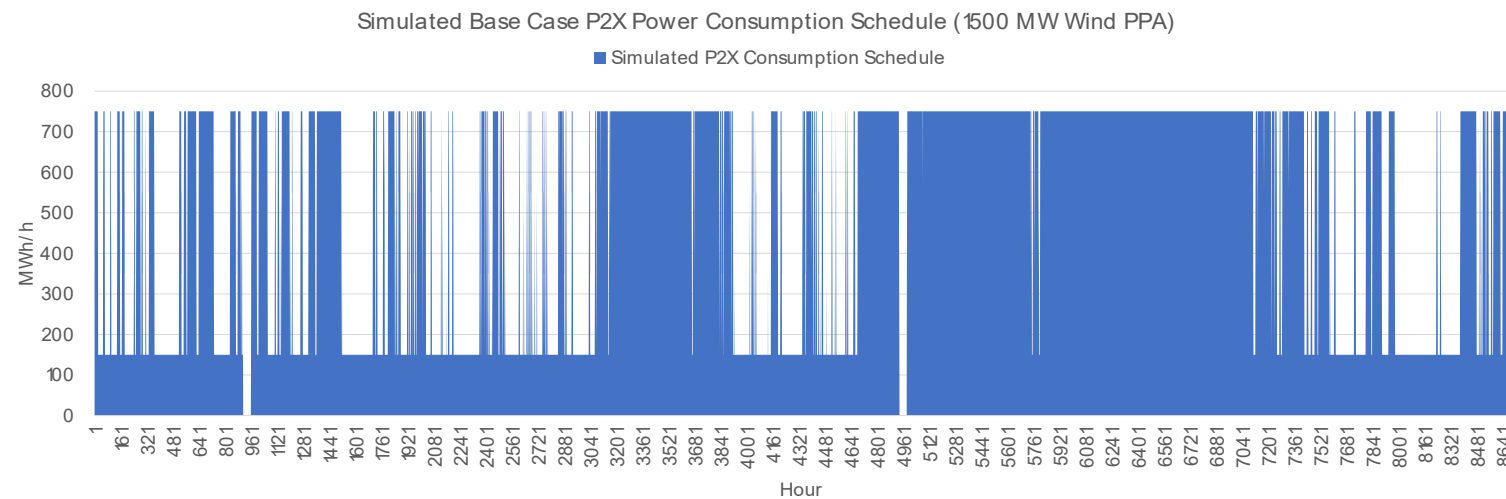
# Are Pay-as-Produced PPAs the solution?

Well, not yet for the counterparties ("offtakers").

Industry power sourcing from industry transition projects is taking off for real.

Pay-as-Produced structure does not match Baseload consumption.

Flexible operations would be more optimal, but still hard to go below baseload with current electrolyzer costs.



New EU-directives require monthly/hourly matching between renewable asset and consumption for some hydrogen/PtX sectors

# Are Baseload PPAs dead?

No, economically it is still an efficient hedging tool...

...for limited part of estimated production volumes – not more than 30-50%

But wind power investors have been (temporarily?) scared off

**The gap needs to be closed – or at least narrowed**

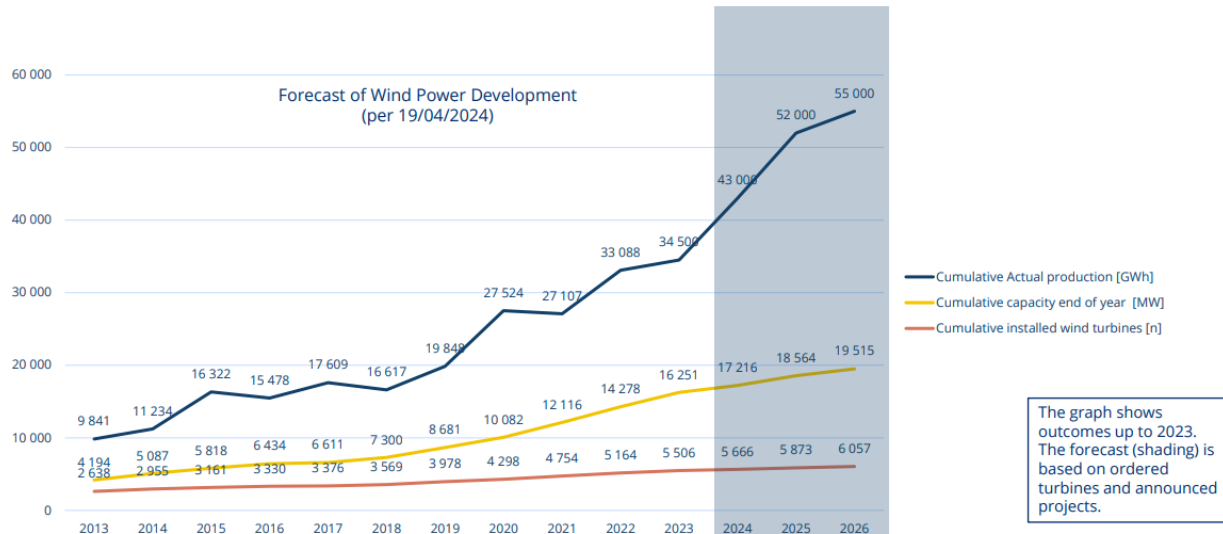
Price gap between renewable asset LCOE (floor) and industry costs (cap)

Profile costs reduced and shared

- Combinations of PPAs/asset types
- Combinations of Pay-as-Produced, Baseload, Cap/floor etc.
- Flexibility
- Storage, battery PPAs etc.
- Additional revenue streams
- Risk sharing models
- Power price linked PtX-offtake contracts



# Has the baseload PPA problems hurt Swedish wind industry?



Up to 9 TWh potential in SE3-SE4 from permitted offshore wind

Up to ~13 TWh potential in SE4 from “near-decision” parks

Total potential production of over 50 TWh



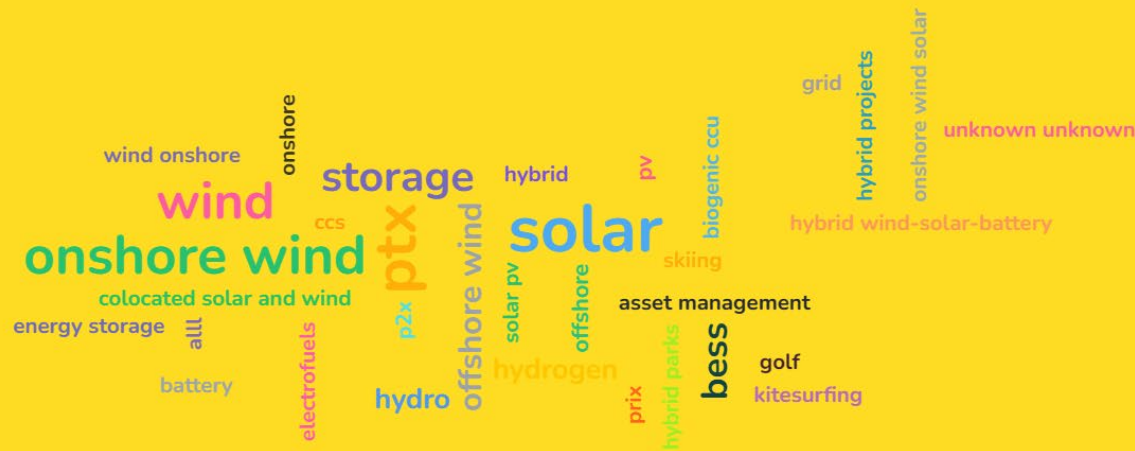
# Continued high interest to invest in Swedish wind power

Industry electrification increasing demand by over 100 TWh already by 2035

Hydro power, a current battery boom, and demand flexibility to help balance the system

History of relatively stable political stability

In 5-10 years: In which areas will you be most active in? (Ex. solar, on/offshore wind, storage, PtX, SMR, CCS, grid, other...)



*Poll for 75 large-scale developers and investors in Nordic renewable assets at Bodecker Partners Nordic Investment Seminar last week.*

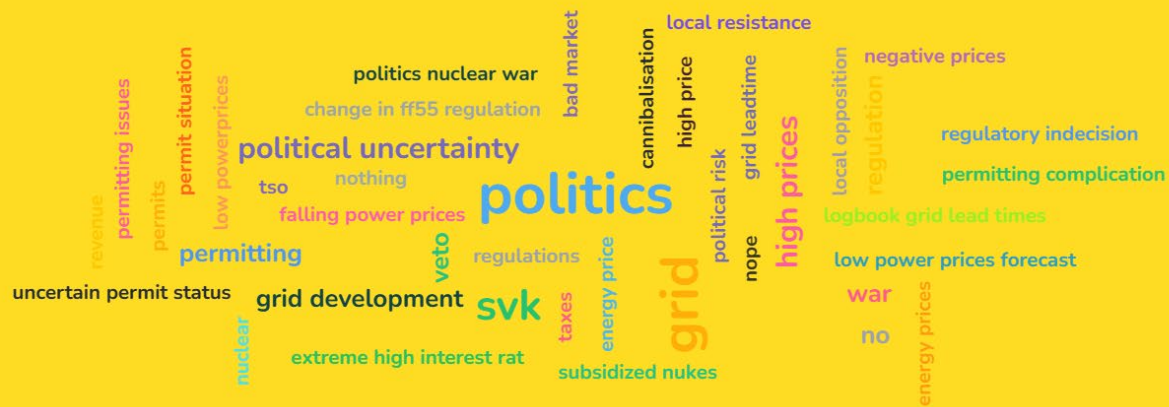
# But also several obstacles – not related to baseload PPAs

Lack of grid connection & very long permitting times

Municipal veto

Increased political uncertainty – lack of clear targets and ambition

Anything that would stop/pause your willingness to invest/develop projects in the Nordics?



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***Thank you for listening!***

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