



Office franco-allemand pour la transition énergétique  
**Deutsch-französisches Büro für die Energiewende**

# Successful PPAs in a volatile price market

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# Overview

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- 1 Energy Markets and Current Regulations
- 2 PPA Trends
- 3 Key Factors to a Successful PPA



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## 1 Energy Markets and Current Regulations

## 2 PPA Trends

## 3 Key Factors to a Successful PPA

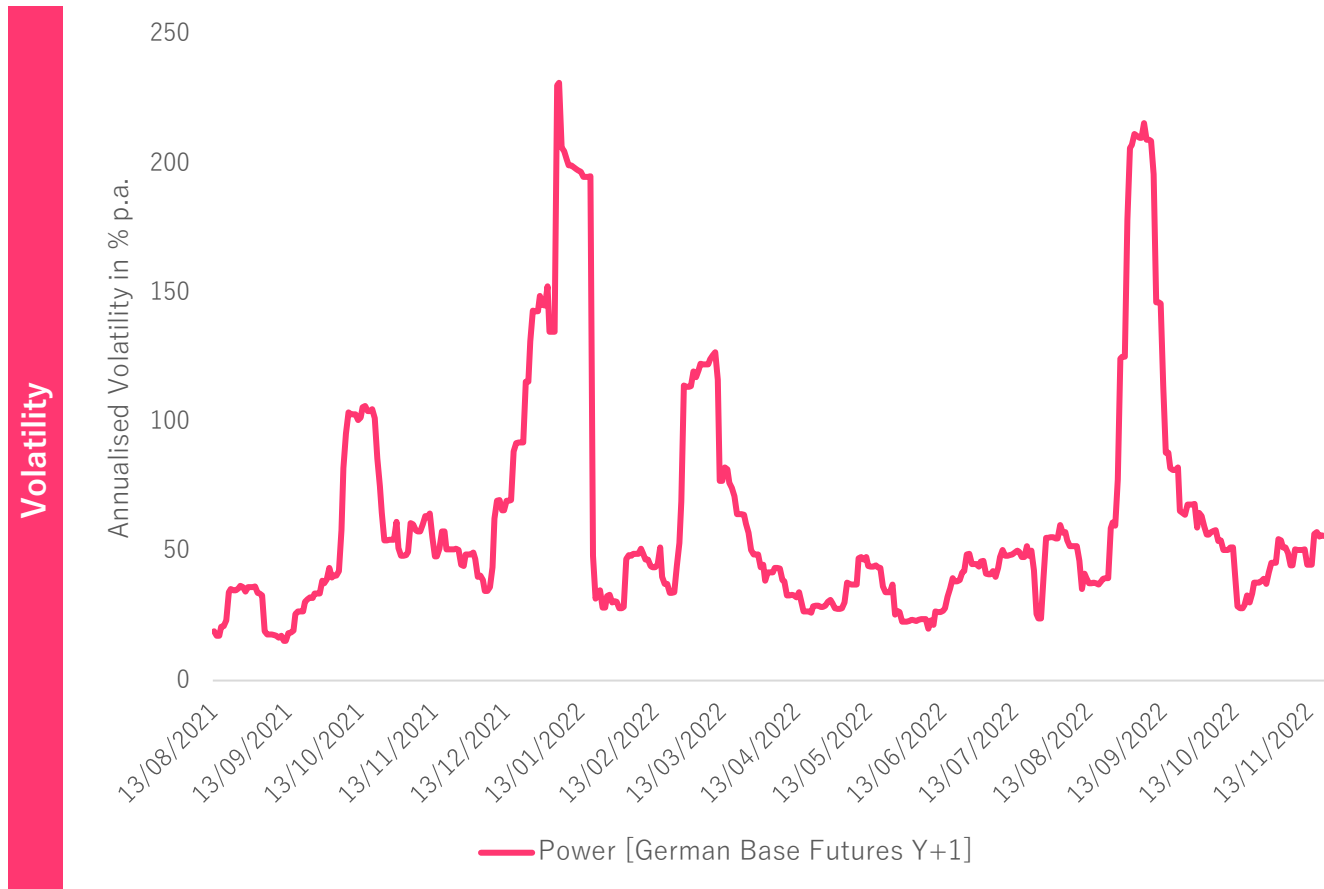


# Energy markets in distress, and an accelerating crisis – policy intervention to the rescue?



- Since January 2021, Cal-23 traded in a range of 50~1000 EUR/MWh – a **price change by a factor of 20!**
- Prices have retreated from highs but **remain almost 10x pre-crisis levels**
- Policies interventions are being introduced to fix the deepening energy crisis and mitigate impact on consumers

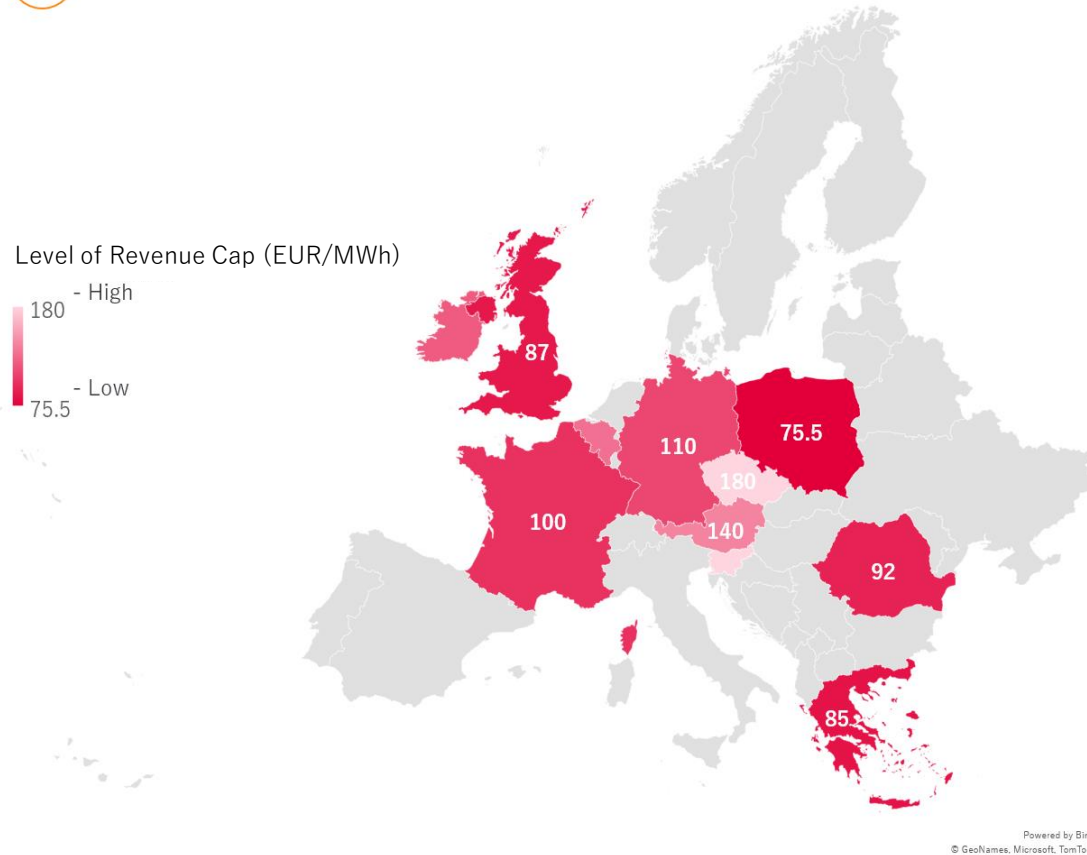
# A year of high price volatility, with large day-to-day price moves



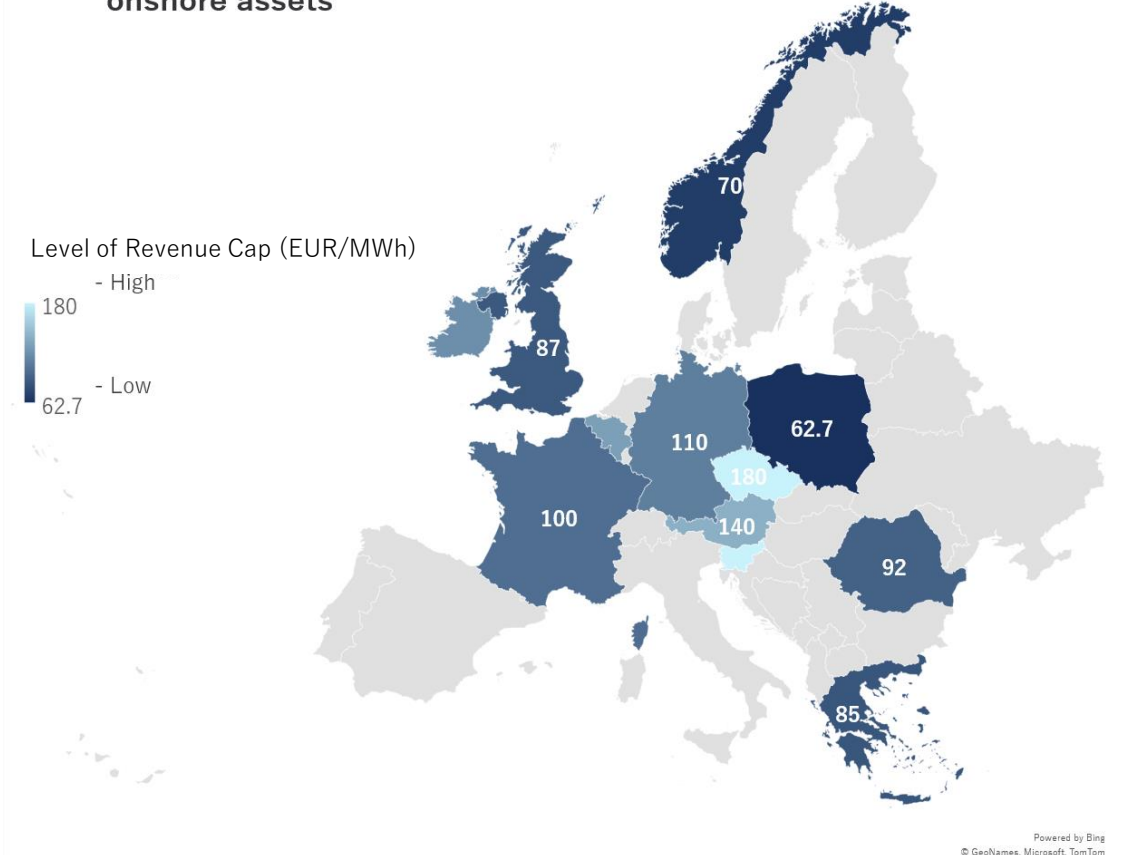
- **Market prices are surging:** Spot prices have increased 10-fold in the last 12 months, and front year power prices are ~4-6 times higher than a year ago
- **Volatility at all time highs:** The power market is experiencing record-high volatility, and recent day-to-day price swings of German front year contract have been in the €100-200/MWh range
- Power market drivers:
  - Russia's invasion of Ukraine and sanctions
  - Nord Stream 1 offline since end of August and now fully out of service
  - Tight global commodity markets
  - Low French nuclear availability (corrosion)
  - Regulatory interventions to lower impacts of high gas prices

# Outlook: Regulatory uncertainty around revenue caps, and a patchwork of national regulations





 Revenue cap levels for merchant solar



 Revenue cap levels for merchant wind onshore assets



# Spotlight on Germany & France – energy caps are well below €180/MWh

	Germany	France
<b>Status</b>	Draft Law (not implemented yet)	2023 Budget (draft legislation)
<b>Technology-specific caps</b>	  EEG-Assets: Renewable caps will be set based on asset-specific subsidy level (“Anzulegender Wert”) according to the EEG scheme Other assets: <b>€100/MWh</b>	  <b>€100/MWh<sup>2</sup></b> <b>€100/MWh</b>
<b>Basis for Calculation</b>	90% of revenues above cap are levied, 10% can be kept	10%-40% of revenues above cap are levied
<b>Timeline &amp; retroactive clawbacks</b>	1 December 2022 to 30 June 2023 With the possibility to extend to <b>30 April 2024 (decision to be taken by 31 May 2023)</b>	Applies retroactively from 1 July 2022 to 31 December 2023
<b>Additional notes</b>	Regulation also caps power and gas prices for consumers Regulation includes PPAs and hedges	Draft regulation to be discussed at the French lower house (Assemblée Nationale) in the next weeks Regulation includes PPAs and hedges

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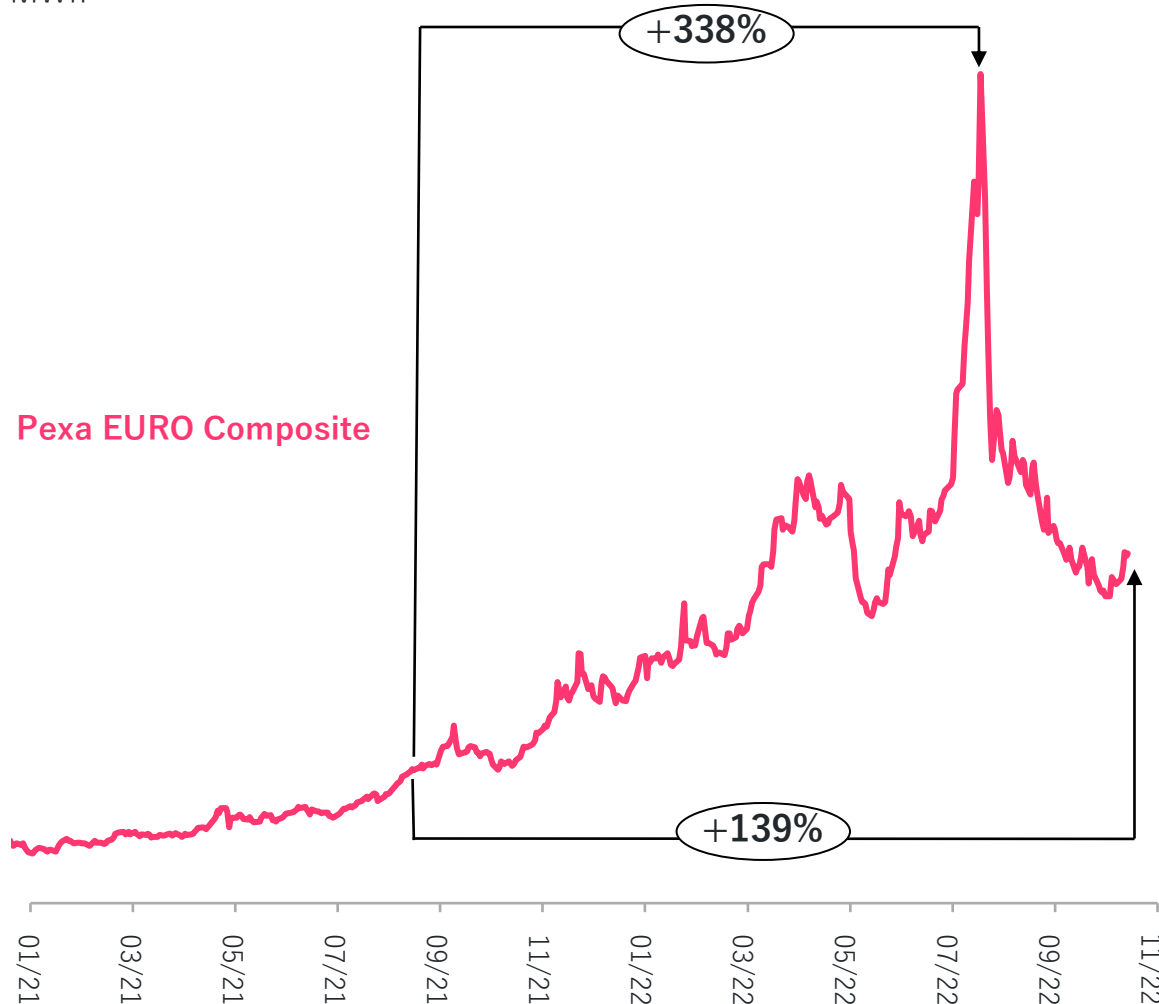
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# PPA prices are on the rise - Pexapark's EURO Index increasing year-on-year

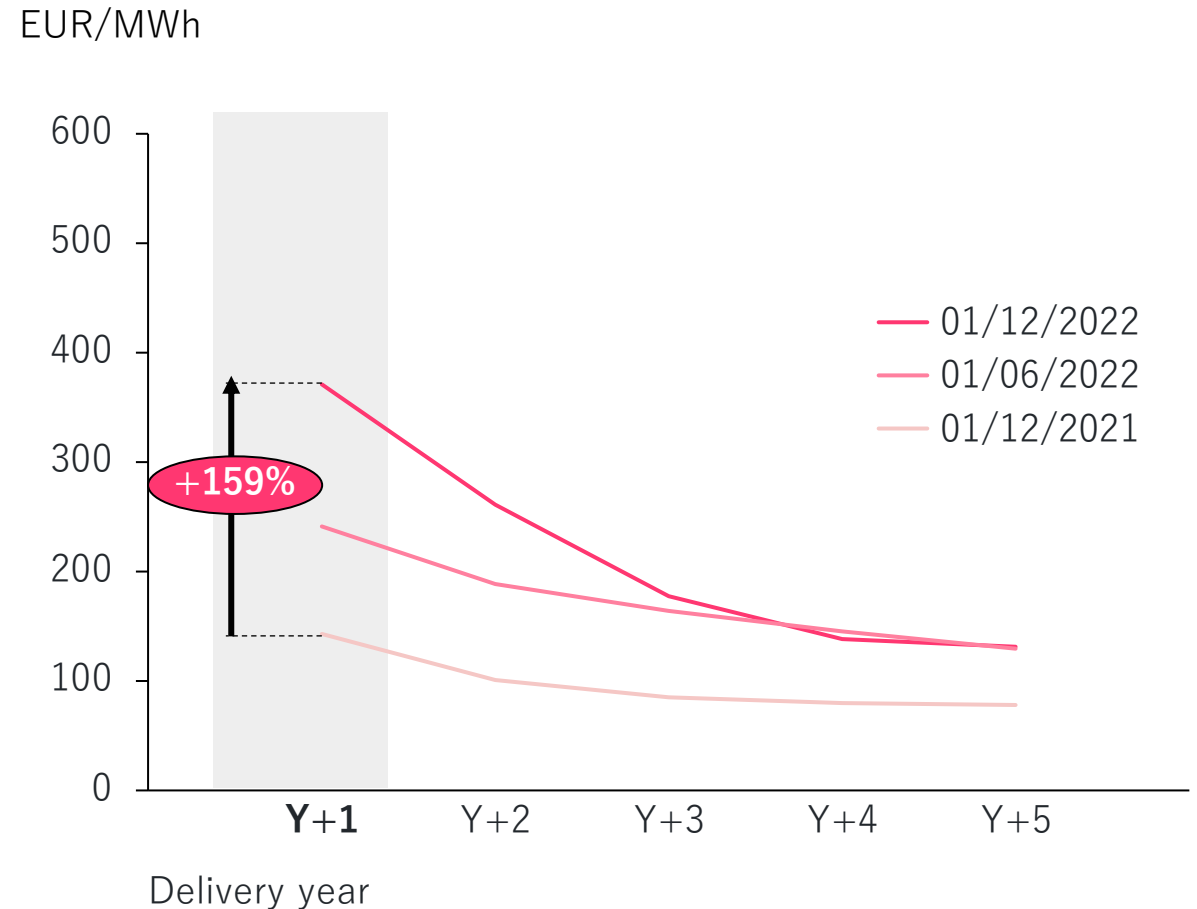
EUR/MWh



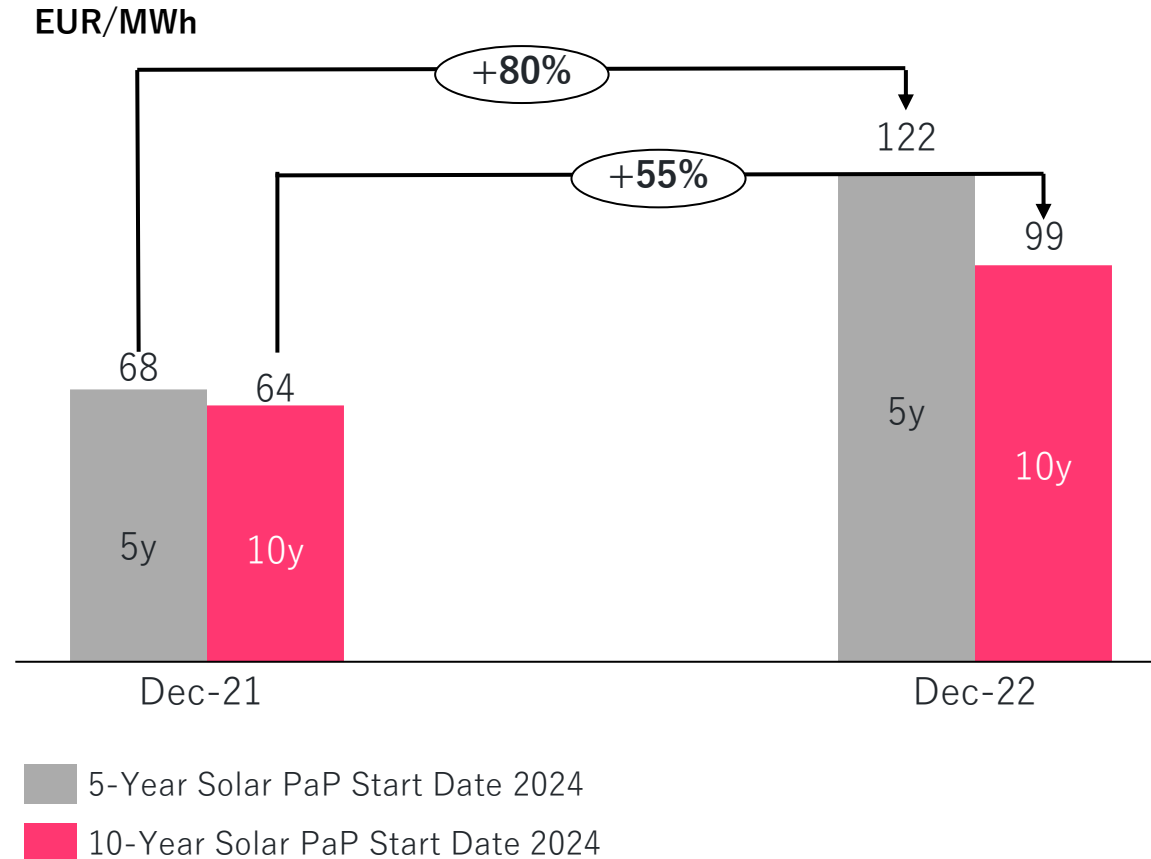
- Between September 2021 and September 2022, **Pexapark's EURO Composite increased by over 300%**, on the back of rising forward prices
- However, in recent months, the Pexapark EURO composite has fallen due to declining gas prices amid nearly full storage levels and ongoing discussions around a gas price cap and sustained LNG imports into Europe.
- The EURO Composite averages Pexapark's PPA benchmark prices across technologies and across European PPA markets.

# Forward curves in backwardation – Timing matters!

- The level and shape of the forward power price curve is the strongest driver of PPA price setting
- There is currently **strong backwardation of the forward curves**
- Because of this backwardation, PPA start dates can currently have a significant impact on PPA pricing; even delaying of a couple of months can have a significant effect



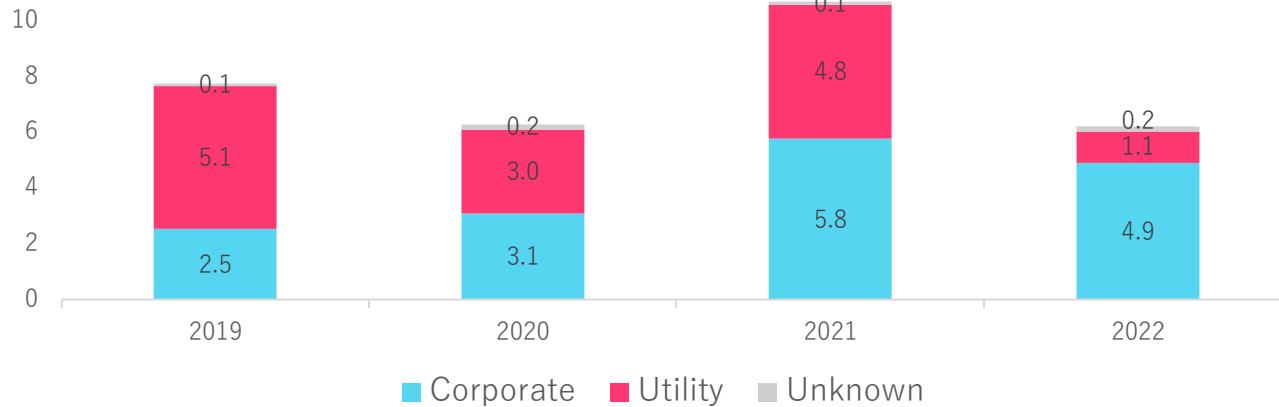
# Sellers move towards short-term PPAs



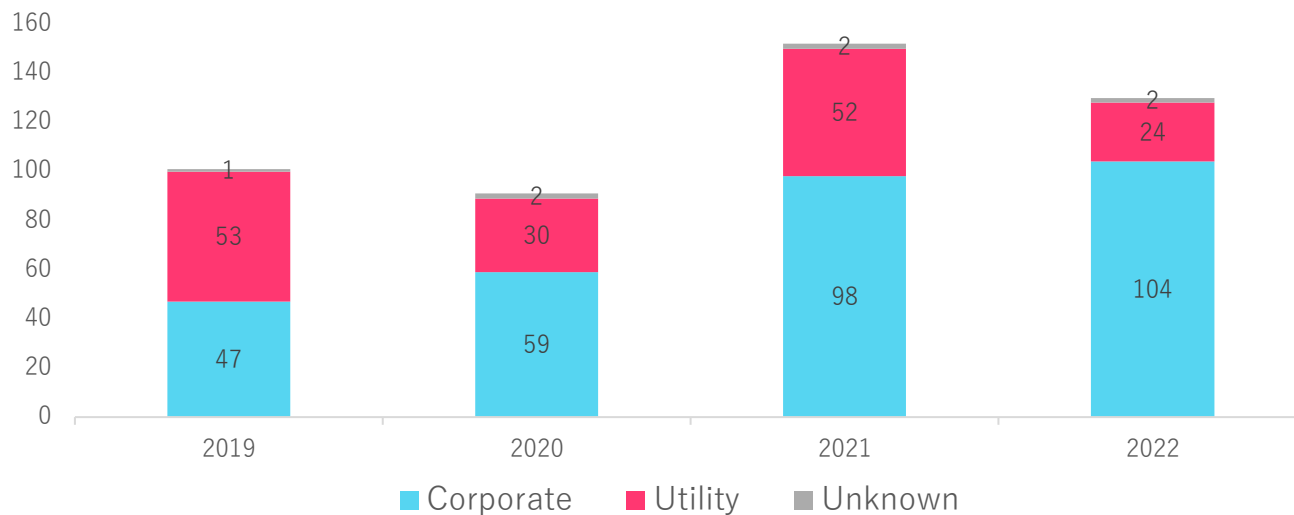
- For sellers, a 5yr German PPA deal currently delivers **+80% of the value** it would have delivered a year ago
- From some lenders' perspective, short-term deals are currently a viable alternative to the previous **10-year "paradigm"**
- Lenders are warming up to the idea of providing debt financing on the basis of shorter-term PPAs
- Assets under flexible subsidy schemes (e.g. Germany's EEG) are frequently opting out of subsidy and exploring shorter-term PPA opportunities
- For corporates, short-term PPAs offer both advantages and disadvantages

# Corporate buyers are increasing their domination in the PPA markets

## Yearly GW of Signed PPA Deals in Europe



## Yearly Number of Signed PPA Deals in Europe



- It is apparent that in terms of both GW and number of deals signed, **corporate buyers are increasing their domination** in the PPA deal count.
- This year, corporates have accounted for **80% of deals and GW signed**.
- Previous years saw a year-end push: **could 2022 catch-up with 2021's record year?**

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# Transacting a successful CPPA in a volatile price market

## Key Considerations



### Market Conditions

- Dynamism of the market (aka liquidity: abundance of active market participants)
- Competitive levelised costs vs. wholesale / PPA prices
- Stable environment (reasonable volatility)
- Low to moderate cannibalisation



### Policy Environment

- Regulatory stability
- Limited government subsidies
- Clean energy tracking mechanism (GoOs, fetching extra monetisation for renewables)
- No legal barriers



### Contractual Must-Haves

- Fair PPA price (in an untransparent market: how to ensure that the price is right?)
- Ensure there is sufficient credit support for both parties – guarantees are all the more important! (*see next slide*)
- Counterparty must be bankable

# Guarantees and credit support are key for the sustainability of a CPPA

In a volatile price market, it is essential to have strong guarantees and credit support in place for both counterparties. **Numerous tool are available to mitigate possible credit risk:**

## Collateral

- Security deposit – cash, letter of credit (LoC) or Bank Guarantee (BG)
- Suretyships
- Parent Company Guarantee (PCG)

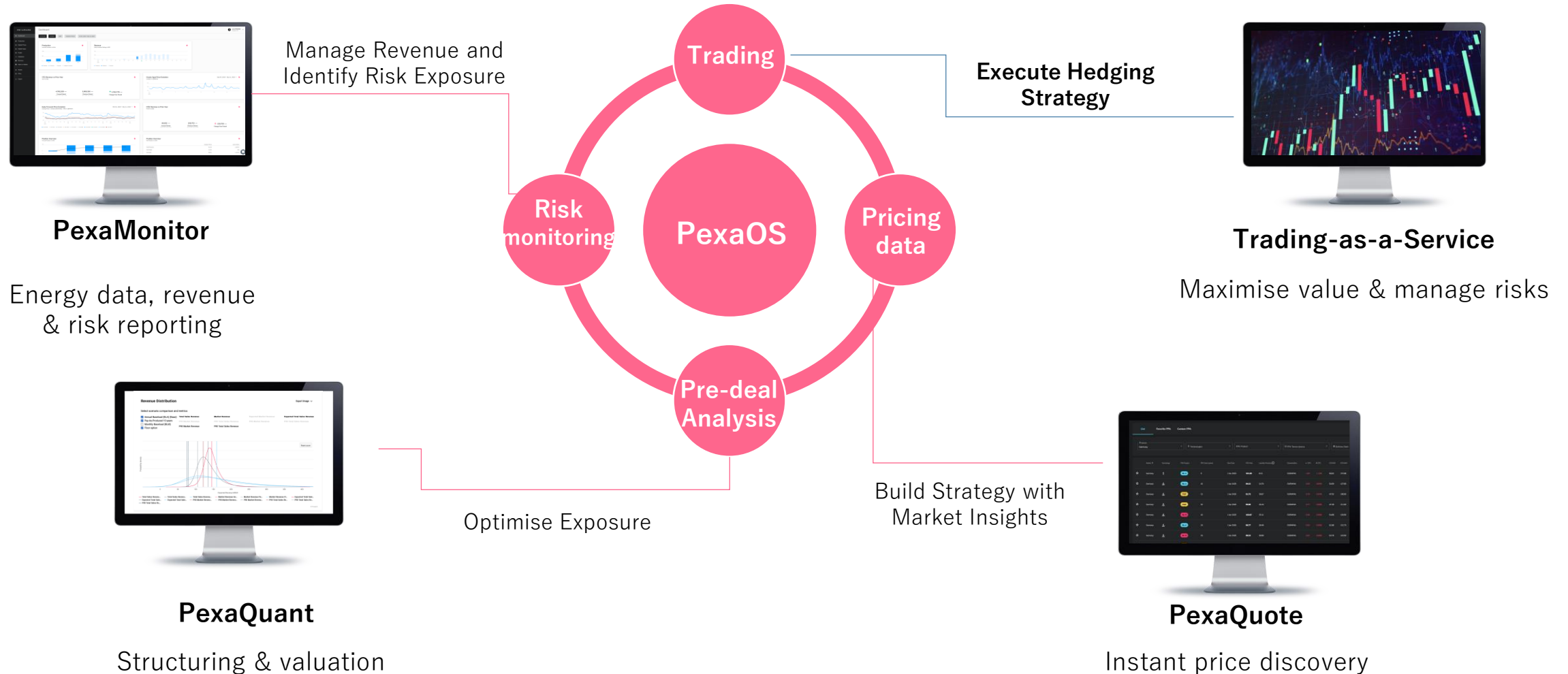
## Risk Transfer

- Insurance by a 3<sup>rd</sup> party provider
- Credit Default Swaps
- Schemes backed by export risk insurance (i.e. Norwegian GIEK)

## Contractual Mechanisms

- Advance payments or increased payment frequency
- MACs (material adverse clauses)

# Pexapark's Operating System provides the capabilities for PPA pricing, valuation and risk reporting.





# Contact us



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