The current stage and prospects to secure long term energy sales in Poland

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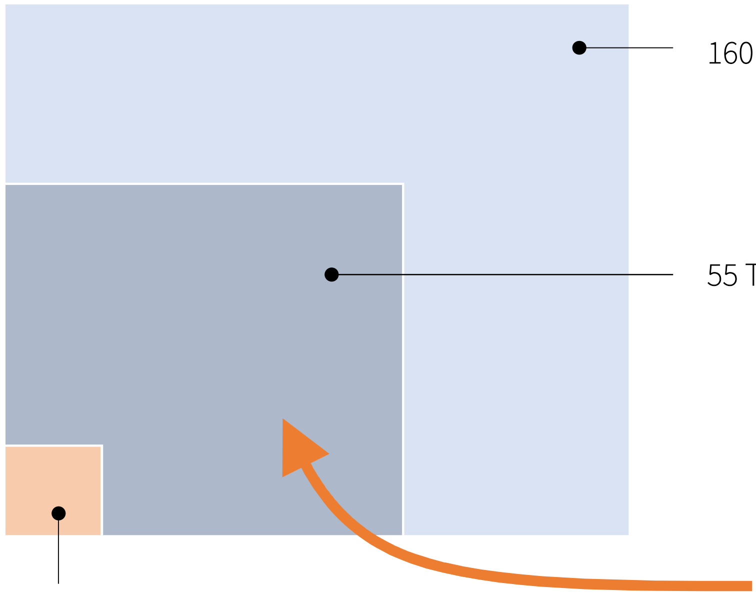
POLAND PPA MARKET OVERVIEW

- The long-term PPA Market in Poland is at an early development stage
- Recent rapid price increase for forward products has attracted a lot of producers for long term PPAs
- Risk appetite is limited both on the utility side and offtaker side due to high guarantee requirements
- There is a large discount of fixed price and floor price levels to baseload prices which can be partly explained by the low liquidity on the traded markets and the limited number of offtakers providing such long-term price risk taking services
- With regards to secondary energy price risks such as balancing and profile risk, the market offers plenty of competition but only for up to 2 - 3 years ahead. This implies, that structurally producers must accept to carry the long-term balancing and profile risk

STRATEGIC PPA OPTIONS

	Utility PPA	Corporate PPA	Industrial PPA
Offering	▪ Variety of PPAs structures possible	▪ Typically financial swaps on pay-as-produced basis	▪ Typically EFET-based fixed price PPA for mainly ▪ baseload power
Typical Buyer	▪ Utilities and traders	▪ "Tech giants": Amazon, SAP, Microsoft, Google, Facebook	▪ Industrials
Function	▪ Some degree of structuring possible ▪ Quickly realizable route to market	▪ Additional, stand-alone long-term risk appetite	▪ "Industrial" pricing logic may be less dependent on forward prices
Challenges	▪ Very limited long-term risk demand ▪ High guarantees requirements on Seller	▪ High guarantees requirements on Seller ▪ Transaction cost	▪ Credit Support requirements on Buy side ▪ Significant risk exposure remains for renewable producer

POTENTIAL DEMAND FOR LONG TERM PPA



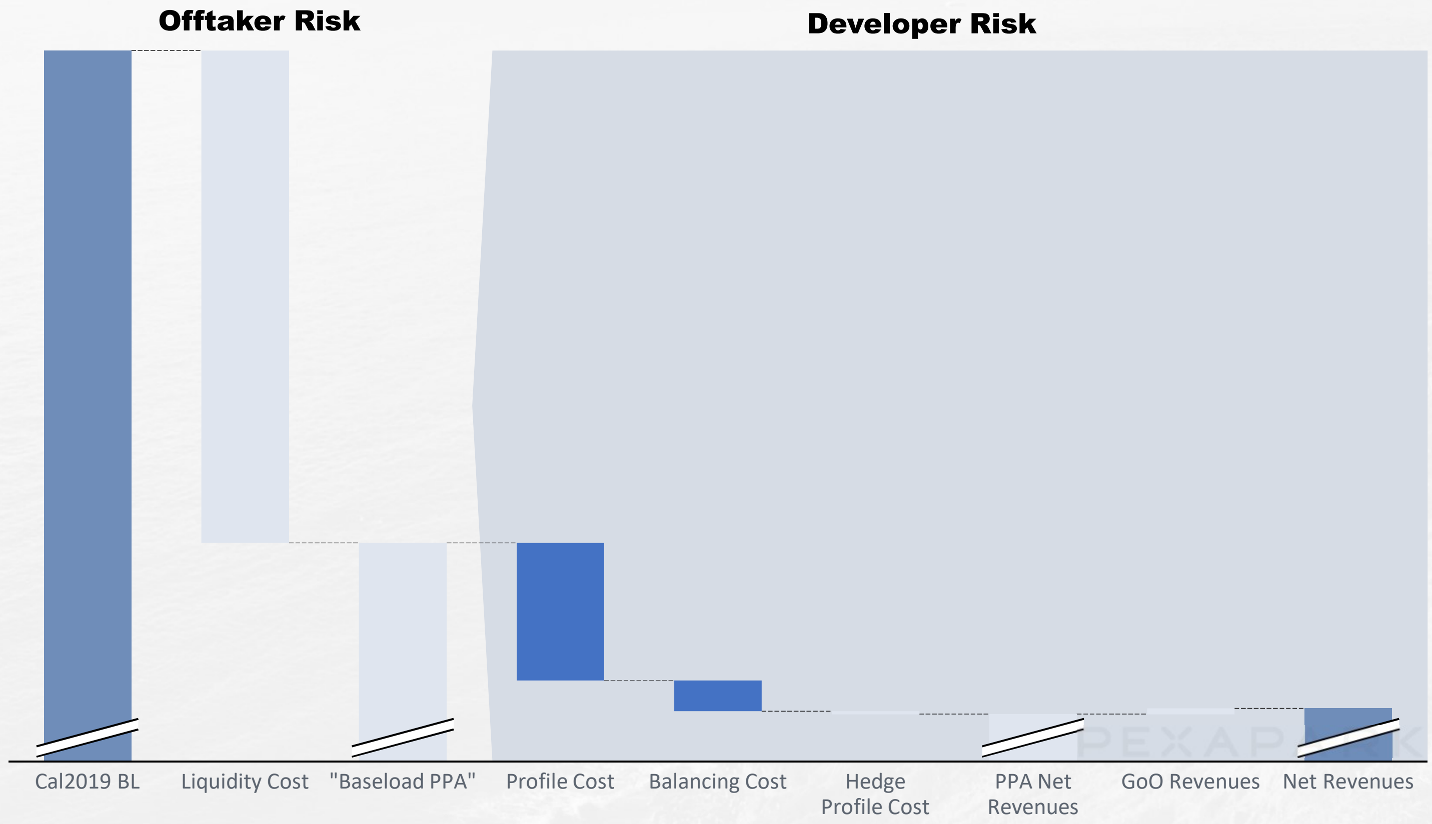
What would it take to access this demand?

1 Source: Pexapark Team Analysis; http://stat.gov.pl

PRICES

- Reference price used by market participants are exchange traded baseload forward contracts (e.g. TGE BL CAL 2020).
- Price of CAL20 Baseload has been between 179 and 318 PNL/MWh during the last 12 months.
- While prices have increased rapidly, the market remains “shallow”. That is, the liquidity is rather low a e.g. a 20 MW Baseload trade for CAL 20 would significantly move the market price. This is a key issue in determining the overall risk demand by international offtakers who apply risk management practices on basis of shorter tenors.
- Long-term price discovery is very limited in Poland making it difficult for counterparties to agree on the fair price level.
- Prices ranged between PLN 157.80/MWh and PLN 216.99/MWh in Poland's onshore wind auction. These levels had a strong influence on many industrials in regards to their price expectations to PPA.
- Only a few industrials have a ready setup to procure stand-alone electricity, such as required for a PPA even if it is on baseload basis only. These clients require a full service solution which has to be catered by the sell side (e.g. in conjunction with a utility).

PRINCIPAL ENERGY RISKS IN A FIXED PRICE LONG-TERM PPA IN POLAND



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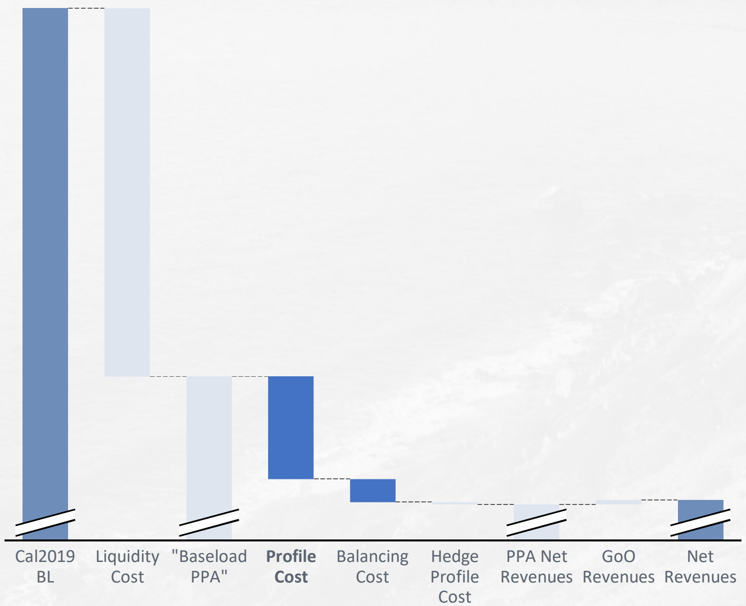
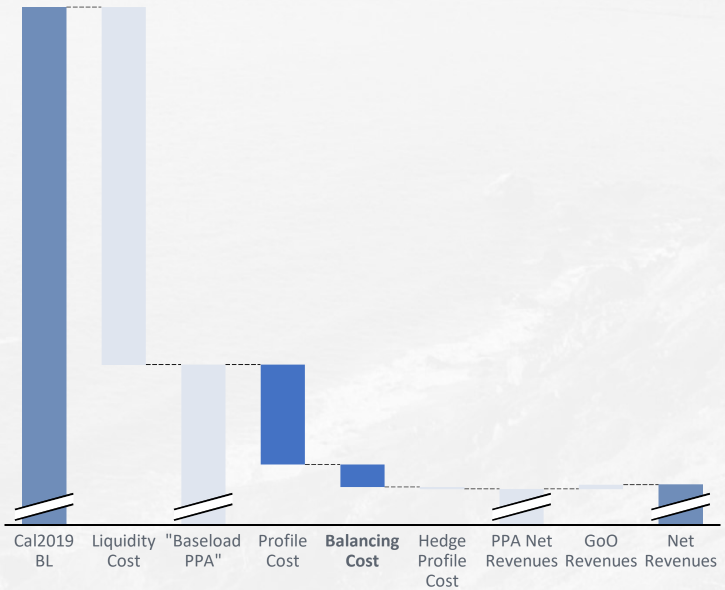
PROFILE RISK

- What is profile risk? Market prices are typically quoted for baseload products (arithmetic average of prices), whereas renewable production is not producing each hour the same amount (volume weighted average of prices)
- What drives profile risk? Timing of production, the location of the renewable plant, and the marginal price setting technology resp. same technology amounts
- What magnitude does the risk have? Historic average profile costs of wind have been approx. 4.5% - 10%; 1-2 year quotes are up to 13-14% discount to baseload
- What can you do about it?
    1. Develop a clear understanding to the risk on basis of fundamental models
    2. Hedge it up to 2 years
    3. Monitor it continuously



BALANCING COST

- The main driver of imbalance cost in Poland is the design of the balancing system with symmetrical prices both for short and long positions, making the spread between Spot and balancing price the key cost indicator.
- Balancing costs for wind production have been on a decreasing trend for the last 5 years.
- Lately, a significant uptick in pricing has been noticed which might be the result of changes to spread in balancing and spot market prices and premium for expected regulatory changes.
- Generally speaking, market participants attribute the market, a high level of competition intensity.
- What can you do about it?
    1. Monitor and understand actual realized cost and regulatory developments
    2. Hedge it up to 3 years



GUARANTEES OF ORIGIN

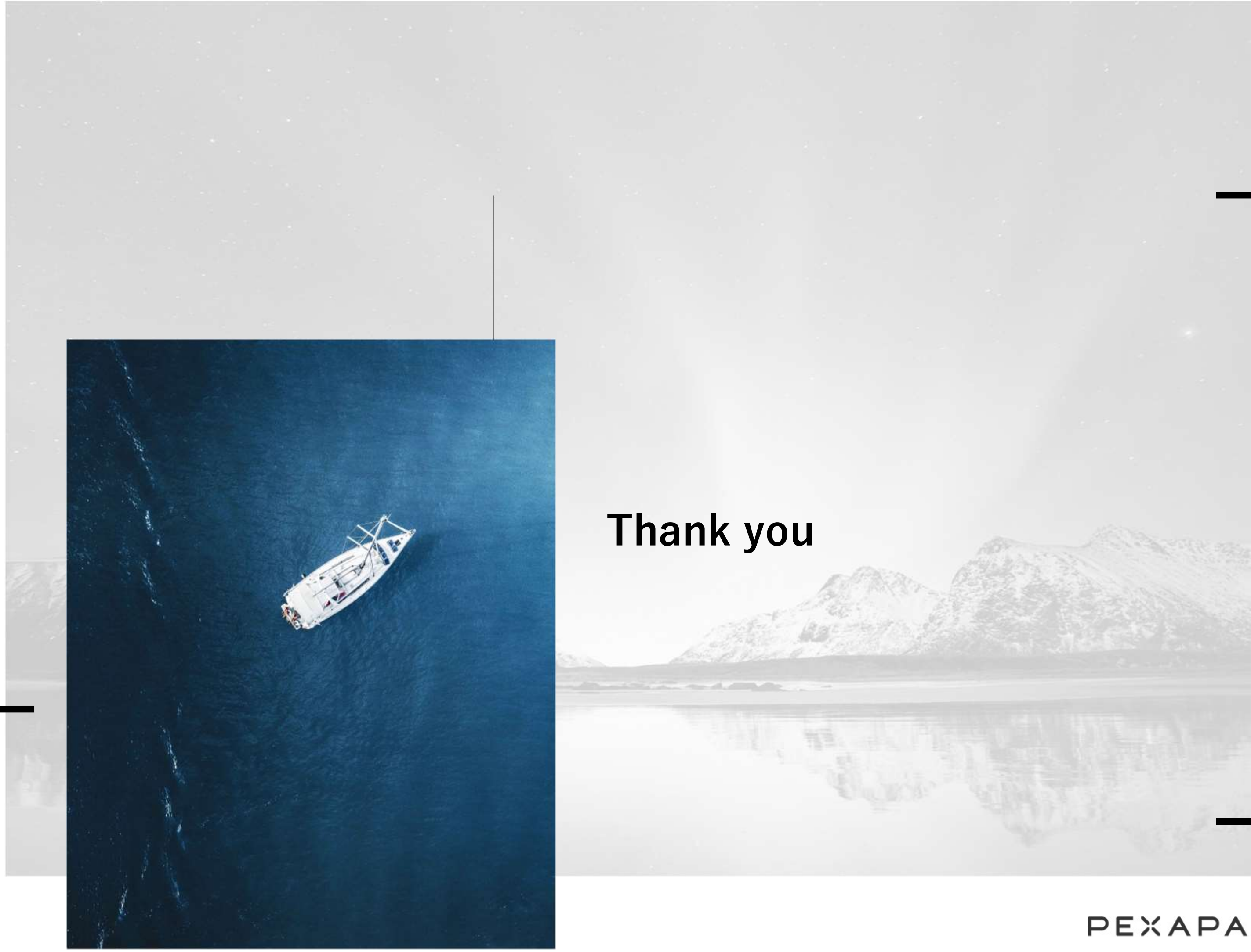
- The GO market in Poland is still in a starting phase, characterized by modest monthly trading volume (319 GWh) with low prices (0.13 to 0.17 EUR/MWh), but high volatility. These levels are associated with projects that have already been build under the old RES support system.
- The national GoO system is not yet in line with European GoO standards making international export cumbersome and expensive. This might change from 2020, allowing producers from new builds fetch significantly higher EU values.
- While on European level quotes are available up to 2021, there is almost no price information on long-term GoO deals. Typically, GoO are traded on spot and year-ahead basis due to issuance risk and regulatory concerns.

NEW STRATEGY

- Many wining auction projects bid aggressively with low prices for limited, *low* volumes in relation to P50. This leaves those projects with a relatively high market exposure.

- The auction design allows for complimentary sales of electricity to 3rd parties.

- We see those projects best placed to negotiate and close *mid-term* PPA (5-8 years) and potentially best suited for corporate PPAs if they are ready to “piggy back” on an auction project.



Thank you

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