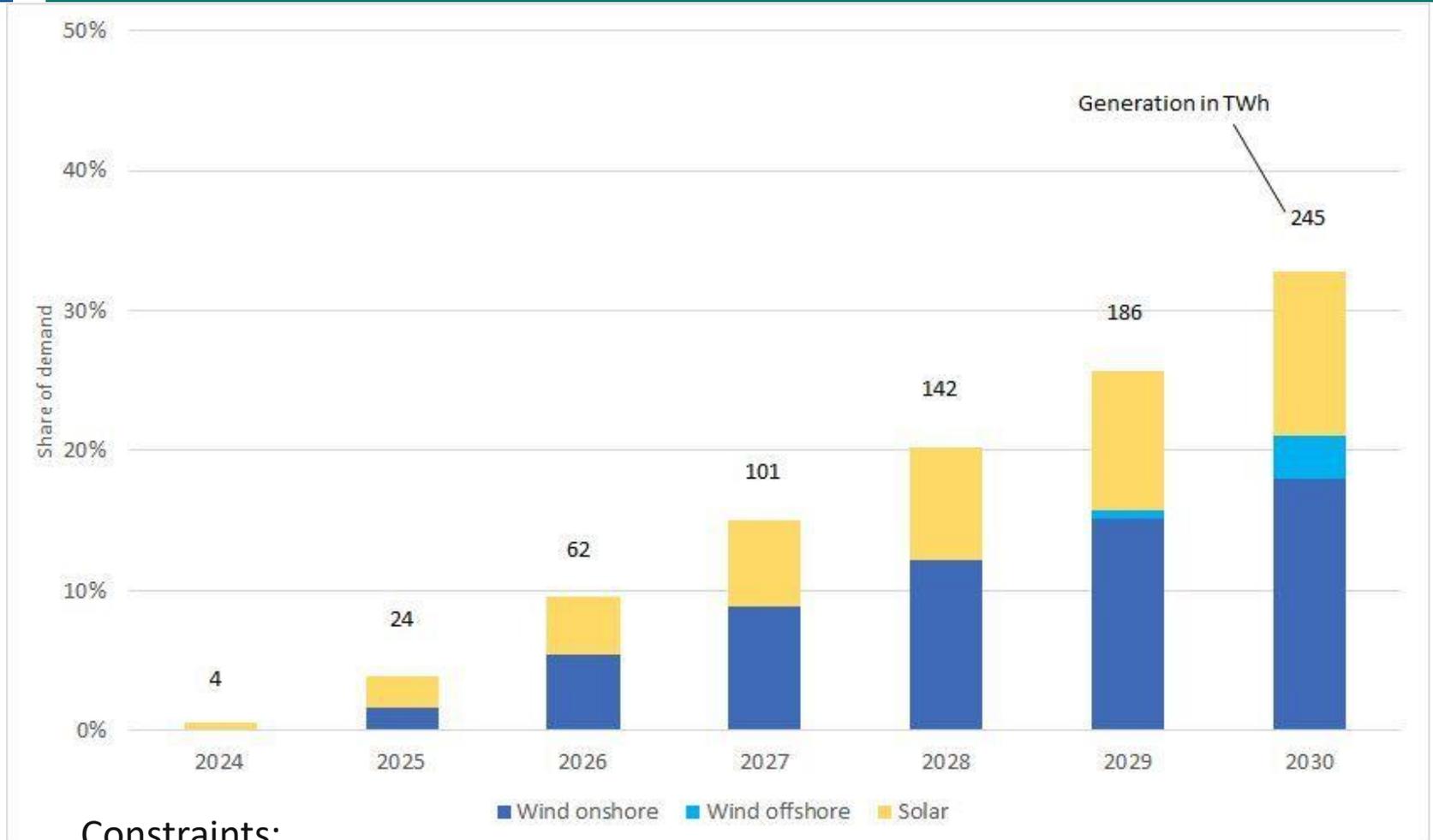


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*EU electricity market reform and power prices  
for industry - perspectives from Germany*

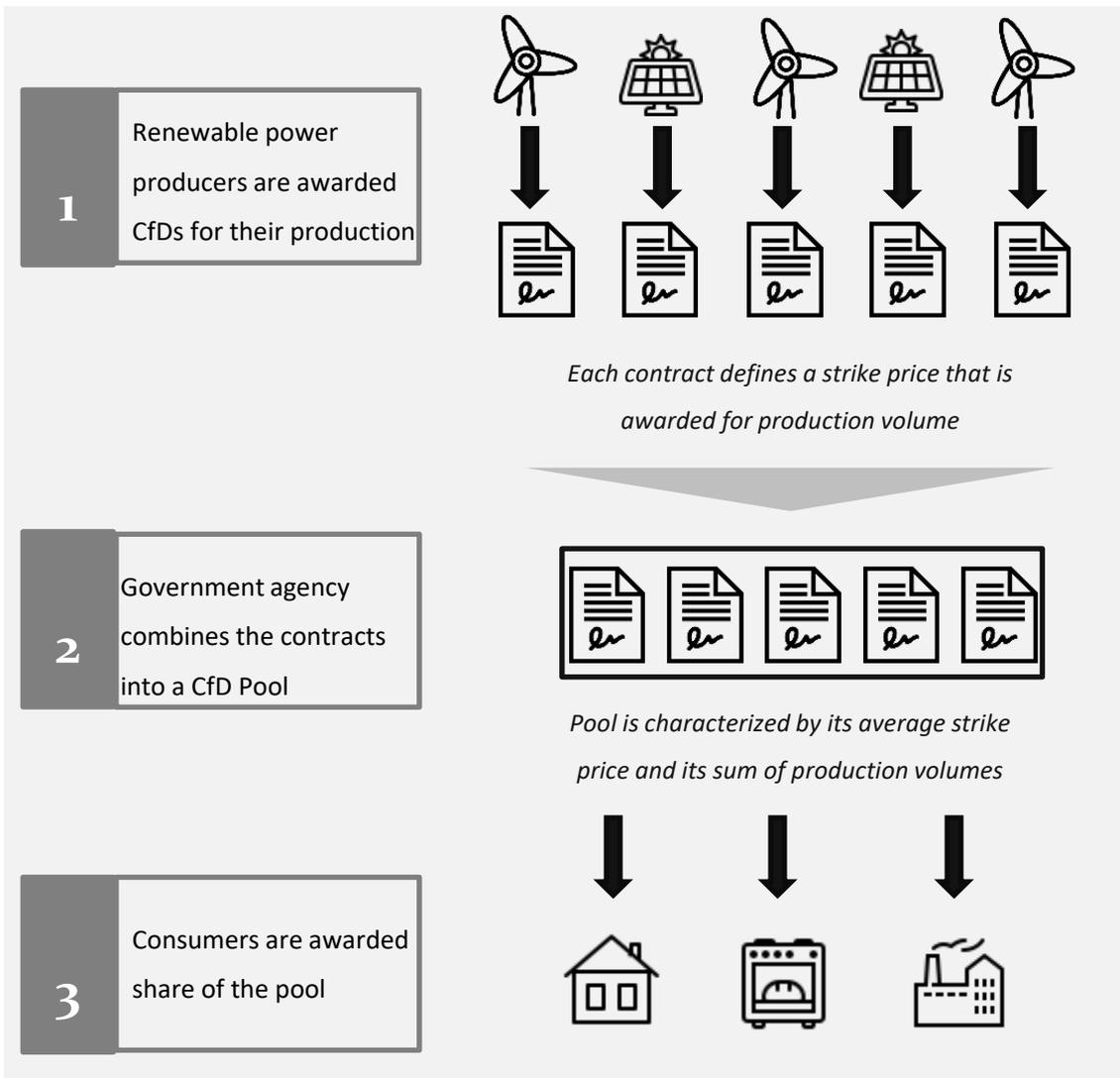
Karsten Neuhoff, Fernanda Ballesteros, Mats Kröger, Jörn Richstein  
*German Institute for Economic Research (DIW Berlin)*

- Platform Climate Neutral Power Market Design (PKNS) started Feb 2023 \*
  - (1) Financing RE (2) Flexibility (3) Dispatchable capacity (4) Local signals
- Industrial power price limit 130 Euro/MWh (for 70%)
  - Until June 2024 – what will follow?
  - Longer-term perspective – more RE, declining prices
  - Building a bridge, modelled on Fr. example 60 Euro/MWh (80% Benchmark)
- Essential to know for the bridge:
  - How wide is the valley? who needs what support to cross
  - How does the other side look? Align with landing point
  - How robust is the landing point? Expectations essential for investments



### Constraints:

- Currently only pre-planned off-shore
- Difficult to see how existing plants would be integrated



Source: Karsten Neuhoff, Fernanda Ballesteros, Mats Kröger, Jörn Richstein (2023): Contracting Matters: Hedging Producers and Consumers with a Renewable Energy Pool. [\(link\)](#)

## Basic principle

- CfD pool is distributed to all electricity consumers (as in the EU proposal)
- Contract volumes independent from consumption maintain price incentives
- Complements PPAs and forward products of existing plants/ lifetime extensions/ other technologies

## Short-term prioritization

- For transformational projects (electrification for emissions reductions)
- For neighbours of wind farms to strengthen acceptance
- For demand from electricity-intensive industries

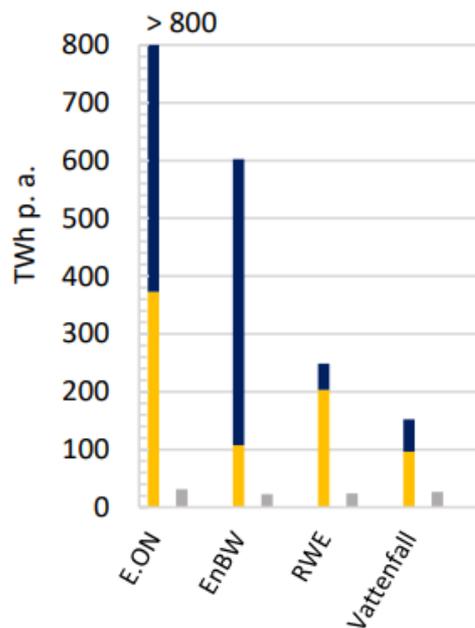
## Long-term question

- What do we do if there is long-term scarcity of sites ... who gets rent?

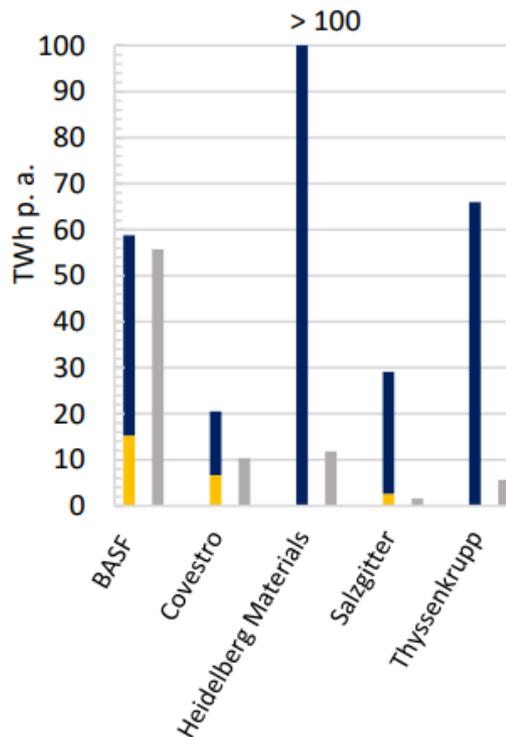
# Why CfD Pool rather than PPAs?

## Strengthening project pipeline and ensuring contract volume

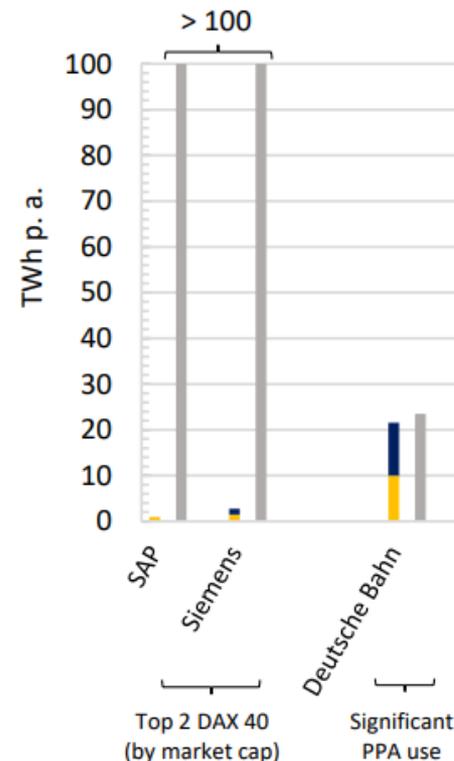
a) Utilities DAX 40 and top-selling utilities in Germany



b) Energy-intensive industries DAX 40 and top-selling steel companies in Germany



c) Other selected German companies



■ Electricity demand/sales in TWh p. a.

■ Remaining of total energy demand/sales in TWh p. a.

■ PPA potential in TWh p. a.

PPA guarantees do not resolve issue

Supplier hedging obligations: How would it resolve concerns about new entrants?

Source: Karsten Neuhoff, Fernanda Ballesteros, Mats Kröger, Jörn Richstein (2023): Contracting Matters: Hedging Producers and Consumers with a Renewable Energy Pool. [\(link\)](#)

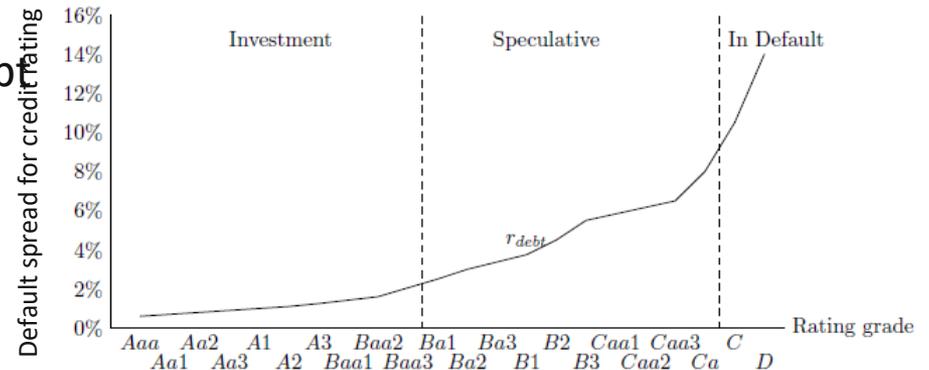
## Why CfD Pool rather than PPAs? Strengthening project pipeline and ensuring contract volume

- Avoid constraints from limited contracting and thus financing capacity
- Eliminate policy risks that could jeopardize project
- Scale up project-pipeline by reducing equity requirements
- Enhance stability of investment pipeline – to scale up PV/wind manufacturing capacity

# Why CfD Pool rather than PPAs?

## Reducing financing costs

1. Counter Party risk for developers increases with PPA : LCoE approx. 10% higher
2. Higher financing costs for demand side (via imputed debt increasing debt-equity ratios) imply increased LCoE of 20%

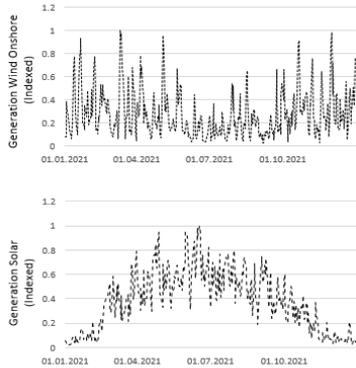


Graph from: Damodaran 2017

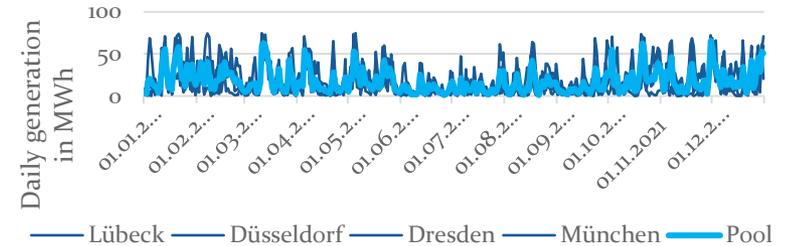
3. Total effect of higher financing costs and risks on balance sheet
  - 29% (DIW 2018/May 2021))
  - 28% (Aurora Energy Research, 2018)
  - 25% (Enertrag, 2019)

PPA guarantees can only address counter party risk (10%)

## I. Combining technologies (Wind and Solar)

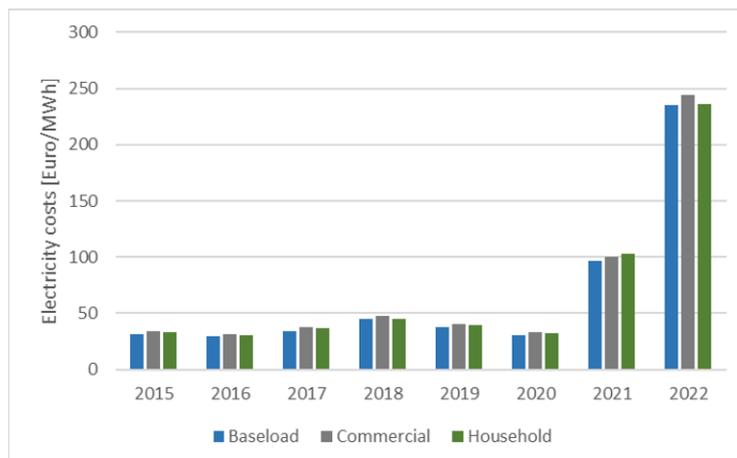


## II. Combining sites

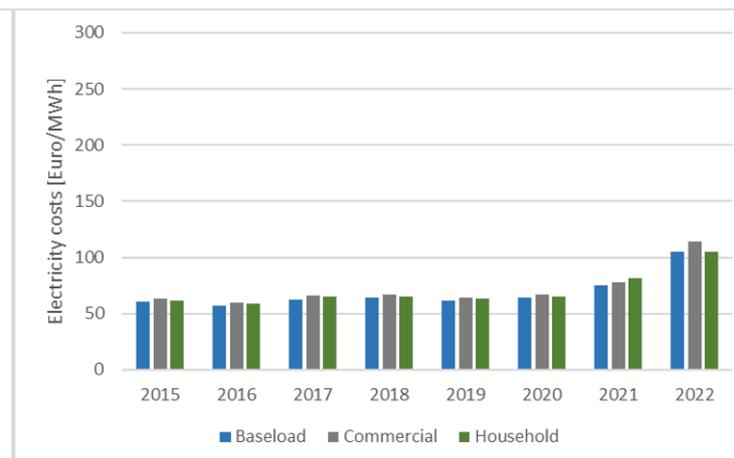


- Consumers (and their energy provider) have to fill gap between RE production and load profile
- Thus investments in flexibility do reduce risks in addition to saving of costs
- The common RE profile helps to catalyse forward contracting of flexibility

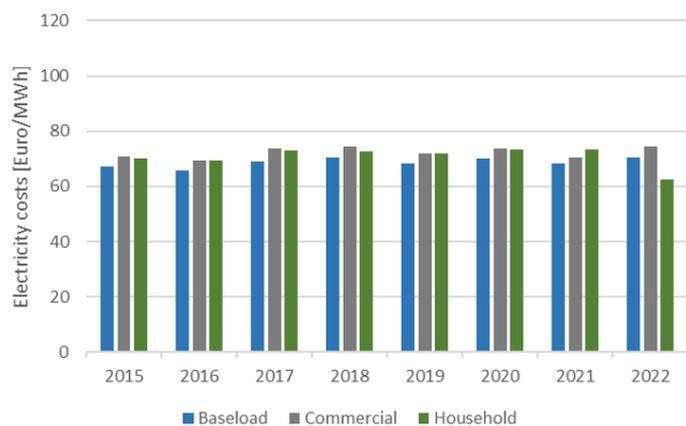
## (i) Spot price



## (ii) Spot price + 100% CfD Pool



## (iii) Spotprice + 100% CfD Pool + 4h batterystorage/day



Source: Karsten Neuhoff, Fernanda Ballesteros, Mats Kröger, Jörn Richstein (2023): Contracting Matters: Hedging Producers and Consumers with a Renewable Energy Pool. [\(link\)](#)

## Key elements

- Tenders for contracts for differences for wind and solar projects
- Aggregating of contracts into a CfD-Pool
- Allocating shares of CfD-Pool to final consumers

## Benefits

- Strengthen project pipeline for necessary scale and speed of deployment
- Reduce financing costs – reducing cost of energy by 30%
- Ensure necessary incentives for system friendly technology choices
- Hedge price risks and ensure low generation costs are passed to consumers
- Facilitate hedging for flexibility products

## What does it imply for the bridge?

- Shift to CfD tenders would shorten bridge to 2027 rather than beyond 2030
- In Germany difficult to fill with existing plants (retroactive, price formation ..)
- Other options : Extend elec. price cap 130 €, gas price cap, ETS power price compensation, tailored support, carbon contracts for difference

Vielen Dank für Ihre Aufmerksamkeit!

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