Bird&Bird&WindEurope

Offshore Wind PPAs: Optimisation of offtake

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What are Corporate PPAs?

Introduction



What are Corporate PPAs

- Supply agreement <u>directly</u> between a generator and a corporate consumer
- Long term, typically 10 20 years
- Pre-agreed or Fixed price structure
- Not necessarily a physical connection between the corporate customer and the renewable installation
- Different structures may be used to implement the required solution
- Aggregation models
 - > Opportunity for corporate consumers to share risks with other consumers



Drivers

Corporate

- Price security
 - Price hedging for 10+ years
 - Right to adjust in case of significant changes
- Create price predictability
- Lowering costs of products in the long term
- Branding
 - Internal sustainability goals
 - External RE100
- Diversification of energy sources security of supply
- No asset management/know-how

Generator

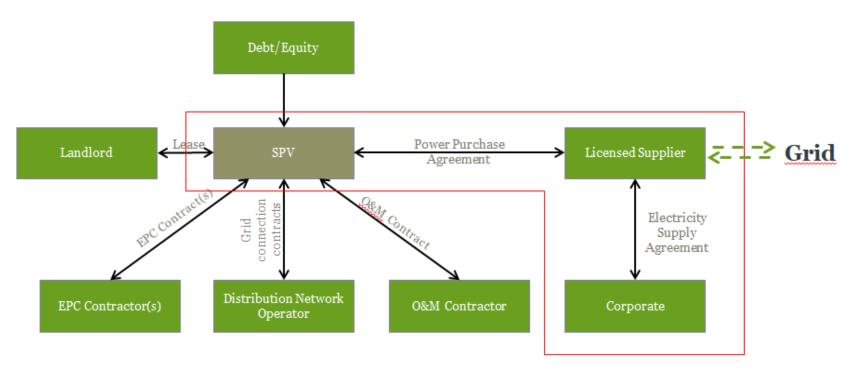
- Price security
 - Price hedging for 10+ years
 - Revenue security in subsidy free environment
- Predictability
 - Guaranteed offtake
 - Project pipeline predictability
- Reducing financing costs
- Securing project finance



Corporate PPA Structures



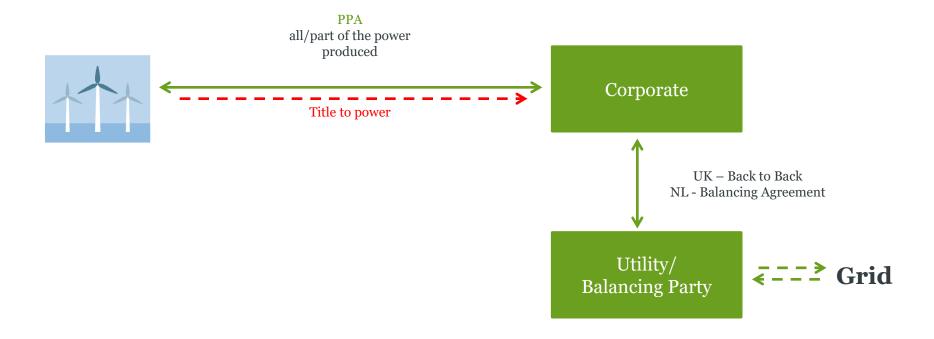
Traditional Project Structure





Possible structures

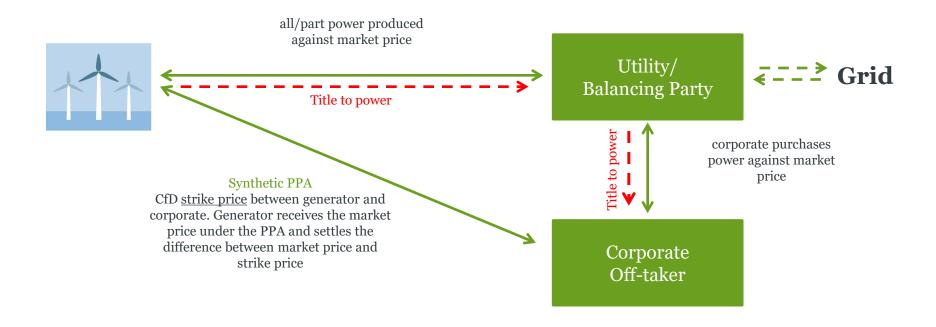
Sleeved PPA





Possible Structures

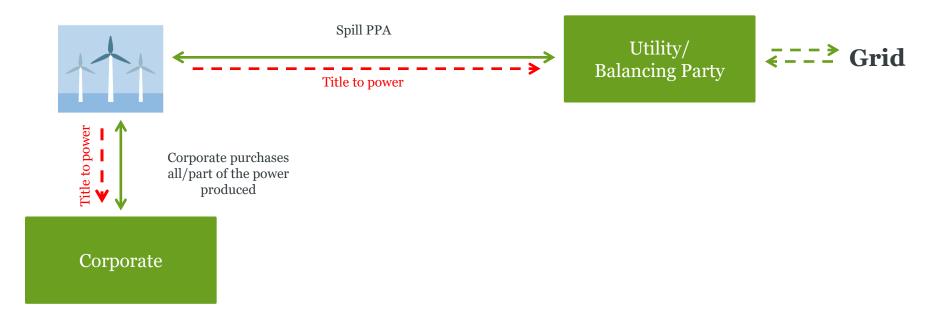
Synthetic PPA





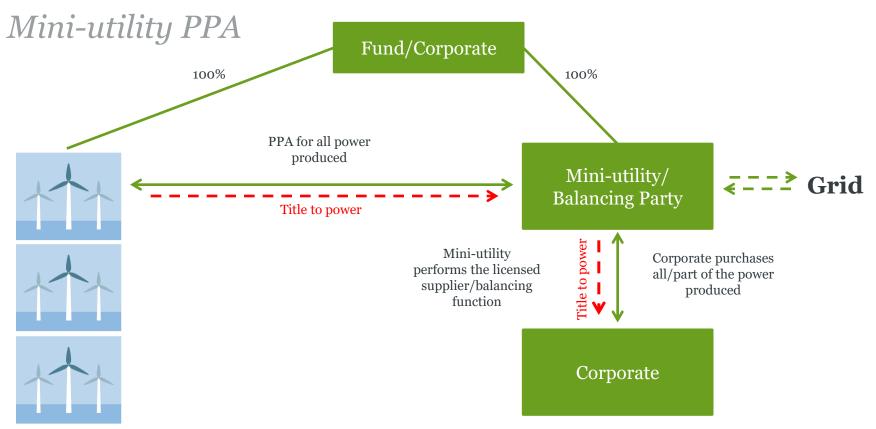
Possible structures

On-site PPA





Possible structures



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Aggregation

Club structures



Aggregation

Club structures opening up the market

Anchor Tenant

Offtake of a small portion of a project One (or more large) buyers have already contracted a PPA US – Apple, Akamai, Etsy, and Swiss RE

Reseller contracting

• Large buyer contracts a single PPA and resells it in smaller quantities to secondary buyers

Aggregation

Several buyers jointly contract equal parts of the output of a single project Netherlands – Google, Philips, AkzoNobel and DSM



Joint Tenancy

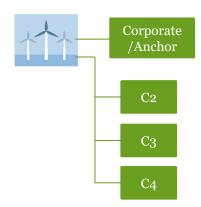
Anchor Tenant

Entity that purchases larger part of project (utility or corporate) Support the debt service of the project

(smaller) Corporate

Contract the smaller part of a project under single PPA (more) Flexibility on

- ✓ Creditworthiness for smaller buyer
- ✓ Terms of the PPA
- ✓ However less in the driver's seat

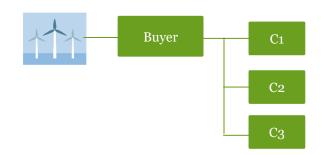




Reseller contracting

One large-scale buyer

Purchases the whole of the offtake of the project Re-sells it in tranches to the market Model used by utilities / traders



Market

Depending on the market, there may be licensing requirements for re-sale

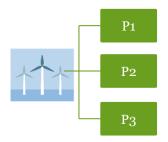
- ✓ corporate cannot determine/select project
- ✓ corporate cannot decide on the PPA terms / governed by Seller PPA
- ✓ corporate sustainable goals are likely not achieved



Aggregation

Partner selection

- ✓ strong commitment towards energy transition (RE100)
- ✓ shared values and vision
- ✓ strong brands



Governance

✓ can be a cumbersome process, however creates sustainable model for multiple use

Entry/exit arrangements and conflict resolution

- ✓ appropriate exit mechanism to deal with offtake under PPA
- ✓ manageable conflict resolution



Offshore wind

Offshore wind

Recent examples offshore PPAs

July 2018 600 MW Kriegers Flak (Danmark)

Vattenfall PPA → Novo Nordisk / Novozymes

November 2018 860 MW Triton Knoll (UK)

Ørsted signed a 15 year PPA

February 2019 950 MW Moray East (Scotland)

Centrica signed a 15 year PPA

219 MW Northwester (Belgium)

RWE signed long term PPA

573 MW Racebank (UK)

Northumbrian Water Ltd signed 10 year PPA



Offshore wind Developments

- Zero-subsidy projects
 - Germany
 - Netherlands
 - (Danmark)
- Cost competitiveness
- Lower capital costs
- Larger turbines, larger projects
- Increased interest of corporate buyers

→Aggregation models!



Thank you & Bird & Bird

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