# Power Purchase Agreements for Differences Transitioning towards Liberalised Markets

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DLA PIPER

# About the Presenter

- Partner in the energy and infrastructure finance group of DLA Piper, one of the largest international law firms
- Member of DLA Piper's energy sector and ESG leadership teams
- Legal500 Tier 1 ranked and recommended for linear energy infrastructure projects (interconnectors, pipelines)
- Various mandates setting up renewable energy support or certificates schemes, including for IREC, AIB, EBRD, WB, IBRD, GIZ, Energy Community, European Commission
- Diverse practice for sponsors, corporates, generators and utilities for financially and physically settled PPAs, Route to Market Agreements, Balancing Services Agreements
- Extensive experience in offshore and onshore electricity transmission lines, interconnectors and allocation offices, including SwedPol, IFA 1&2, Nemo, BritNed, NorthConnect, NSL, Greenlink, Gridlink, Casa1000, Mavir - APG IC, Shetland IC, Icelink, SEECAO, TM-AF Interconnector
- External counsel to the European Federation of Energy Traders and (lead external advisors on EFET Power Purchase Agreement, Certificates Master Agreement, UK Allowance Appendix), Member of the Energy Charter Secretariat‘s Legal Advisory Task Force, Expert Panel Member of Energy Community
- England & Wales and Ireland qualified, working across EMEA

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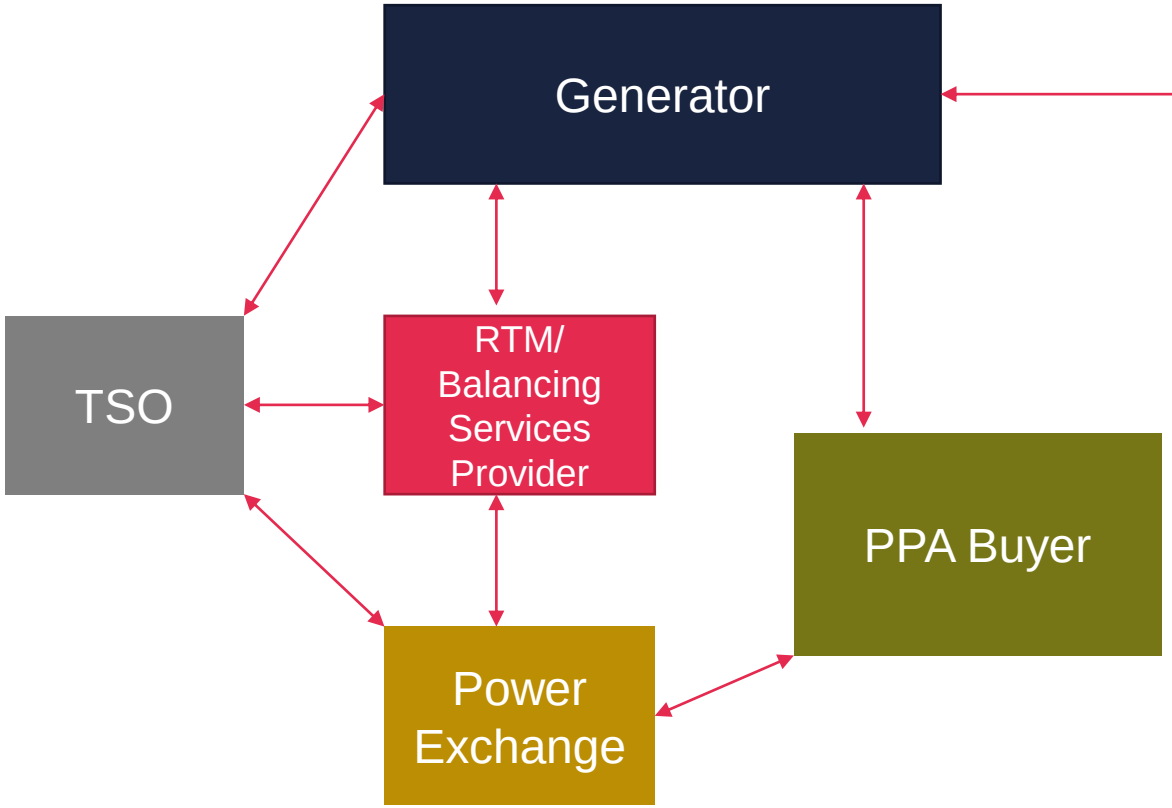
# Outline

- Offtake structures and variants
- Specific considerations for CfDs/financially settled PPAs
- Financial instruments regulatory aspects
- Typical contract structure issues and options
- Environmental attributes and renewable energy cerificates
- Transmission, balancing and route to market arrangements
- Transition and conversion

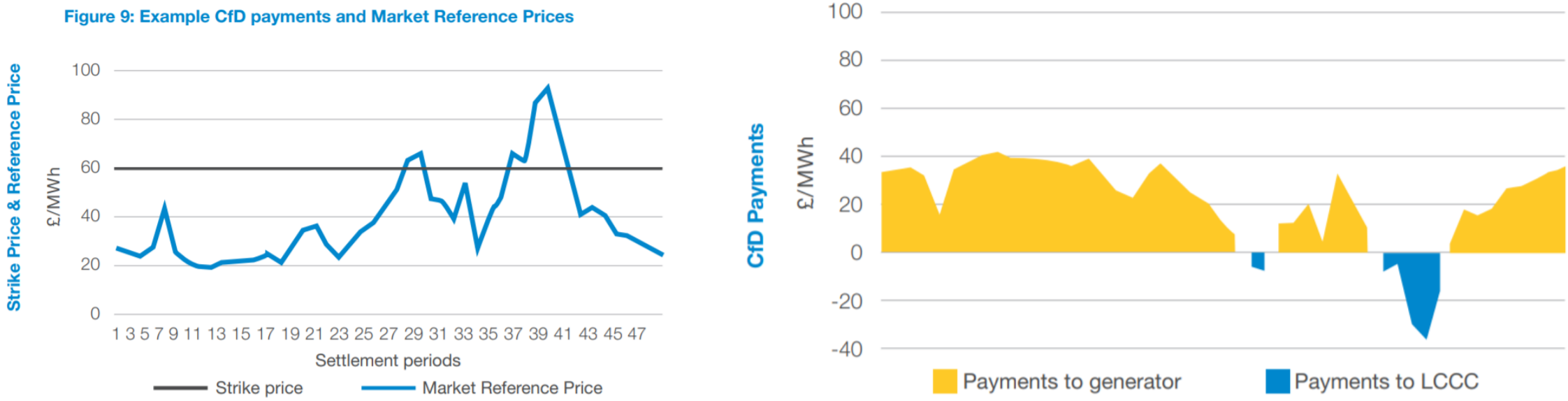
# Offtake Structure and Variants




**Variations:**

- Balancing settlement options pay as produced vs pay as forecast
- Financially settled corporate PPA
- Utility PPA
- Multiple corporate and utility offtakers
- Investor PPA
- Cross-border PPA

# Principle of a CfD (Symmetric)




Source : https://www.lowcarboncontracts.uk/

Bidirectional (“symmetric”) payments in function of the difference between strike price and reference price

# Financially Settled PPAs – Key Issues

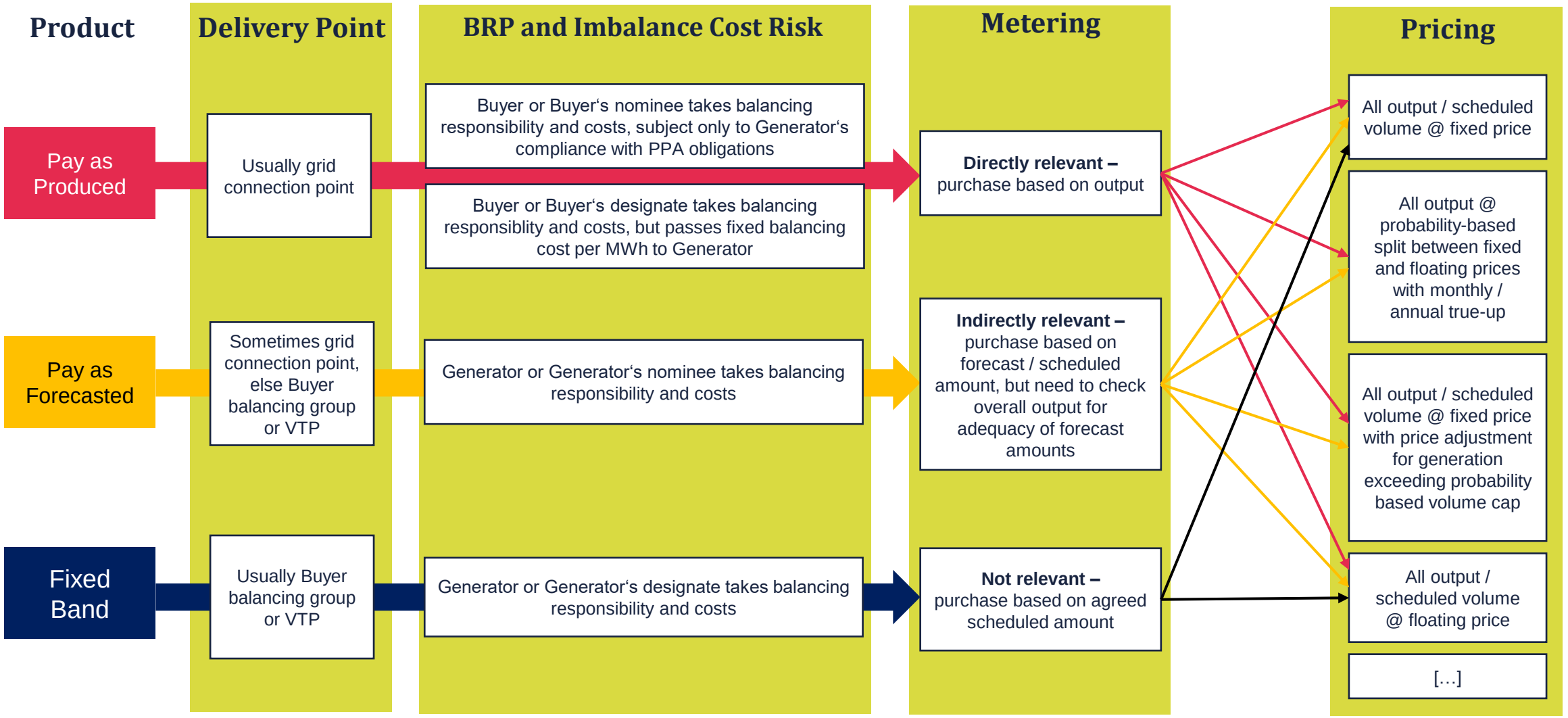
- Support scheme or zero-subsidy corporate PPA with additionality for ESG compliance.
- Symmetric vs. asymmetric vs. trued-up settlement.
- Delayed COD or reduced capacity liquidated damages, availability guarantee similar to physcially settled PPAs.
- Liquidated damages not a reasonable pre-estimate if loss if settlement is “in the money“ for the generator and buyer has an actual gain (no settlement payments to generator).
- Correct price reference point if cross-border or offshore between bidding zones.
- Reference to metered or forecast/nominated volumes as basis for the settlement.
- Project force majeure to reduce settlement volume or does settlement continue on the basis of deemed avaialbility.
- Relevance of market disruption and reference price point illiquidity.
- Need to consider material adverse change in power exchange or balancing rules which may not be covered by change in law.
- Delineation to additionality priced GoO purchase alterantive – drivers for the virtual and synthetic PPA structures.
- Credit support requirements vs. The need to comply with risk mitigation if above the threshold for NFC+ PPA parties.

# Financial Regulation

- Financially-settled PPAs may be captured as Section C(5) or C(9) financial instruments under Annex I to MiFID II.
- Renewable energy certificates can under certain circumstances be considered a MIFID II derivative.
  - Parties may be subject to various obligations under MiFID II, including on authorisation and information provision.
  - Exemptions are however available, such as for ancillary services (i.e. entering into financially-settled PPAs is not the main business of a party).
- PPAs or CfDs that are financial instruments are subject to a variety of regulatory obligations including:
  - Authorisation requirements (unless exempt – own account / ancillary activity).
  - Reporting obligations.
  - Risk mitigation obligations (clearing, portfolio compression, etc) if above threshold.
- The physical trade of electricity under a physically-settled PPA may be captured as a "wholesale energy product", triggering the REMIT reporting obligation.

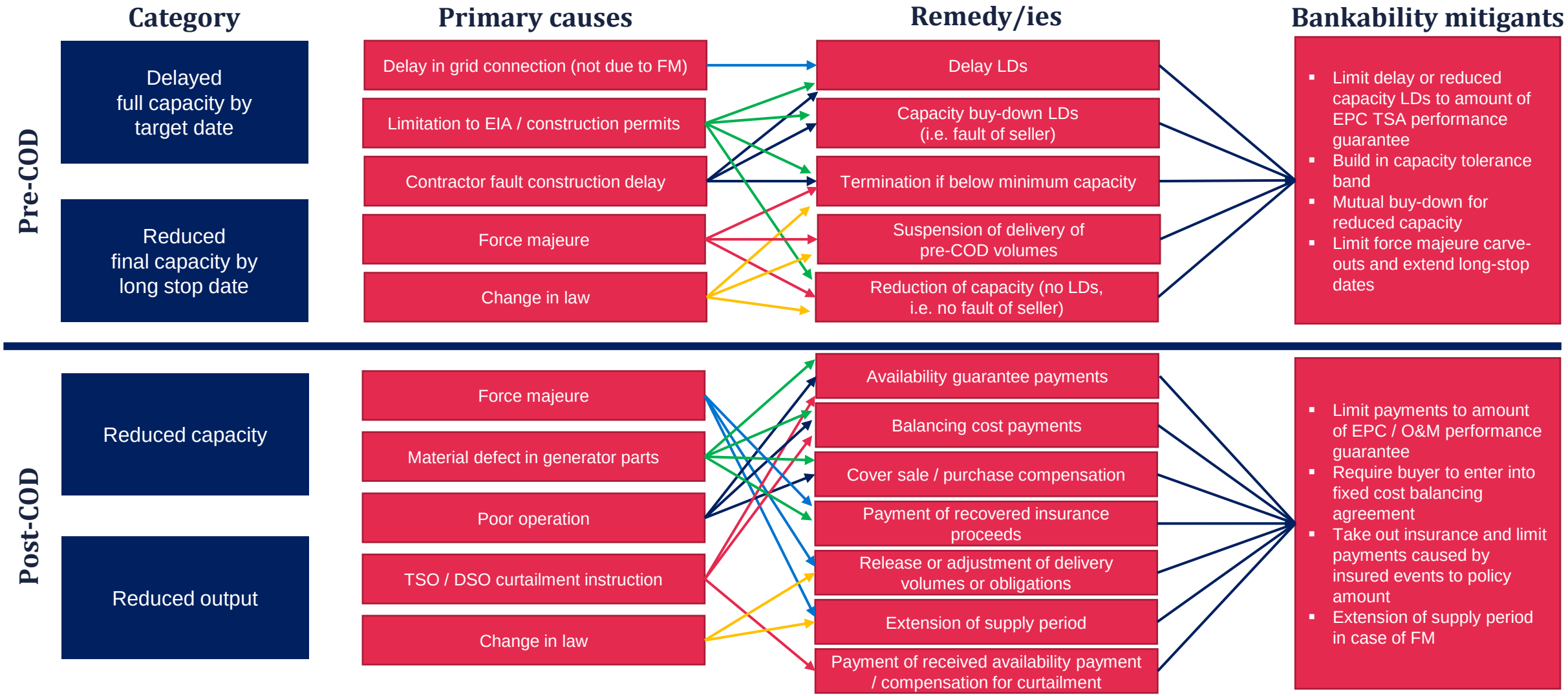
# Interaction of PPA Terms

## Product, delivery point, balancing, metering, pricing



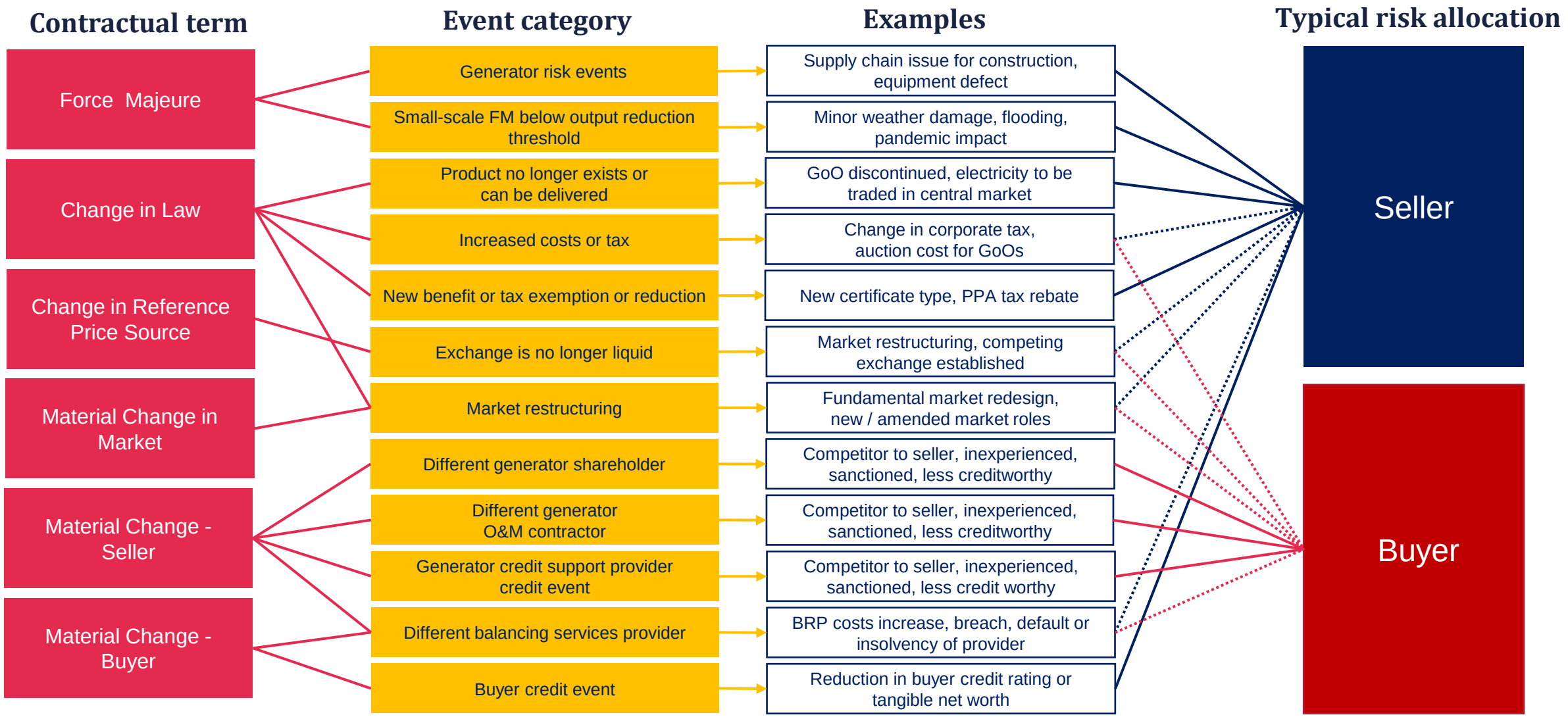
# Interaction of PPA Terms

## Delivery failure scenarios



# Interaction of PPA Terms

## Change events and common risk attribution



# Interaction of PPA Terms

## Typical elements of loss

| | Seller loss | Buyer loss |
|---|---|---|
| During term | (Short-term) cover sale / hedge costs | GoO Encumbrance Loss **or** Replacement GoO Costs |
| | Balancing costs | (Short-term) cover purchase / hedge costs **or** Balancing costs |
| | | Lost Additionality value of undelivered GoOs |
| Post-termination | Termination (advisors) costs | Advisor costs following termination |
| | Mark-to-market or Seller's loss from less favourable pricing under replacement PPA | Mark-to-market or Buyer's loss from less favourable pricing under replacement PPA |
| | Costs from sourcing replacement PPA | Costs from sourcing replacement PPA |
| | Financing costs | Termination / compensation costs of Balancing Service Provider |
| | | Removal cost from site (if onsite / private wire) |

## Considerations

**For Generator**

Needs certainty of route-to-market or right to sell to buyer equipment:

- Facility pricing difficult:
  - Fair market price may not adequately cover equity and financing costs
  - Formula on depreciated equity, outstanding debt, IRR NPV, insurance proceeds and money on account preferable
- Sale option practically only meaningful in case buyer is not in payment / credit default
- Right to transfer of connection agreement

Buyer accounts for avoided costs if no replacement PPA is concluded

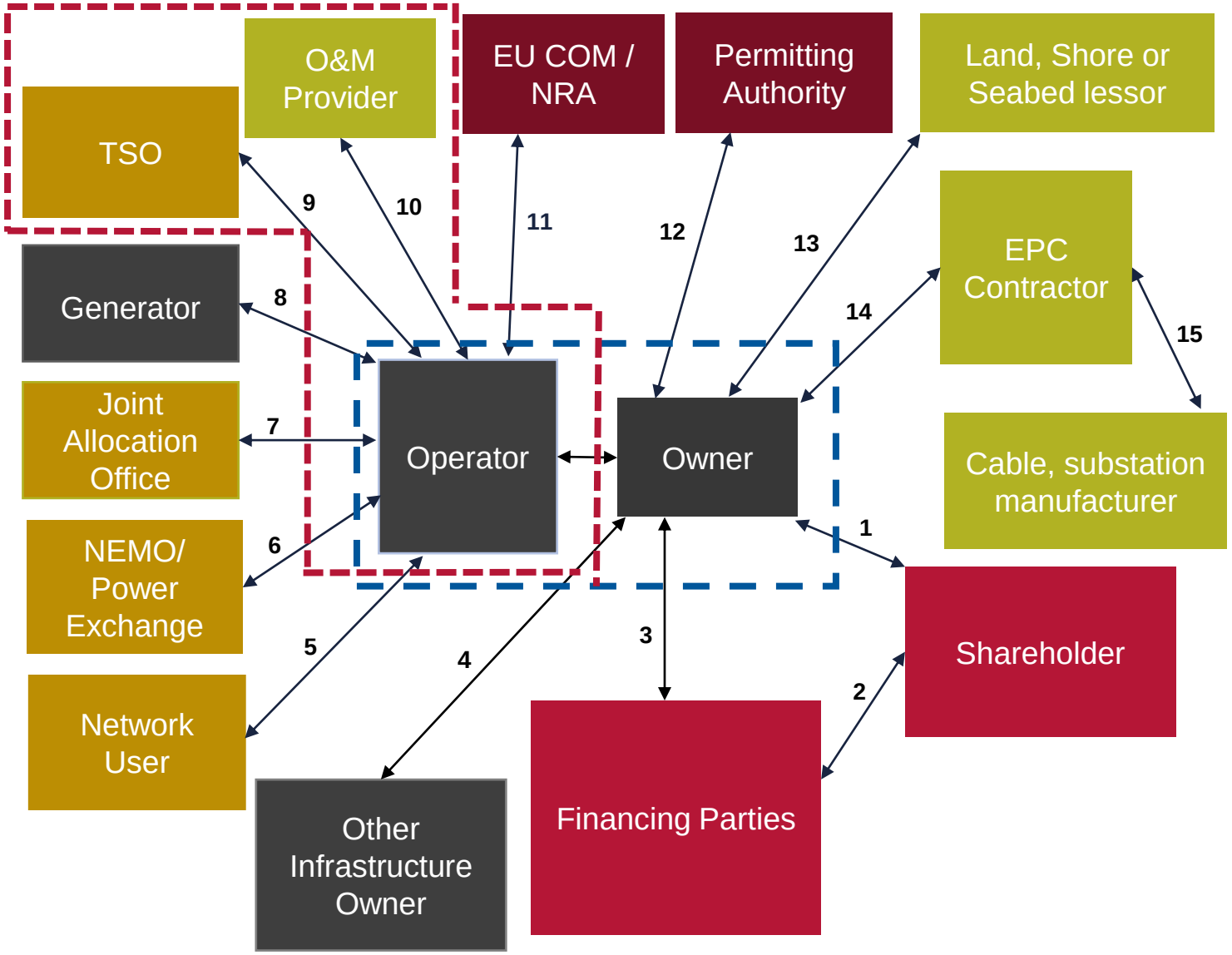
**For Buyer**

Lost additionality value and necessary period for replacement value to be appropriate covered

Insurance proceeds are taken into consideration

Wilful default

# PPAs, CfDs and Multi-Purpose Transmission Lines



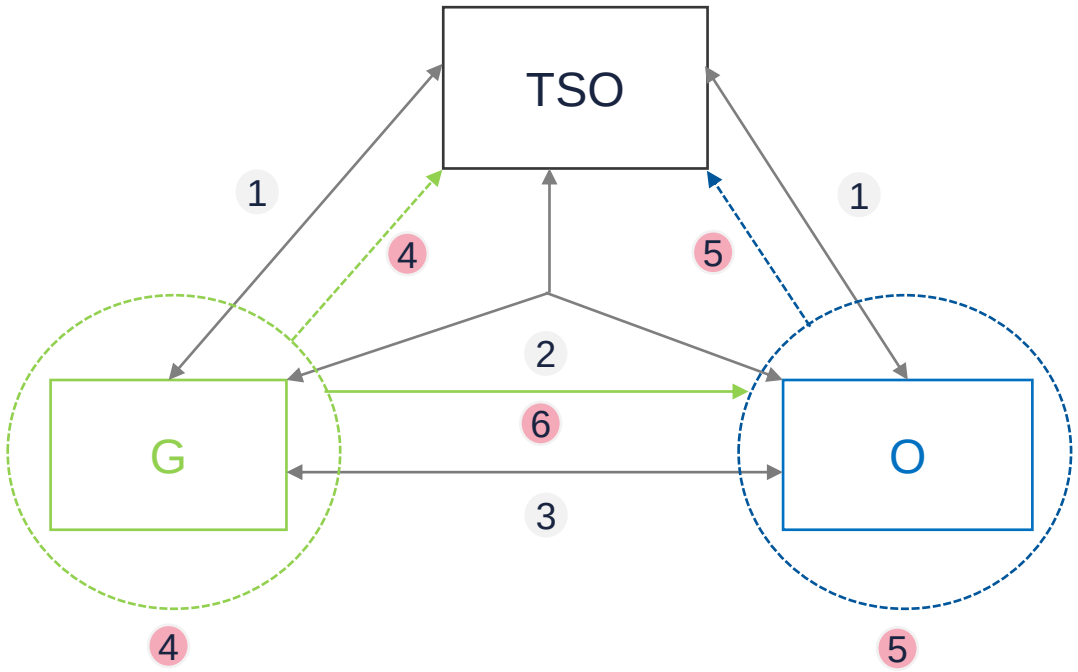

| No | Key Contracts/ Authorisations | Risk mitigation |
|---|---|---|
| 1 | Shareholding | Financial and technical capability |
| 2 | Credit / completion support | Reduce completion risk |
| 3 | Loan and security | Loan repayment |
| 4 | Crossing / proximity | Right to build |
| 5 | IC access rules | Secure revenue stream |
| 6 | DA / ID implicit allocation | Optimise revenue stream |
| 7 | LTR auction | Regulatory compliance |
| 8 | Connection and use of system | Secure revenue stream, regulatory compliance |
| 9 | IC and operating protocol | Interface operations risk |
| 10 | Operations, maintenance | Reduce trip risk |
| 11 | TSO certification, licence, (exemption) | Right to operate comercially |
| 12 | EIA and construction | Right to build |
| 13 | Lease | Right to use |
| 14 | Construction | Reduce construction and technology risk |
| 15 | Manufacturer warranties | Reduce technology risk |

# Imbalance Settlement

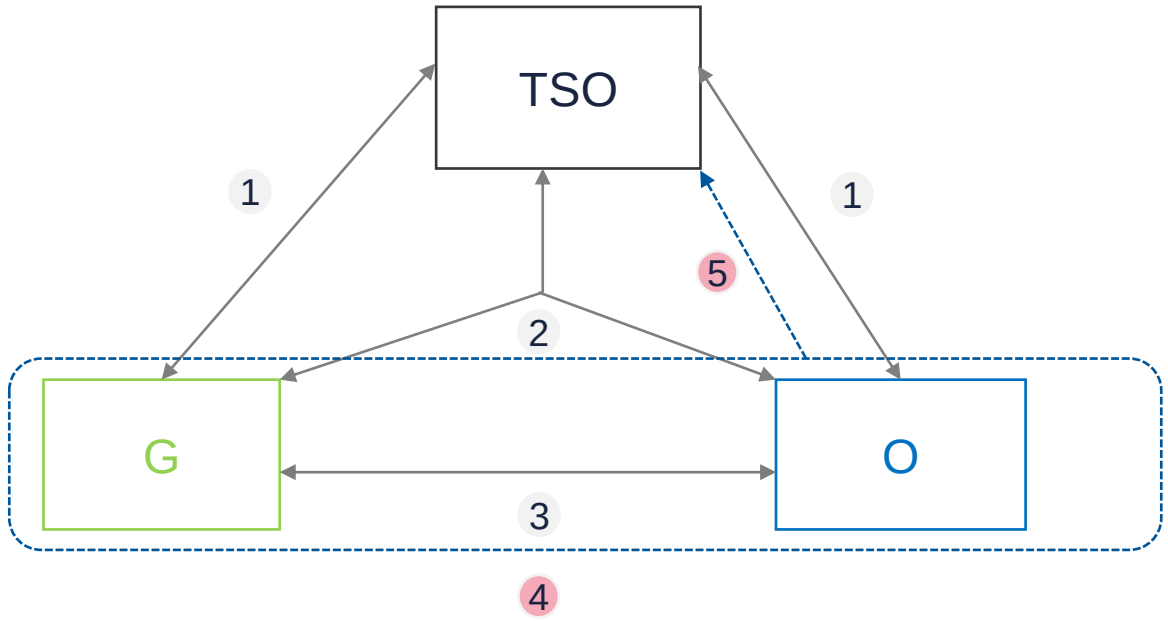
- Any transmission system needs to stay within operational parameters of frequency
- Electricity flows follow the laws of physics
- Reasons for system imbalance
  - Generator feeds into the system less than agreed / nominated
  - Generator fees into the system more than agreed / nominated
  - Offtaker takes from the system more than agreed
  - Offtaker takes from the system less than agreed
  - Transmission losses
  - System operator own constraints
  - Other, interconnected system constraints
- Imbalance positions of system users can cancel each other out partially or fully
- Imbalance is the norm, rather than the exeption
- System operator pays generators or offtakers (demand side response) to take actions to keep system in balance
- Cost are in the main attributed to party who caused the imbalance but some costs need to be socialised
- Depending on jurisdiction and system, imbalance is determined on the basis of half-hourly or quarter-hourly settlement periods

# Balancing Differences Pay as Produced - Pay as Forecast

## Pay as Forecast




## Pay as Produced

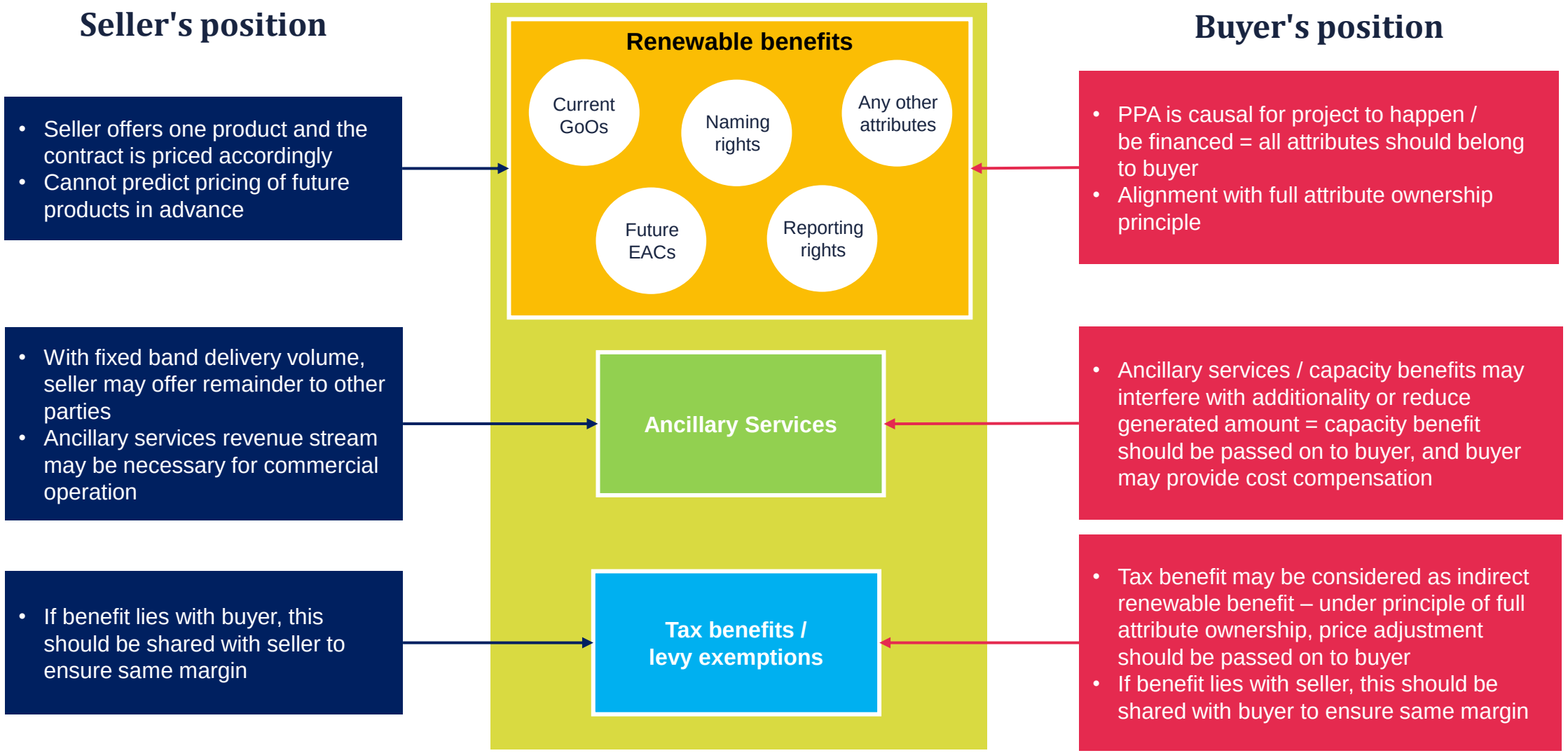



**Nomination and Imbalance**
4 - Generator as BRP is responsible for generation imbalance attributed ot its generation unit (its balancing group)
5 - Offtaker as BRP is responsible for ofttake imbalance attributed ot its consumption unit (its balancing group)
5 – Volumes nominated by Generator are being are attributed to Offtaker rather than generated volumes, so Generator takes intermittency risk

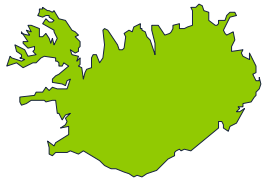
**Contracts**
1- Connection Agreement
2 – Use of system agreements (including grid code and balancing)
3 - PPA

**Nomination and Imbalance**
4 - Generator and offtaker are both in the same balancing group
5 – Offtaker as BRP is responsible for the net generation - ofttake imbalance attributed ot its consumption unit as balancing group responsible

# Renewable Benefit as Driver for Zero-subsidy PPAs



# Certificates across Europe



Beyond EECS Certificates, there are various other renewable certificates which are commonly traded in Europe, including:

- National GoOs, for instance UK REGO or Polish green/blue certificates of origin
- Support certificate schemes, for instance Norwegian/Swedish Elcert, Romanian GoOs or the UK ROCs.

**AIB Members**

- EU / EEA / EFTA - AIB Member (with EECS GOs)
- EU / EEA / EFTA - AIB Member (with EECS GOs) – import only
- EU / EEA - AIB Member (with EECS GOs, GoOs and support certificates)
- EnC - AIB Member (with EECS GOs)

**Other**

- EU - Non-AIB (with GoOs and/or support certificates)
- UK - Non-AIB (with REGOs and ROCs (closed scheme))
- EU - AIB Observer (with GoOs)
- EnC - AIB Observer (with GoOs in legislation)
- EnC - Non-AIB (with GoOs in legislation)
- I-RECS (via local issuer or rest of world issuer)

* countries with dotted colours are those which have formally applied for AIB membership

Information from www.aib-net.org - correct as of 7 December 2020

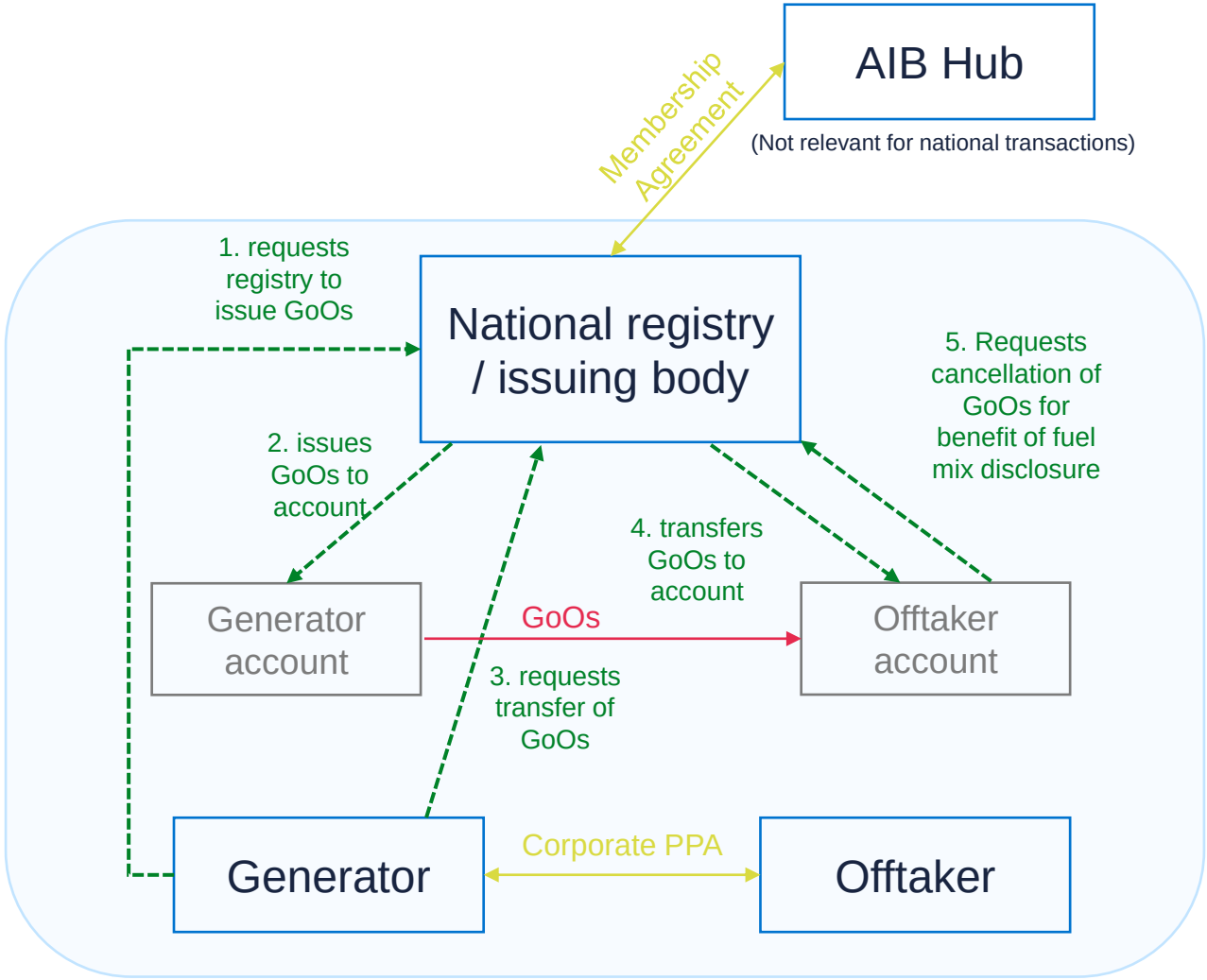
# Mutual Recognition

- A key design characteristic for the GoO (under RED and RED2) is their mandatory recognition by other Member States.
- Under RED, this was expressly designed to allow suppliers in one Member State to buy (or import) GoOs (and thereby notionally trade RSE) from another Member State for purposes of FMD disclosure in its own Member State.
- Under RED2, this was expanded to cover the import of RSE for consumption by end-consumers.
- The GoO mutual recognition obligation is set out in Article 19 RED2:
  - "*(9) Member States shall recognise guarantees of origin issued by other Member States in accordance with this Directive exclusively as evidence of the elements referred to in paragraph 1 [FMD and sale of RSE for consumption by end-consumers] and points (a) to (f) of the first subparagraph of paragraph 7 [details to be included states in a GoO]. A Member State may refuse to recognise a guarantee of origin only where it has well-founded doubts about its accuracy, reliability or veracity. The Member State shall notify the Commission of such a refusal and its justification.*
  - *(10) If the Commission finds that a refusal to recognise a guarantee of origin is unfounded, the Commission may adopt a decision requiring the Member State in question to recognise it*."
- The EECS Rules have been developed by the AIB to go beyond this mutual recognition obligation, facilitating trade between national registries.

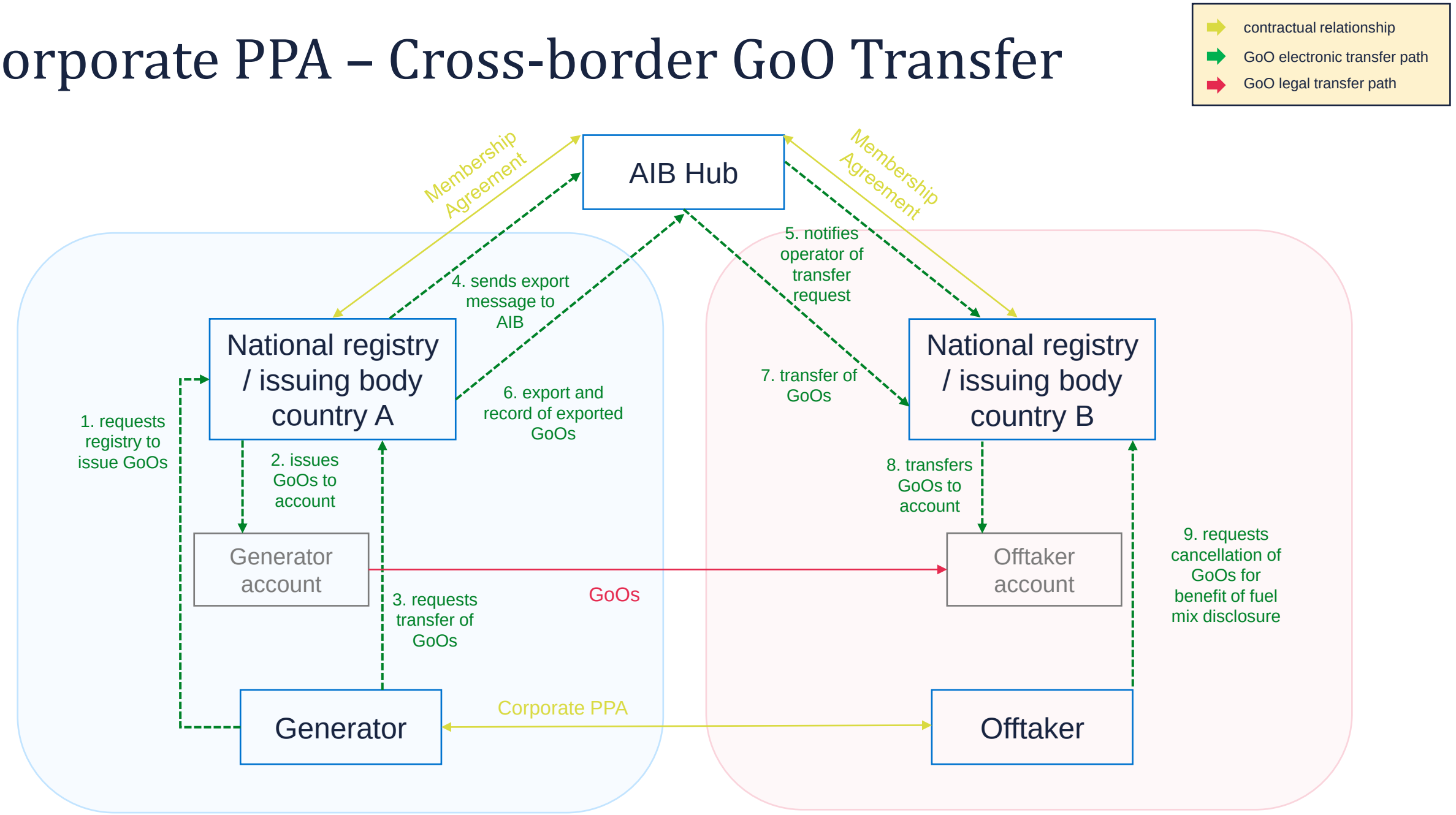
# Divergence despite Harmonisation

- Despite the EECS Rules seeking to harmonise the nation-centric GoO system as foreseen under RED and RED2, AIB member countries have varied various aspects of the EECS Rules through their Domain Protocols.
- These aspects appear on first consideration to be relatively minor, however, upon deeper consideration, they have a material impact on the ability for various market participants to trade GoOs (and thereby RSE) between AIB member countries, as well as on their ability to claim the associated environmental benefit through the cancellation of GoOs.
- The following are areas in which the systems diverge the most:
  - Right of a market participant to have an account on the national registry.
  - Right of a market participant to act as principal or agent.
  - Whether a generator which receives support is eligible to receive GoOs.
  - Right of a market participant to cancel GoOs by itself.
- In addition, the EECS Rules do not apply throughout the entire EU, with some larger countries relying on purely national trading, such as Great Britain, Poland and Romania.
- These factors therefore effectively restrict the free trade of RSE between EU Member States, and therefore need to be considered in structuring cross-border trading arrangements of RSE, and on what claims can be made by a market participant cancelling GoOs.

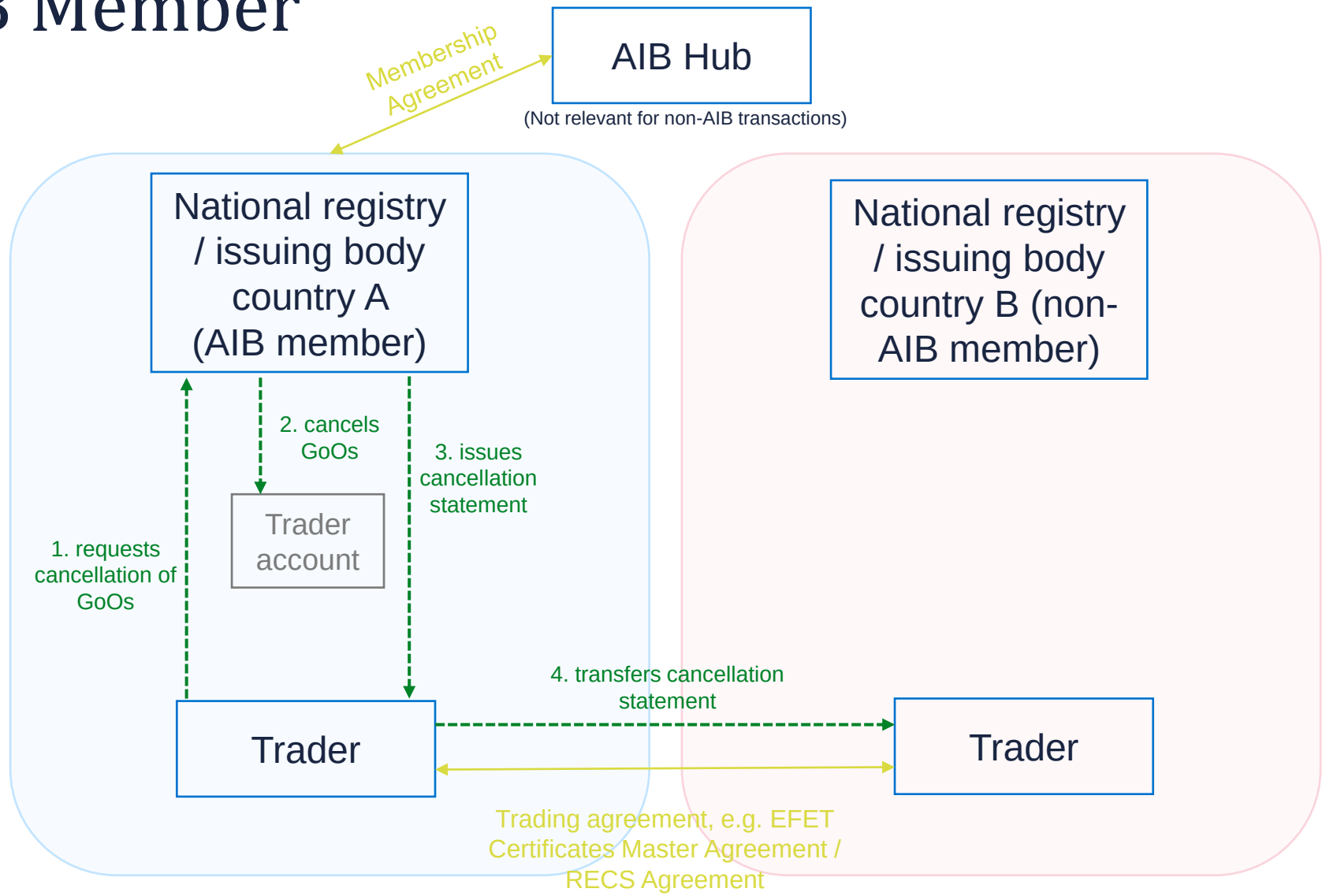
# Corporate PPA – National GoO Transfer



# Corporate PPA – Cross-border GoO Transfer



# GoO Transfer between AIB Member and non-AIB Member



# Transition and Conversion

- Support schemes are moving from long-term feed-in or fixed premium physically settled PPAs to CFDs and symmetric or asymmetric floating premia.
- In the growing zero subsidy corporate PPA market, the number of financially settled PPAs increases.
  - Simplicity to integrate into existing supply structures.
  - Greater flexibility to set up cross-border PPAs for international consumption sites.
  - However, limitation through treatment of financially settled PPAs as financial instrument under MIFID II, requiring authorisation or exemption and certain risk mitigation if generators or buyers (typically NFC-) are above EMIR commodity (clearing) thresholds.
- Financially settled PPAs are not mutually exclusive with underlying long-term physcial offtake agreements, but some countries or regions (e.g. Energy Community) prefer CfDs to operate on the basis of shorrt term or spot sales in day-ahead and intra-day markets.
- Long-term physically settled PPAs (up to 20 years) are generally viewed as compliant with EU and national competition law, where required for financiability.
- Long-term financially settled PPAs generally even easier to justify under competition law as demand is not tied up but can still be sold flexibly under short term and long-term agreements.

# Transition and Conversion

- Combining financially settled PPAs with short term markets requires liquid short term marktes (usually exchange based) and flexible balancing structures and traders or service providers that offer route to market via the exchange and balancing services.
- Less liquid markets usually require a transition regime (e.g. approach taken in the Energy Community).
- Liquidity / conversion criteria include:
  - Establishment of an electricity market and the availability of day-ahead prices for the preceding 6-12 months before the transition.
  - Liquid capacity allocation or market coupling with interconnected countries.
  - Sufficient measures requiring other market participants to sell and buy electricity at the market.
  - A minimum amount of electricity traded on the day-ahead market relative to physical market size.
  - Existence and availability of independent off-takers and intermediaries.
  - REMIT (or comparable) implementation and assurances that the market is not subject to abuse or anticompetitive behaviours.
- Examples of tendered fixed price physically settled PPAs exist (e.g. Energy Community) which contain a conversion clause that convert the PPA into a CfD upon the market meeting certain liquidity criteria.

# Thank you