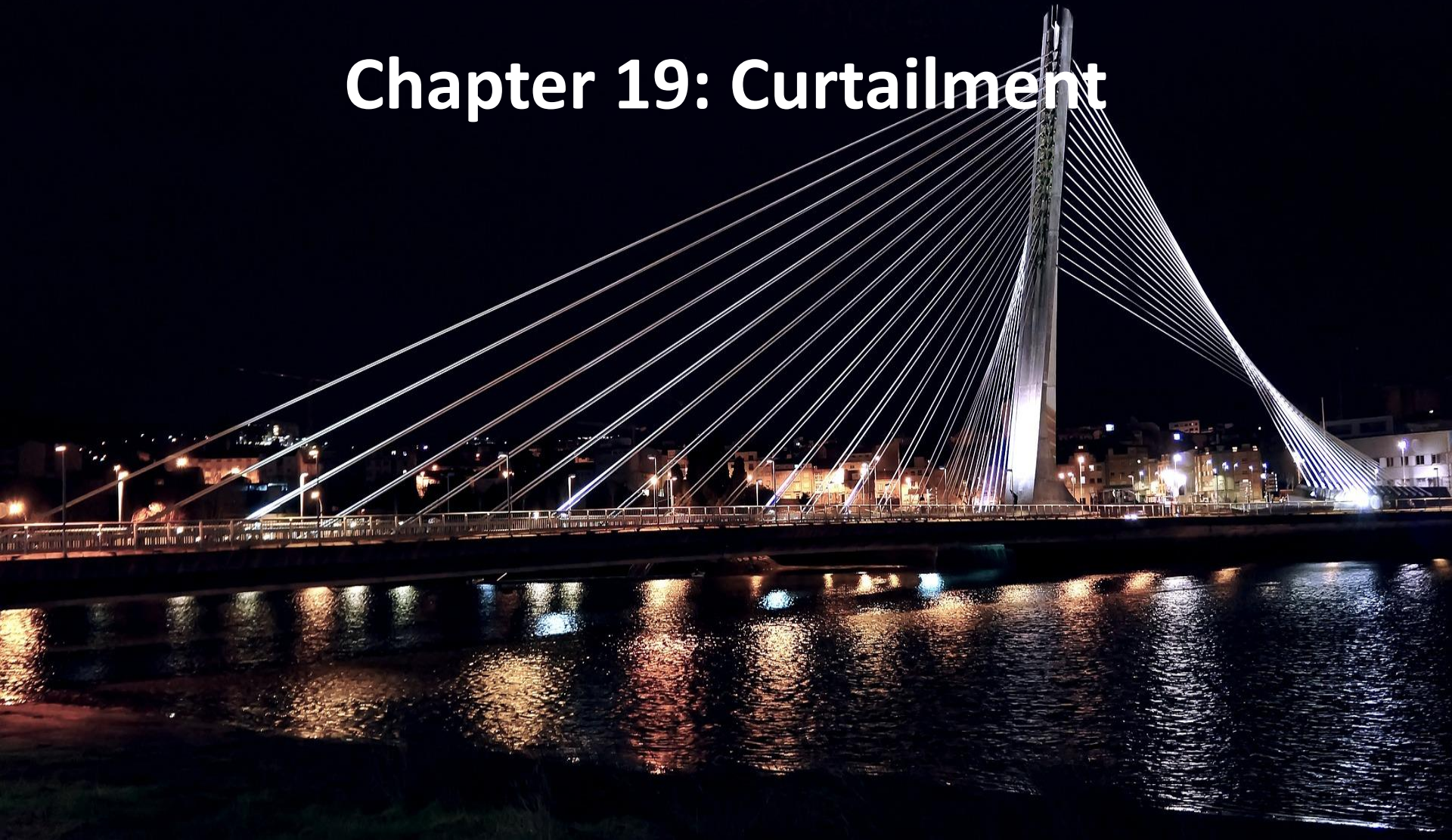


# Chapter 19: Curtailment



# Curtailment

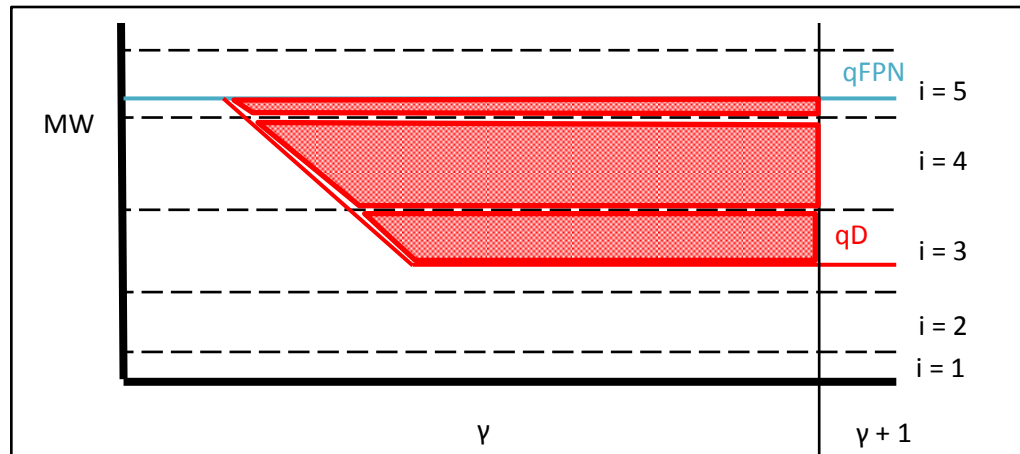
- Wind generators, which have priority dispatch, can be dispatched down for two broad reasons:
  - For constraints, where a local system reason such as congestion on transmission lines means they cannot output above a certain level. This limit is imposed by the SOs through a “LOCL” instruction, and is lifted through a “LCLO” instruction;
  - For curtailment, where there is more total wind generation available than can be accommodated within system stability limits. This limit is imposed by the SOs through a “CURL” instruction, and is lifted through a “CRLO” instruction.
- RA decisions on constraints mean that wind units can be compensated for constraints:
  - i.e. they get to retain any ex-ante market revenue they have earned for the amount they have been constrained below their market position;
  - This is implemented through having a deemed Dec price of zero on these units for use in settlement, triggering a Discount Payment equal and opposite to the Imbalance Component Charge the unit would also have, meaning net settlement for the unit of zero for the constraint in the Balancing Market.

# Curtailement

- RA decisions on curtailment mean that wind units are not to be compensated for curtailment from I-SEM go-live:
  - i.e. they do not get to retain the ex-ante market revenue they have earned for the amount they have been curtailed below their market position;
  - This is implemented through calculating another quantity in addition to the Bid Offer Acceptance for a curtailment action: the Curtailment Accepted Bid Quantity. This quantity can then be removed by subtracting it from the Discount Component to ensure the same treatment as for constraints is not applied;
  - An adjustment charge on the curtailment quantity is also required to ensure that its net settlement is at a level which is representative of its ex-ante market revenue, rather than being settled at the Imbalance Settlement Price, for its curtailed action;
  - The price which applies for this adjustment charge is intended to represent the unit's ex-ante market revenue as a trade-quantity-weighted average of the prices associated with the unit's own day-ahead and intraday market trades relevant to the Imbalance Settlement Period, taking the absolute value of the trade quantities.

# Curtailment

Was the volume due to a curtailment instruction?

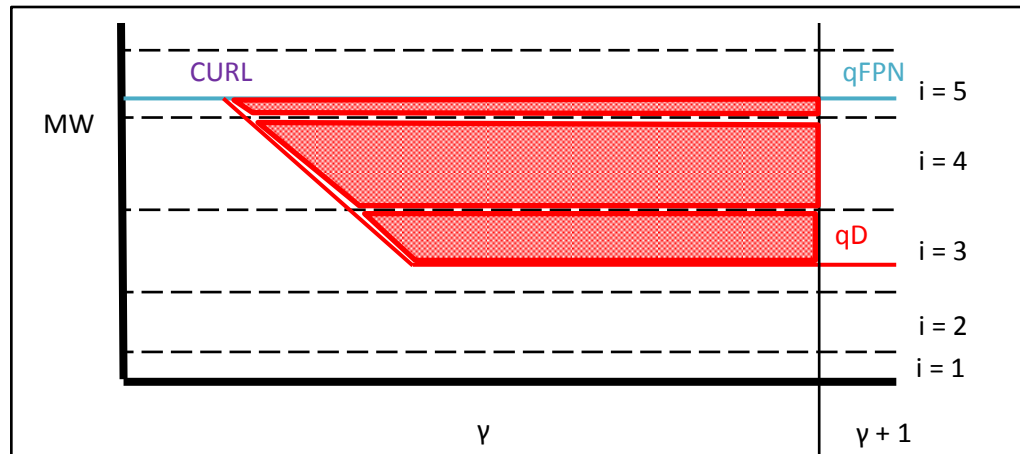


$$CPREMIUM_{uy} = \sum_o \sum_i \left( \text{Max}(PBO_{uoiy} - PIMB_{\gamma}, 0) \times (QAOLF_{uoiy} - \text{Max}(QAOPOLF_{uoiy}, QAObIAS_{uoiy}, QAOUNDEL_{uoiy}, QAOTOTSOLF_{uoiy})) \right)$$

$$CDISCOUNT_{uy} = \sum_o \sum_i \left( \text{Min}(PBO_{uoiy} - PIMB_{\gamma}, 0) \times (QABLF_{uoiy} - \text{Min}(QABBPOLF_{uoiy}, QABBIA S_{uoiy}, QABUNDEL_{uoiy}, QABNFLF_{uoiy}, QABCURLLF_{uoiy}, QABTOTSOLF_{uoiy})) \right)$$

# Curtailment

Was the volume due to a curtailment instruction?

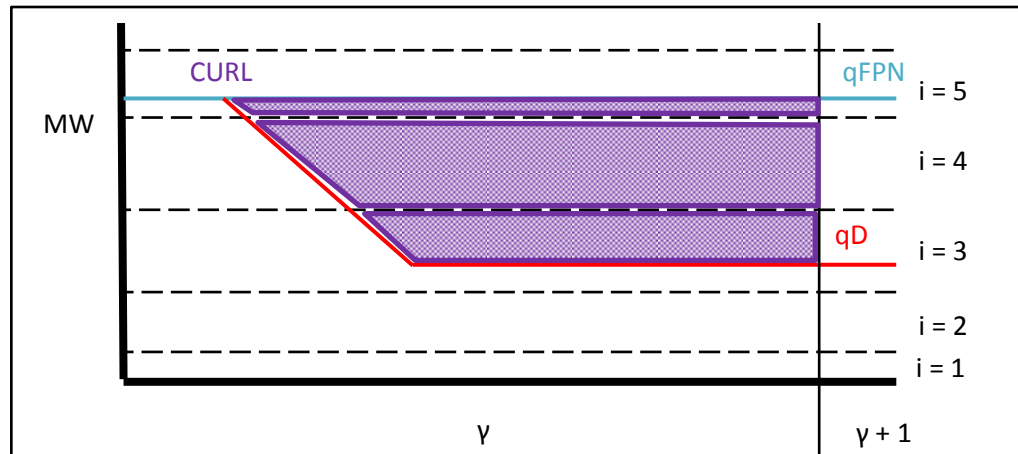


$$CPREMIUM_{uy} = \sum_o \sum_i \left( \text{Max}(PBO_{uoiy} - PIMB_{\gamma}, 0) \times (QAOLF_{uoiy} - \text{Max}(QAOPOLF_{uoiy}, QAOBIAS_{uoiy}, QAOUNDEL_{uoiy}, QAOTOTSOLF_{uoiy})) \right)$$

$$CDISCOUNT_{uy} = \sum_o \sum_i \left( \text{Min}(PBO_{uoiy} - PIMB_{\gamma}, 0) \times (QABLF_{uoiy} - \text{Min}(QABBPOLF_{uoiy}, QABBIAS_{uoiy}, QABUNDEL_{uoiy}, QABNFLF_{uoiy}, QABCURLLF_{uoiy}, QABTOTSOLF_{uoiy})) \right)$$

# Curtailment

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