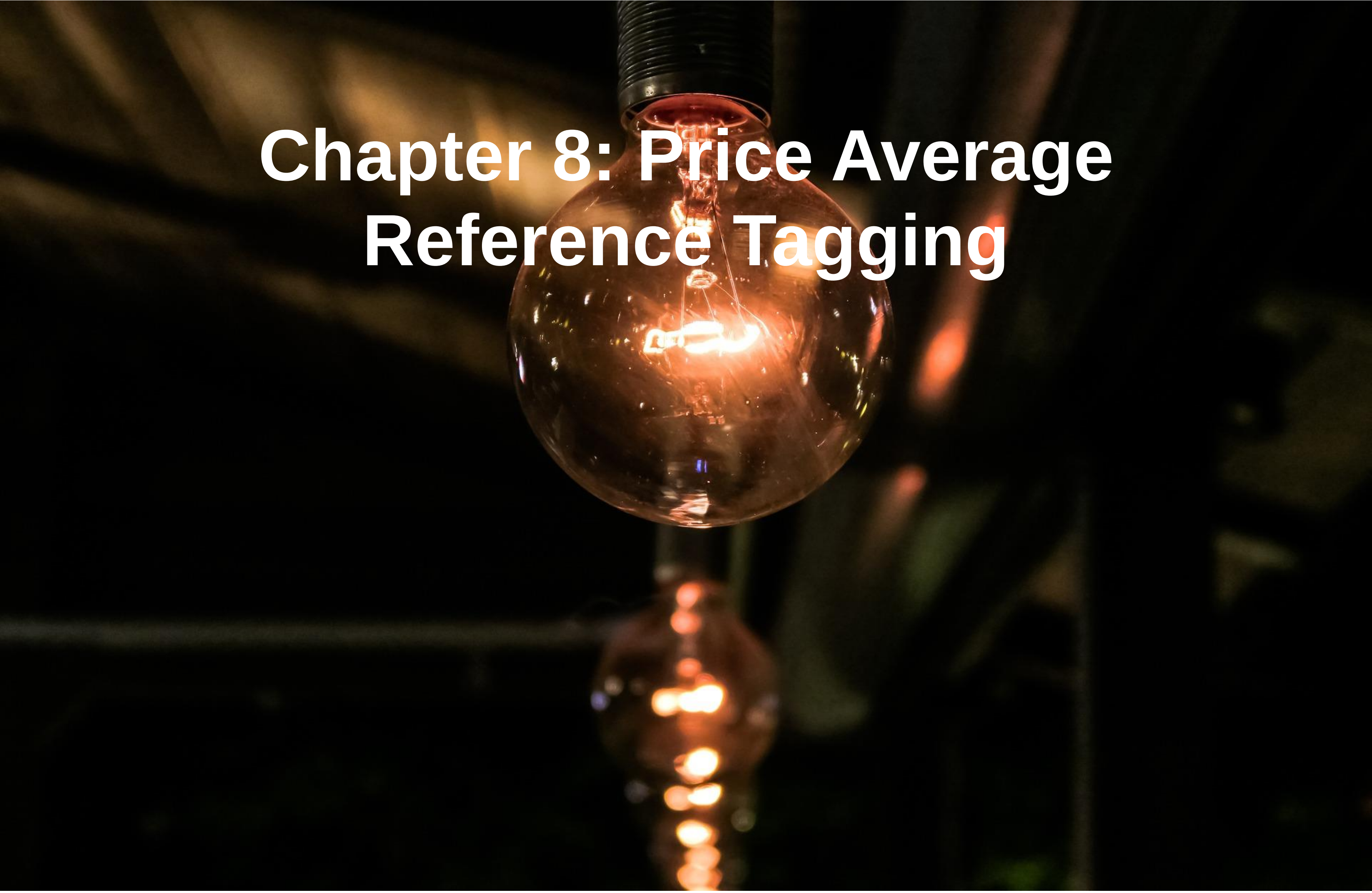
Chapter 8: Price Average Reference Tagging



Price Average Reference Tagging

- The last tagging process is Price Average Reference (PAR) Tagging;
- The purpose of PAR Tagging is to determine what actions which are not NIV Tagged, and what volume of those actions, are considered in the final calculation of the Imbalance Price;
- The Imbalance Price is calculated based on the volume-weighted average over a defined volume of the most expensive actions remaining, the defined volume being the Price Average Reference Quantity (QPAR);
- The size of the QPAR value determines how marginal the price is:
  - A smaller value for QPAR means the price is closer to a marginal price;
  - A larger value for QPAR means the price is closer to an average price.

Price Average Reference Tagging

- The market design decisions set out the following in relation to PAR:
  - I-SEM High Level Design:
    - There should be a single marginal imbalance price.
  - I-SEM Energy Trading Arrangements Markets Detailed Design:
    - Preference for marginal imbalance price;
    - A suite of pricing parameters can be considered together to mitigate the concerns of participants (e.g. Continuous Acceptance Duration Limit or CADL, De Minimis Acceptance Threshold or DMAT, and QPAR);
    - Some averaging may be permitted if evidence-based and time limited; and
    - If any averaging measure is introduced, it should not unduly dampen the Imbalance Price or blunt incentives to balance.
- For I-SEM go-live, the RAs have decided on a value of 10MWh for QPAR for an Imbalance Pricing Period. This is equivalent to 60MWh for an Imbalance Settlement Period:
  - The RAs expect that the first review of parameters post go-live will prioritise reducing the value of QPAR to a marginal level if experience of live market operation shows no compelling evidence that this cannot be done.

Price Average Reference Tagging

- PAR Tagging is applied such that the price can be equal to the most marginal price after NIV Tagging, or can be less marginal than the most marginal price after NIV Tagging. Which is the most marginal price is different for when the system position is short or long (i.e. if QNIV is positive or negative):
  - If QNIV is positive, the marginal price is the highest priced offer which is not NIV tagged. Therefore the price after PAR Tagging can be equal to the marginal price or lower;
  - If QNIV is negative , the marginal price is the lowest priced bid which is not NIV tagged. Therefore the price after PAR Tagging can be equal to the marginal price or higher.
- One of the main reasons for PAR Tagging which is weighted towards an average price approach rather than a marginal price approach is to mitigate volatility in the Imbalance Price. It is part of a suite of tools which can be used to mitigate volatility, including:
  - De Minimis Tagging;
  - Calculating the half-hour Imbalance Settlement Price as a simple average of the six five-minute Imbalance Prices; and
  - When tagging additional actions in NIV Tagging, taking the most expensive actions first after taking flagged actions;
  - When untagging actions in NIV Tagging, taking the least expensive actions first.

Price Average Reference Tagging

- Note that the approach of settling an action at the most beneficial of the Imbalance Settlement Price and the Bid Offer Price applies in all cases, regardless of whether the action was "energy" or "non-energy", if it was the "marginal" action or not, if it was "in-merit" or not, etc.:
  - For example, say a unit set PMEA, and that this would have been the final Imbalance Settlement Price, except that a non-marginal QPAR is implemented meaning the price was reduced by PAR averaging;
  - In the words of the High Level Design, the decision that "energy" actions should be pay-as-clear getting the Imbalance Settlement Price, and "non-energy" actions should be pay-as-bid getting their could seem like it is saying that the unit which set PMEA should now only be paid the average Imbalance Settlement Price, which is lower than its Bid Offer Price;
  - However with the clarification in the detailed design, the implementation approach in the settlement rules is applied solely on the basis of whether the Bid Offer Price used in settlement is higher (in the case of Inc actions) or lower (in the case of Dec actions) than the Imbalance Settlement Price.