

ETA Workshop 2.3

Global Aggregation

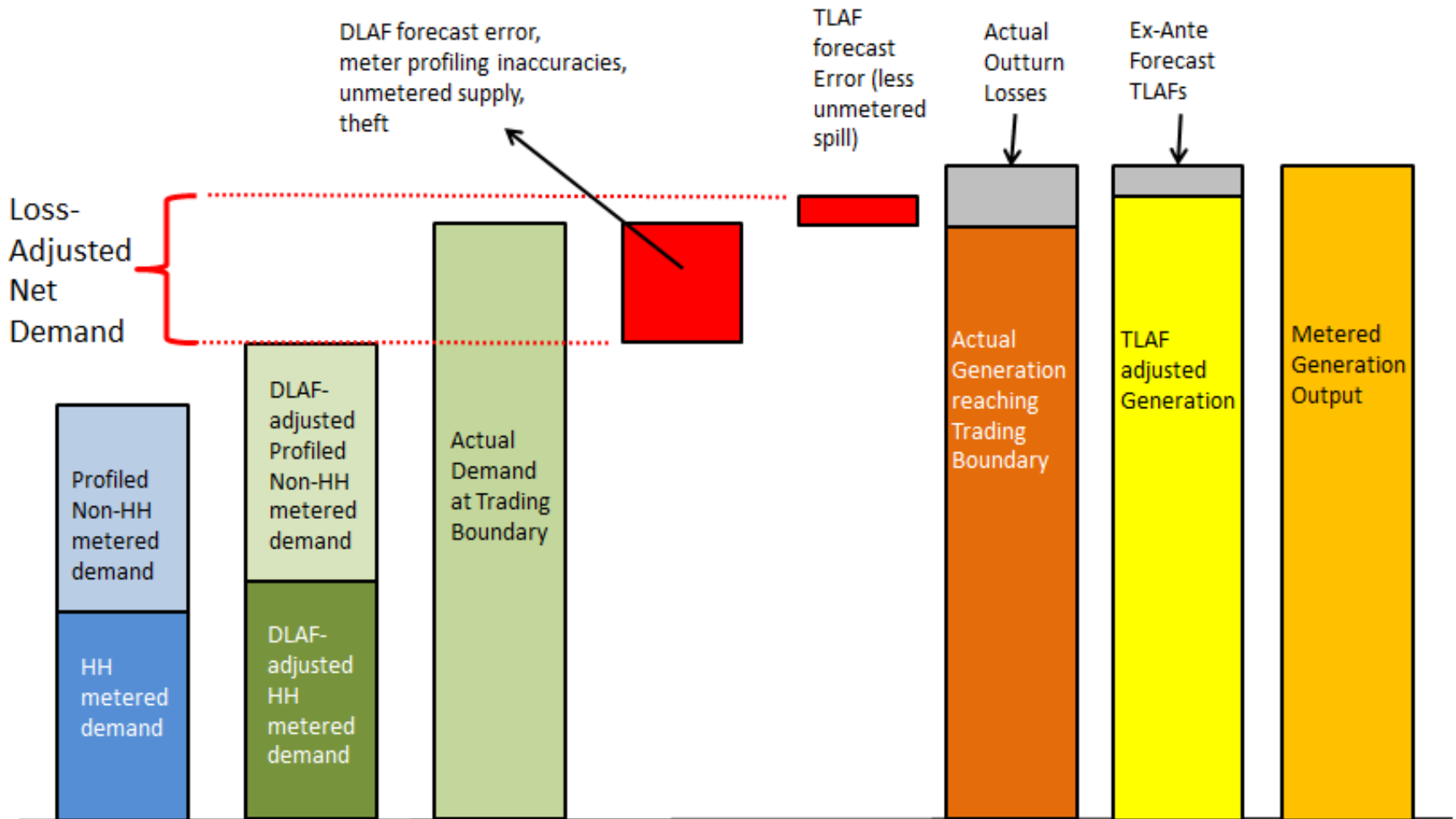
Loss-Adjusted Net Demand

What is it?

- The Loss-Adjusted Net Demand is the difference between
 - loss-adjusted metered generation (i.e. adjusted for TLAFs) and
 - loss-adjusted metered demand (i.e. adjusted for DLAFs)
- This difference is composed of
 - TLAF ex-ante forecast inaccuracies
 - Unmetered generation (spill)
 - Demand Meter Profiling inaccuracies
 - Unmetered supply
 - Theft
 - DLAF ex-ante forecast inaccuracies

Loss-Adjusted Net Demand

What is it?



Loss-Adjusted Net Demand (by jurisdiction)

How is it calculated? (1)

- Loss-Adjusted Net Demand per jurisdiction is equal to the Metered Generation (jurisdiction) less the Metered Demand (jurisdiction) plus the Net Import (jurisdiction), adjusted for the jurisdiction's share of the losses
- Article 4.91 of the Trading and Settlement Code

$$NDLFeh = \sum_{u \text{ in } e} (MGuh) - \sum_{v \text{ in } e} (MDvh) + NIJeh$$

$$- \left(\sum_u (MGuh) - \sum_u (MGLFuh) + \sum_v (MDLFvh) - \sum_v (MDvh) \right) \times \left(\frac{\sum_{u \text{ in } e} (MGuh) + NIJeh}{\sum_e \sum_{u \text{ in } e} MGuh} \right)$$

Loss-Adjusted Net Demand (by jurisdiction)

How is it calculated? (2)

$$\begin{aligned}
 NDLFeh &= \sum_{u \text{ in } e} (MGuh) - \sum_{v \text{ in } e} (MDvh) + NIJIeh \\
 &- \left(\sum_u (MGuh) - \sum_u (MGLFuh) + \sum_v (MDLFvh) - \sum_v (MDvh) \right) \times \left(\frac{\sum_{u \text{ in } e} (MGuh) + NIJIeh}{\sum_e \sum_{u \text{ in } e} MGuh} \right)
 \end{aligned}$$

$$\sum_{u \text{ in } e} (MGuh)$$

Sum of Metered Generation in jurisdiction

$$- \sum_{v \text{ in } e} (MDvh)$$

Sum of Metered Demand in jurisdiction

$$+ NIJIeh$$

Net Inter-Jurisdictional Import to jurisdiction

Loss-Adjusted Net Demand (by jurisdiction)

How is it calculated? (3)

$$NDLFeh = \sum_{u \text{ in } e} (MGuh) - \sum_{v \text{ in } e} (MDvh) + NIJeh$$

$$- \left(\sum_u (MGuh) - \sum_u (MGLFuh) + \sum_v (MDLFvh) - \sum_v (MDvh) \right) \times \left(\frac{\sum_{u \text{ in } e} (MGuh) + NIJeh}{\sum_e \sum_{u \text{ in } e} MGuh} \right)$$

- $\sum_u (MGuh)$ Sum of Metered Generation
- $-\sum_u (MGLFuh)$ Sum of Loss-Adjusted Metered Generation
- $+\sum_v (MDLFvh)$ Sum of Loss-Adjusted Metered Demand
- $\sum_v (MDvh)$ Sum of Metered Demand

$\left(\sum_u (MGuh) - \sum_u (MGLFuh) + \sum_v (MDLFvh) - \sum_v (MDvh) \right)$ Estimated All-Island Losses (based on ex-ante TLAFs and DLAFs)

Loss-Adjusted Net Demand (by jurisdiction)

How is it calculated? (4)

$$\begin{aligned}
 NDLFeh &= \sum_{u \text{ in } e} (MGuh) - \sum_{v \text{ in } e} (MDvh) + NIJIeh \\
 &- \left(\sum_u (MGuh) - \sum_u (MGLFuh) + \sum_v (MDLFvh) - \sum_v (MDvh) \right) \times \left(\frac{\sum_{u \text{ in } e} (MGuh) + NIJIeh}{\sum_e \sum_{u \text{ in } e} MGuh} \right)
 \end{aligned}$$

$$\left(\frac{\sum_{u \text{ in } e} (MGuh) + NIJIeh}{\sum_e \sum_{u \text{ in } e} MGuh} \right)$$

(Metered Generation in jurisdiction
+ Net Inter Jurisdictional Import to jurisdiction)
divided by All-Island Metered Generation

i.e. ratio of estimated All-Island losses assigned to jurisdiction

Who pays in SEM?

- The cost of the NDLF (Loss-Adjusted Net Demand) is smeared across all suppliers based on their market share and meter data type (Interval or Non-Interval)
- Currently smeared across Non-Interval metered demand (profiled demand) only
- This is a policy decision in both jurisdictions – T&SC allows for the RMVIP (Residual Meter Volume Interval Proportion) to be parameterised
- RMVIP currently set to zero in both jurisdictions

Options for I-SEM

- Cost of the NDLF, calculated at the Imbalance Price, could be allocated to suppliers as currently
- Alternatively, the volume of the NDLF could be allocated to suppliers
 - this volume allocation could respect the RMVIP as currently
 - could give greater flexibility to suppliers

Global Aggregation Discussion

