

How to foster DR in Estonia

Presentation for
Demand Response Day 7
Elering, Estonia...

24th June 2025

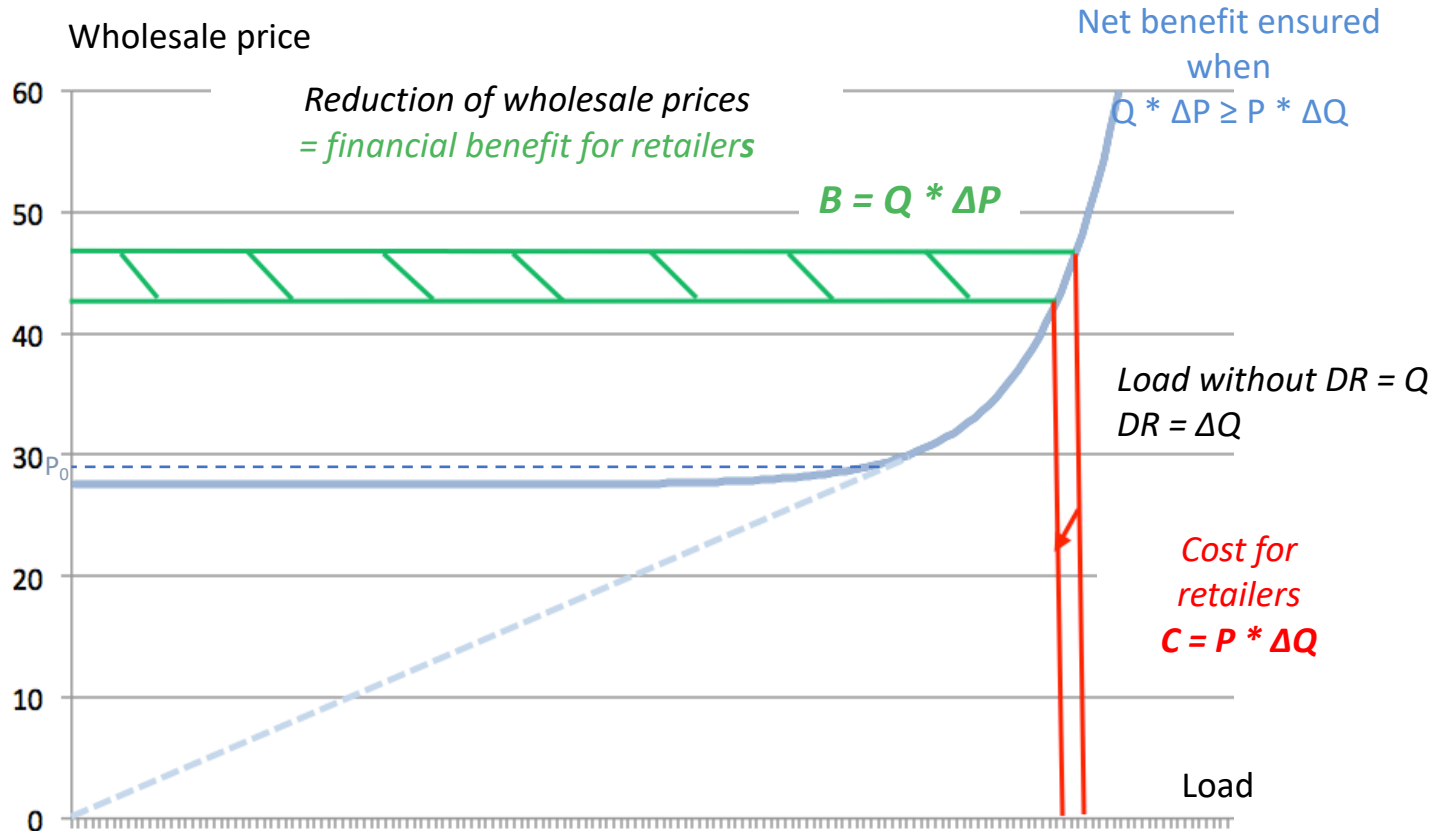
The EU Clean Energy Package set the scene with 3 obligations for Member States

- *Obligation:* DR to participate in all markets alongside production, without discrimination
 - Wholesale markets: day-ahead, intra-day, long term
 - All ancillary services to SOs
- *Obligation:* DR and supply are separate
 - Art. 13: independently from their supply contract
 - Art. 17: no prior agreement from other market parties
- *Obligation:* DR to bear the same balance responsibility as producers
 - To deliver volumes sold (Recital 15 of regulation)
 - ... or pay imbalance charges for the difference

And also options for Member States

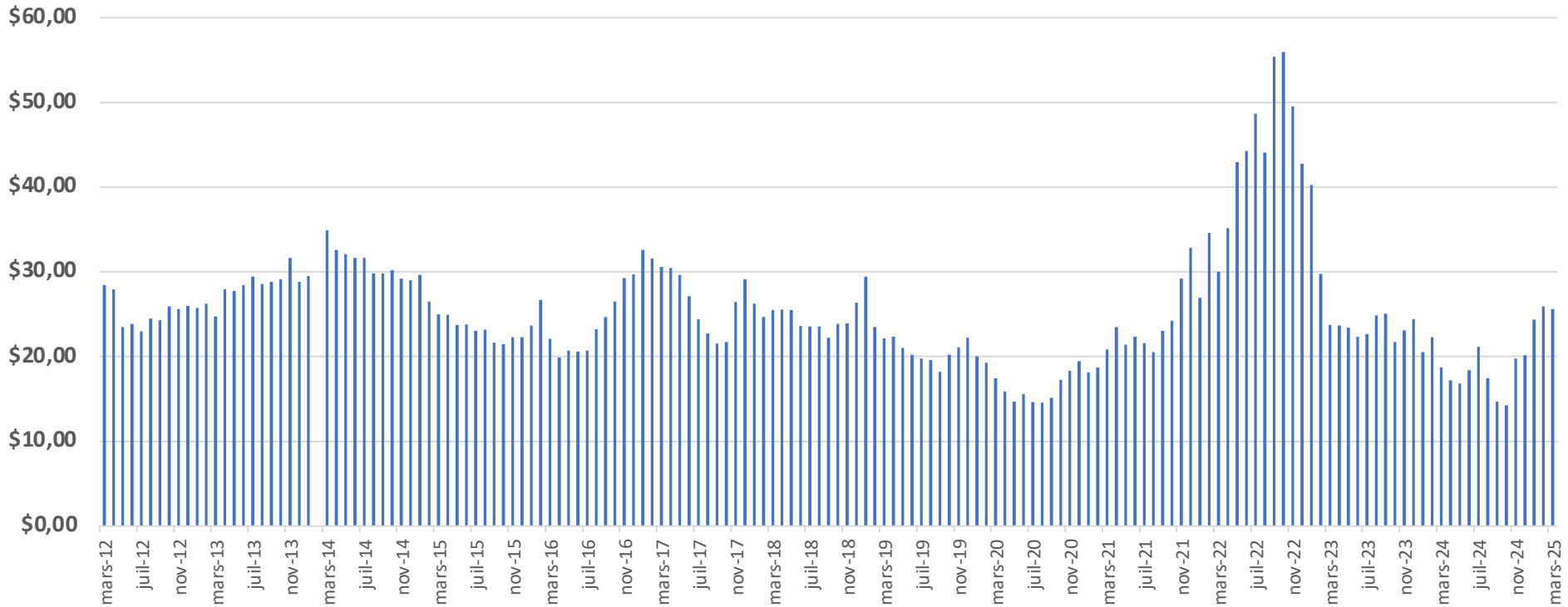
- *Option*: choice of model for balance responsibility of third parties i.e. suppliers
 - Models where imbalances are settled (i.e. uncorrected)
 - ... or where perimeter corrections are introduced (hence DR neutral for BRPs... but not for suppliers)
- *Option*: to grant suppliers or BRPs a compensation \leq costs incurred during activation
- *Obligation*: not to create a barrier for DR; + *Option*: to spread the burden among electricity undertakings
 - + obligation of no discrimination (art.17.1) => no charge on DR
- *Option*: (“the safety net”) to take into accounts the benefits of DR
 - => exception allowing to charge DR but...
 - + *Obligation*: only if and to the extent that benefits do not exceed costs
 - = Political safeguard: all consumers will always benefit (≥ 0) from DR

Inspiration from the US net benefits test



- DR allowed to participate only when price above a threshold
- Calculated monthly

Results of net benefits test: threshold in a fairly low range (20-30 \$/MWh)



Source: [PJM](https://www.pjm.com/-/media/markets-ops/demand-response/net-benefits/net-benefits-historical-results.ashx)

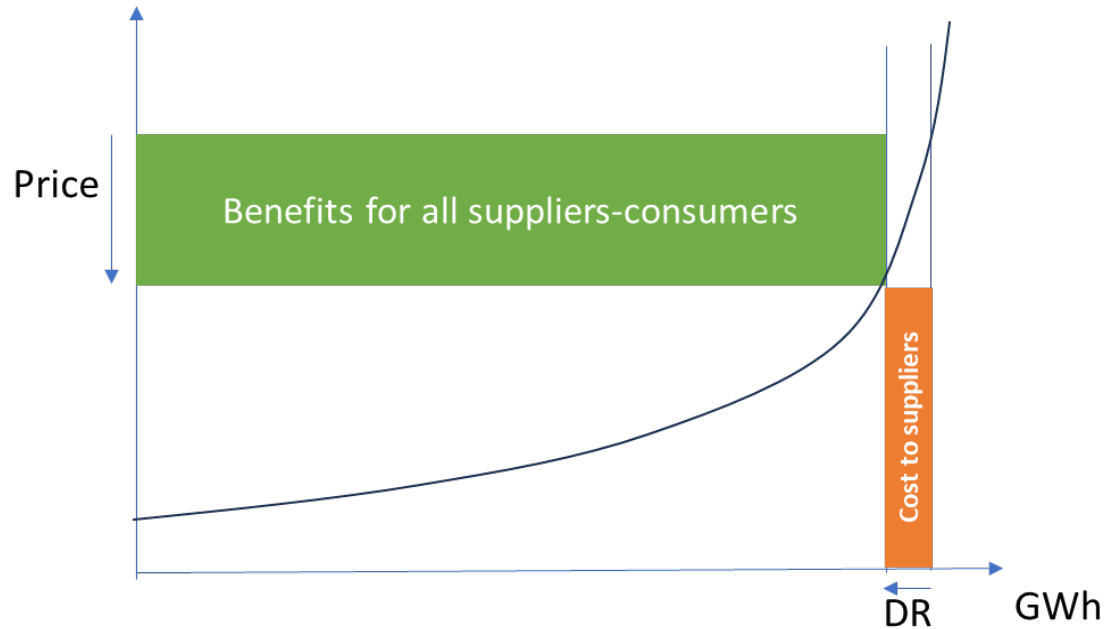
<https://www.pjm.com/-/media/markets-ops/demand-response/net-benefits/net-benefits-historical-results.ashx>

- Confirms that DR usually benefits all consumers

Comparison of 3 approaches

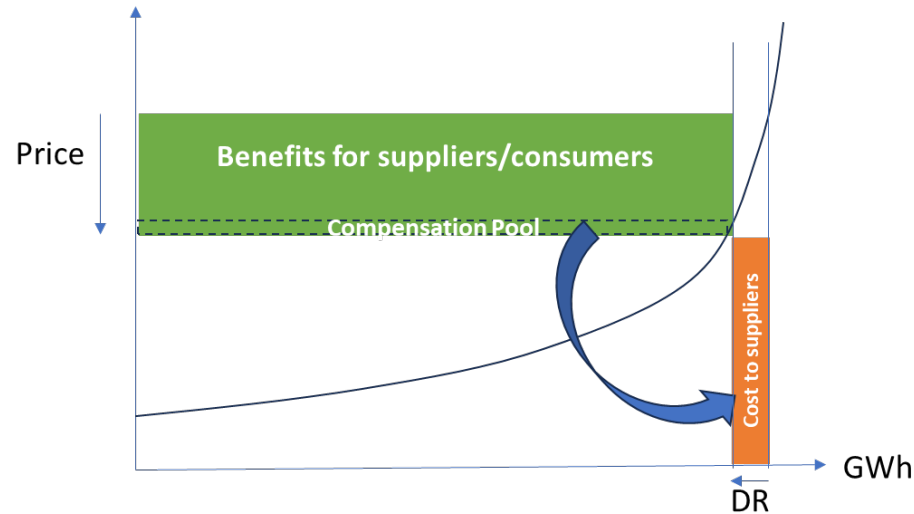
- *US (FERC order 745, in 2011)*
 - DR paid market price, no compensation charged
 - Yet only above (fairly low) threshold price
- *Luxembourg (law in 2023)*
 - DR paid market price, no compensation for 5 years
 - After that only if and at most to the extent that benefits do not exceed costs
- *UK (P415 as of 7th Nov. 2024)*
 - DR in wholesale market, suppliers/BRPs are imposed a perimeter correction and granted a financial compensation
 - Compensation cost is mutualised among suppliers

Economics of DR benefitting all



- *Market based*
 - *Demand reduction bid selected by market only if cheaper than (more expensive) generation*
 - Benefits for all suppliers, mutualised via the market
 - Suppliers capture benefits even if not calculated
- Impact on one market (day ahead or intra day) spreads to all purchases (they all refer to market prices)

Mutualisation of compensation = mutualisation of net benefits



- *Market based mutualisation*
 - *Benefits are mutualised via market*
 - *Compensation mutualised via TSO*
 - *Net benefits fairly shared among all suppliers, may be transferred to all consumers*
- Applies to all consumers whatever their retail price
 - Directly for variable retail price based on wholesale market price (+margin)
 - Also indirectly for flat retail price reflecting average market price (+margin)

Comprehensive approach for Estonia based on EU framework

- *DR in all markets, no discrimination versus production*
 - Same balance responsibility = to deliver volumes sold
 - Also paid market price (day-ahead, intraday, balancing,...)
 - No compensation charged, but exception: see below
- *Model for suppliers/BRP*
 - May start with an uncorrected model and evolve, or directly impose them a perimeter correction and grant them a financial compensation
 - Mutualise compensation costs to share fairly the net benefits
 - Note that aggregator selling 100 and delivering 90 is charged an imbalance for the missing 10,
 - While correction/compensation are for the 90 delivered
- *Monitor benefits*
 - Assess threshold price monthly ex ante as an indicator for market parties
 - Assess benefits of DR every 1-3 years (totalling all markets: day ahead, intra day, balancing,...)
 - Safety net: include in the rules the possibility to charge aggregators if/when benefits would be proven not to exceed costs, at most up to the difference

Thank you!

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