Implementing the Clean Energy Package for Demand Response

4th Workshop: **POSSIBLE COMPENSATION PAID TO THIRD PARTIES (SUPPLIERS/BRPs)**

Monday 28th June 2021

16.30-17.30 CET

EUROPEAN ENERGY RETAILERS
Network of Independent Energy & Solution Providers

DR4EU
DEMAND RESPONSE FOR EUROPE

AGENDA OF THE 4th WORKSHOP ON MONDAY 28th JUNE: COMPENSATION TO SUPPLIERS (1)

16:30 Welcome & opening remarks

Tomás LLOBET, Secretary General, European Energy Retailer (EER)

16:35 Compensation to other market participants

Mathilde LALLEMAND, DG ENER, European Commission

16:45 Implementing the Clean Energy Package: costs during DR activation and what may be paid to suppliers (/BRPs)

Pierre BIVAS, Chair, DR4EU

17:05 **Q&A session** moderated by
Antonio COLINO, President, EER

17:30 **CLOSING REMARKS** & end of the workshop

Demand side flexibility: compensation to suppliers

Mathilde Lallemand

European Commission – DG Energy
Internal Energy Market

Energy

Strict limits to compensation payments

Article 17.4 - Demand response through aggregation

*Member States may require **electricity undertakings or participating final customers to pay financial compensation** to other market participants or to the market participants' balance responsible parties, if those market participants or balance responsible parties are **directly affected by demand response activation**.*

*Such financial compensation **shall not create a barrier to market entry** for market participants engaged in aggregation or a barrier to flexibility.*

In such cases, the financial compensation shall be ***strictly limited to covering the resulting costs*** *incurred by the* ***suppliers of participating customers*** *or the suppliers' balance responsible parties during the activation of demand response.*

The method for calculating compensation may take account of the benefits *brought about by the independent aggregators to other market participants and, where it does so,* ***the aggregators or participating customers may be required to contribute*** *to such compensation but only where and to the extent that the* ***benefits to all suppliers, customers and their balance responsible parties do not exceed the direct costs*** *incurred.*

The calculation method shall be subject to approval by the regulatory authority or by another competent national authority.

Implementing the Clean Energy Package for Demand Response

Compensation paid *to* suppliers/BRPs

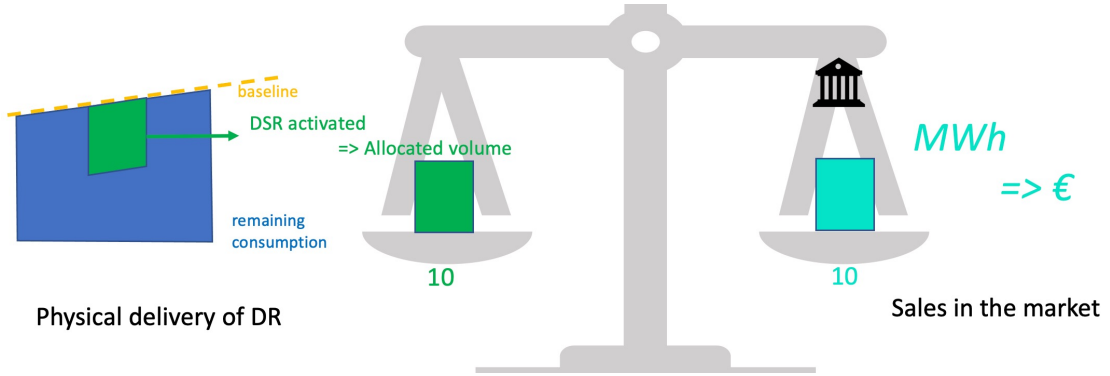
when DR is sold in the wholesale market

Workshop #4

28th June 2021

Takeaways from previous sessions on balancing responsibilities when DR sold in the wholesale market

✓ Balancing resp. of DR aggregators in wholesale market as an alternative to generation, same responsibility: to deliver volumes sold



✓ Impacts on third parties, i.e. suppliers of DR participating consumers

- Balancing resp. of suppliers: models where imbalances are settled or with perimeter correction

➢ Today: which costs, hence i.e. who should receive 'compensation' (if any)

- Next time: Who should pay 'compensation' (and yet need to ensure not to create a barrier to DR)
- Further workshop to focus on DR as BSP = on balancing markets

Compensation: which costs?

- "pay financial compensation to other market participants or to the market participants' balance responsible parties, if those market participants or balance responsible parties are directly affected by demand response activation."
- "financial compensation shall be strictly limited to covering the resulting costs incurred by the suppliers of participating customers or the suppliers' balance responsible parties during the activation of demand response."
- "The method for calculating compensation may take account of the benefits brought about by the independent aggregators to other market participants"

✓ Consider suppliers of participating customers or the suppliers' BRPs

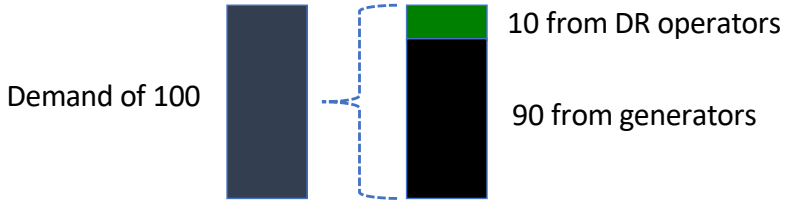
✓ During activation (not 'rebound')

✓ Identify costs … those affected will depend on 'models'

Economic impact of DR on suppliers

Why is there a cost? (not to mention benefits)

Wholesale markets
(in advance, e.g. day ahead)



Via wholesale markets (i.e. in advance)
consumption forecast is balanced by purchases

- Lower market price => reduced sourcing costs & volatility of prices
  - Benefits for all suppliers… and ultimately for all consumers:
    - ✓ Cf study by CompassLexecon (6th May 2021)
  - Further consequences to be discussed in future workshop

Economic impact of DR on suppliers

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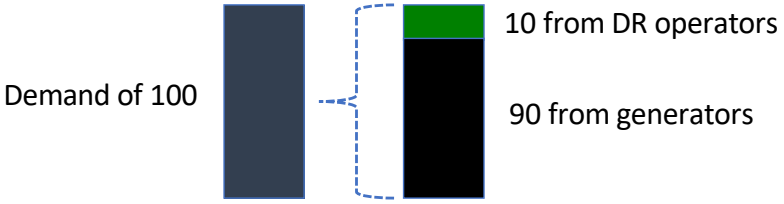
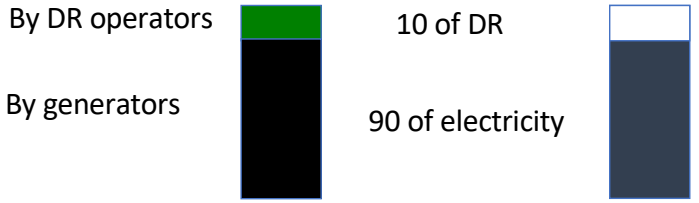


Via wholesale markets (i.e. in advance)
consumption forecast is balanced by purchases

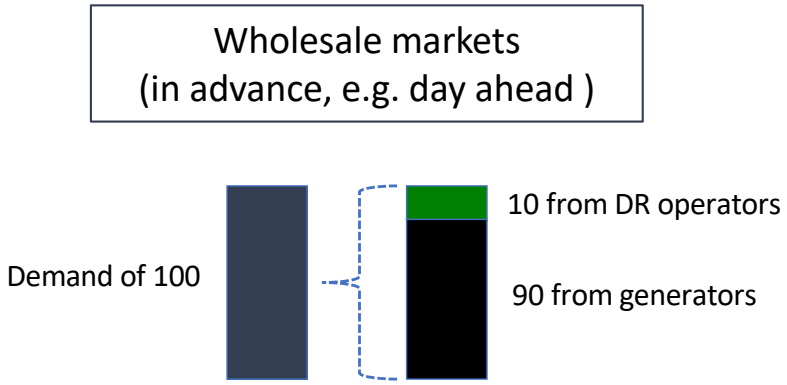
Physical delivery
(in real time)



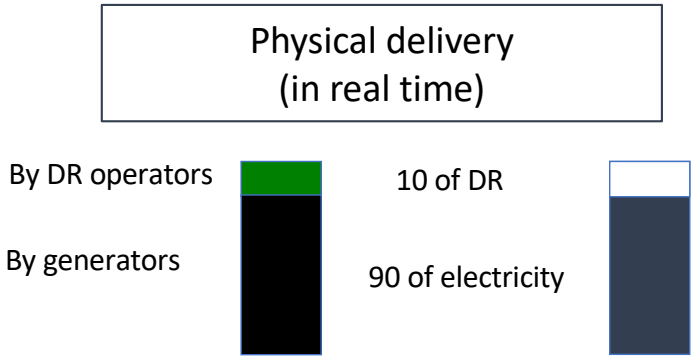
Actual consumption (90) *(as reduced by DR)*
is balanced
by actual electricity generation (90)

Economic impact of DR on suppliers

Why is there a cost? (not to mention benefits)



Via wholesale markets (i.e. in advance) consumption forecast is balanced by purchases

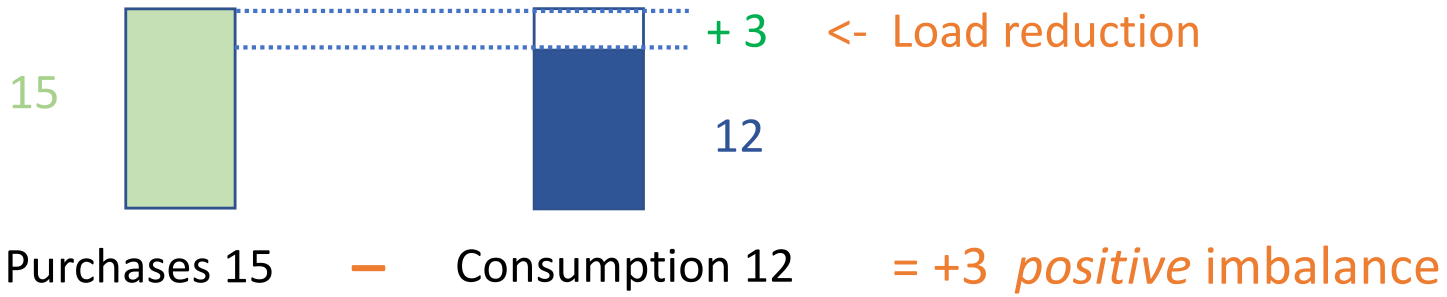


Actual consumption (90) *(as reduced by DR)* is balanced by actual electricity generation (90)

- Suppliers buy 100, but sell only 90 to consumers: what about the 10?
  - Overall cost of buying DR: 10 @ market price
    - ✓ Market-based way to pay for DR … automation
  - Also possible impact on imbalances (accounting imbalances, not physical)
    - … depending on accounting rules: 'models'

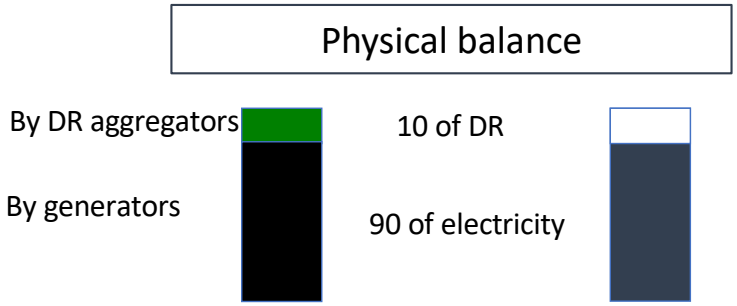
(1) Model "*where imbalances are settled*"

Accounting for imbalance of a supplier with curtailed consumers



- Imbalance settlement => supplier ('s BRP) paid for positive imbalance
  - Same as any unforeseen load behaviour, not specific to DR
  - Price depending on national rules, EBGL promotes single price ~spot ±∂
- No cost for supplier/BRP if price is appropriate
- No basis for any (other) 'compensation' to individual suppliers/BRPs: easy to implement
- Where does the cost hide?
  - Embedded in the settlement account within the TSO (/settlement entity)
  - Overall total "accounting imbalance of +10"
  - Depending on national rules, may be recouped by TSO from all BRPs on a *pro rata* basis (volumes, or imbalances, etc.)

System physical balance…



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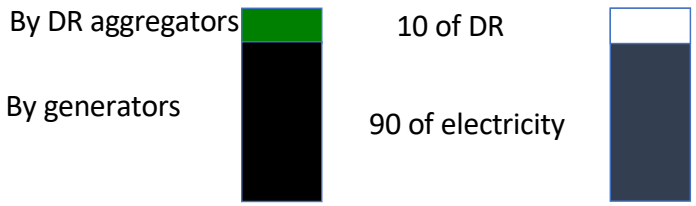
System physical balance
… and balance on the supply side

Physical balance



Actual consumption (90) *(as reduced by DR)*
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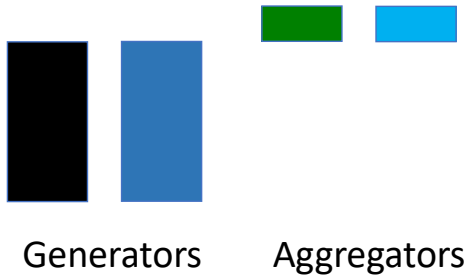
Sellers' side
All balanced: sales = deliveries



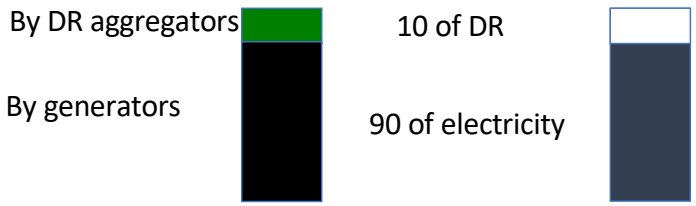
✓Perfect balance on the supply side

Physical balance

…but accounting imbalance for retailers…

…and for TSO

Physical balance



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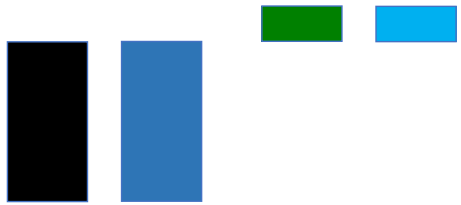


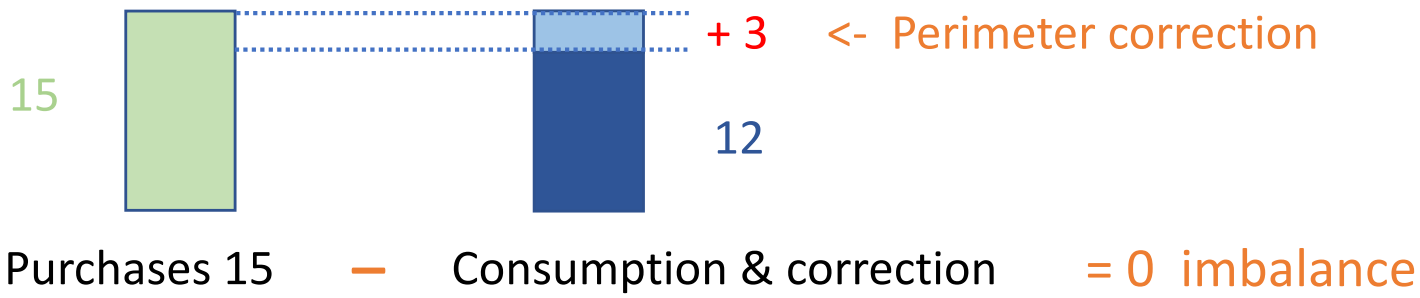
Generators Aggregators

Buyers' side
Accounting imbalance? Correction?

Retailers: accounting imbalance (+)

- An accounting issue for the TSO, and a cost (not for suppliers, but for the settlement account)
- Some (TSOs) suggested to use a corrected model => suppliers request a compensation for correction

(2) Model "*with perimeter correction*"



- No accounting imbalance left
- Perimeter correction deprives BRP of positive imbalance revenue
- Supplier buys 15 and bills 12

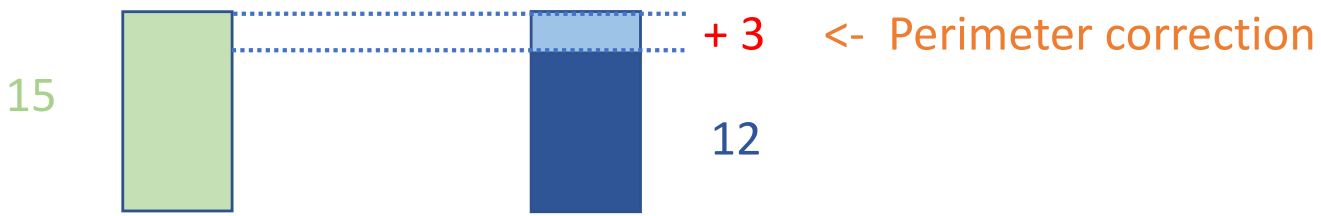
➢ DR activation + correction => cost transferred to supplier of curtailed consumers

➢ Basis for a compensation to such supplier for the corrected volume (+3)

- Simplest implementation
  - Payment related to correction: by the settlement entity (TSO) –> next workshop
  - @spot price (day ahead) which is usually pivotal in all settlements, and also the overall cost

➢ Should 'cost' for a given supplier be net of savings on his purchases, i.e. net cost? to avoid overcompensation

(2) Model "*with perimeter correction*"
A focus on price for compensation *to* supplier



Various counterfactuals

- With/without DR => retail revenue (but this includes margin, on top of costs + confidential + risk of gaming by suppliers)
  - … and the EMD (art.17-4) refers to "costs", not foregone revenues
- + Dynamics over time: without correction, BRPs would adapt, buy less or resell excess=> spot price, or even intraday price
- With/without correction => positive imbalance price (but this depends on balancing prices, may not be appropriate)
- With/without DR sold in the market => spot price

Still: should "cost" for a given supplier be net of his savings on purchases, i.e. net costs only

➢ If not, means counterfactual is with DR but not sold in the market => spot price

➢ If yes, lower price to be used for compensation to suppliers

- This is individual net cost, to avoid individual overcompensation ;
- ≠ net benefit principle, designed to avoid global overcompensation of suppliers

Summary on models for BR and possible compensation to suppliers /BRPs

(1) Imbalances are settled

- Simple and straightforward
  - No change in BRP rules, nor IT systems
  - "Neutral": same for suppliers and their BRPs whether consumers reduce their load spontaneously or in order to sell DR in the market
- Payment to BRP for imbalances
  - Appropriate price paid to BRPs?
  - No need for any other compensation to suppliers/BRPs: it is embedded in the settlement process
  - ➢ Issue of compensation *to* TSO/settlement entity/ settlement account, thus shared among BRPs: to be discussed during next workshop

➢ *Simplest approach to start*

(2) Perimeter correction

- Need to assess volume of DR per BRP
  - TSO/settlement entity need to know
  - Split DR volumes totalled per BRP (all aggregators, all customers)
  - ➢ Data
- BRP is deprived of positive imbalance and related payment
  - Compensation to BRPs for correction? => spot price
  - Compensation to suppliers for volumes bought (and not billed to consumers)?
    - 'costs', not foregone revenues => overall DR volume bought => spot price
    - Need to split DR volumes totalled per supplier (all aggregators, all customers)
    - ➢ Data

➢ *May be viewed as long term solution*

Member States to choose among these models … yet comply with CEP

=> we'll have to assess them when discussing who should pay compensation and how, data, etc.

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Possible compensation *to* suppliers (/BRPs)

DR operating in the electricity wholesale market (e.g. day ahead)

Other topics coming later = not today

- ***'Compensation': paid by whom and how***
- ***DR in the balancing market***
- ***Data needed***
- ***…***

Now Q&As, comments welcome!