

# Demand Response: Legal Challenges

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# 30 minutes of demand response

- Demand Response:  
What is it?
- Characteristics &  
Benefits
- Types of DR
- Current regulation
- Legal Problems for DR?
- Conclusions



# Demand Response: What is it?

- **Demand Response (DR)**: **voluntary** changes in **electricity use** by end consumer in answer to increase in **prices over time**, or due to the grant of incentives, or to sell 'less consumption'
  - In Europe DR is a **efficiency source** and should be **remunerated**
- Part of the idea of the '**smart-grid**' and the **Demand Side Management** (communication systems, smart meters, internet of things and consumer participation)
- DR plays a role in 3 markets
  - **Structural** and real time **congestion markets** (for distributed generation and increase variability of demand)
  - **Balancing market** (to help accommodating variability of supply and demand)
  - **Ancillary services** (system security)

# Benefits of Demand Response

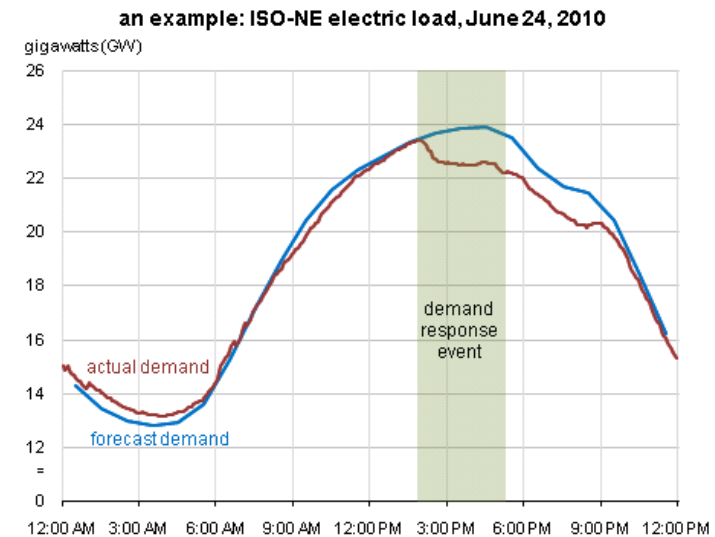
- Reduces electricity fees to the direct user/consumer
  - But also has an 'anti-waterbed' effect in all the market
- Improves efficiency and reduces need for new generation
  - Potential to reduce up to 10% peak generation in Europe
- Prevents pivotal suppliers from exerting market power on peak times
- Supports system reliability and security: reduces blackouts
- Supports balancing and entry of renewables
- Allows for new electricity business models
  - Aggregators, ancillary services, Internet of things
- And for more competition between utilities
  - DR programmes, incentives, etc

# How is DR used?

- Electricity **consumption changes** by:
  - Reducing **consumption** though **load curtailment**
  - Moving energy consumption to a **different time**
  - Using **own energy** – either self produced or stored
- DR can be used:
  - By **explicitly** intervening in reducing consumption
  - **Automated**, thanks to technology – the smart grid & internet of things
  - Automated but by **your supplier**
  - **Individually**
  - Or collectively, though **aggregators** (power generators, transmitters, distributors, demand response providers or community of users)

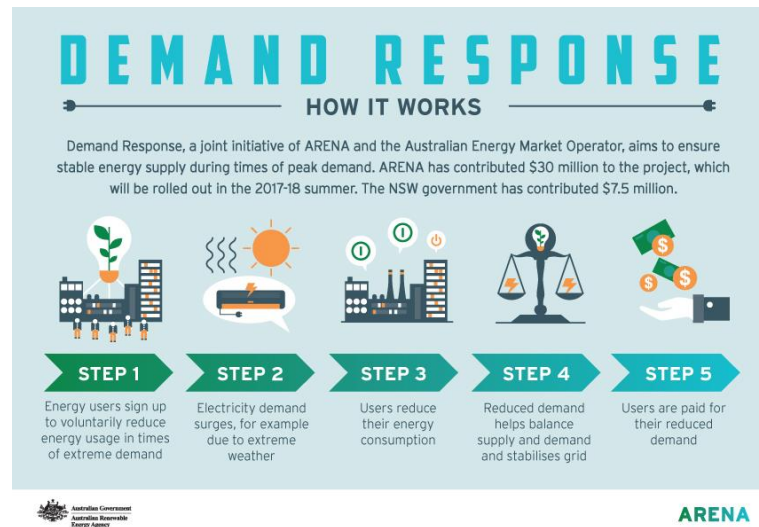
# Types of demand response

- Rate-based DR:
  - Offering variable electricity tariffs - to reduce consumption in peak times
  - Prices determined on a day-ahead market or the intra-day market
  - Requires dynamic pricing contracts
    - Allowed and encouraged by current regulation(?)
    - Many MS have fixed/band tariff contract
    - These tariff-based contracts have been tried to be eliminated from the proposed rules by Commission



# Types of Demand Response

- Incentive or event-based DR:
  - The Distributor or Transmittor **rewards customers for reducing load upon request** (through a signal)
  - Or for **giving control to administer** some of the consumer's **equipment** (direct load control) - like heater, AC, refrigerators
  - **Limited duration and frequency** of events in a range of 40-100h per year



# Types of Demand Response

- Demand reduction bids
  - Customers offer their **availability to reduce consumption** to an aggregator or the utility company to get **some form of monetary compensation**
  - Often used by **large electricity consumers** that are willing to be curtailed but be compensated



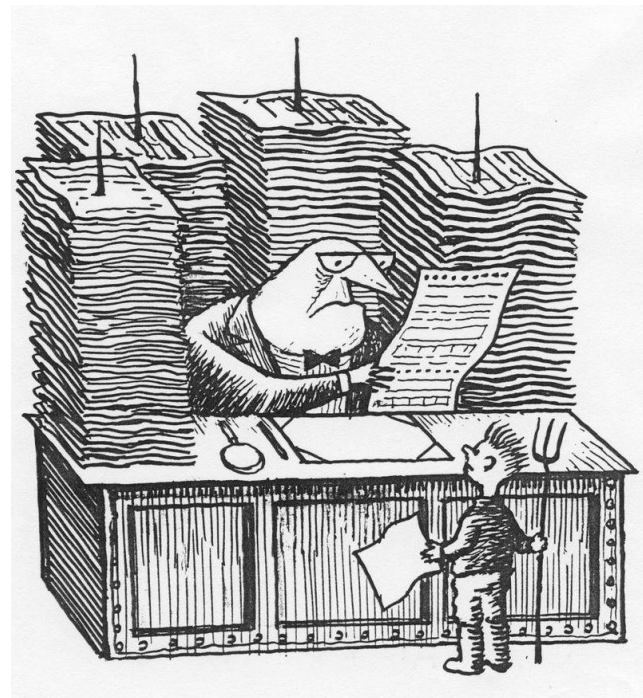


# Current situation

- Only 10% of the capacity for DR is being used in Europe
- If full capacity is used, up to €4 billion savings
- MS have had to implement the Directives and done so
  - But implementation is unsophisticated
- Three groups
  1. Countries where DR is legal but no really implemented – no rules for authorization in markets, or for aggregators, or technical requirements are too high – Italy Spain, Hungary, Portugal, the Baltics
  2. Countries where DR only exist through the retailer/supplier (i.e. your local utility) and there are no independent aggregators – The Nordics (Norway?), Germany, Netherlands
  3. DR is designed to allow utility's demand response and independent aggregators – Belgium, France, Ireland and the UK

# Legal Problems for Demand Response

- Literature and practice shows that the **bottleneck** for demand response **is not EU legislation**
- EU law **allows it and encourages it**
  - But regulation is very thin (Energy Efficiency Directive and Electricity Directive)
- Problems are:
  - Either **national legislation**
  - Or **simply bureaucracy** – as in the German case
  - And above all, **lack of participation from consumers**



# Legal Problems for Demand Response

- Authorizing and enabling DR in *all* markets and on a leveled playing field with supply of power
  - DR access on equal footing in **wholesale markets** (so it can be traded in power pools), **balancing markets** and **ancillary services**
- The **Access Problem** and **technical modalities** – which *standards*
  - Load size, minimum times and bids
  - Requirements to be aggregator, requirements to do it independently,
  - Access to network rules
  - Registration, pre-qualification, risk assessments

# Legal Problems for Demand Response

- Pricing right DR
  - If DR is to enter wholesale, retail, balancing then **how to price DR?**
  - And also **how to market it – particularly bids**
    - Bid sizes, load size, short time duration DR?, asymmetrical bids?
    - How to **make DR work if the utilities ask for 'sourcing costs'** (compensation for power not use that was bought) once the balancing is done
      - The French case
- Pricing based on non-fixed tariffs
  - For both **transmission/distribution**
  - And **retail** – touchy subject in most MS
  - What are we doing with Europe prices? And how in the **US** it can work with regulated tariffs?

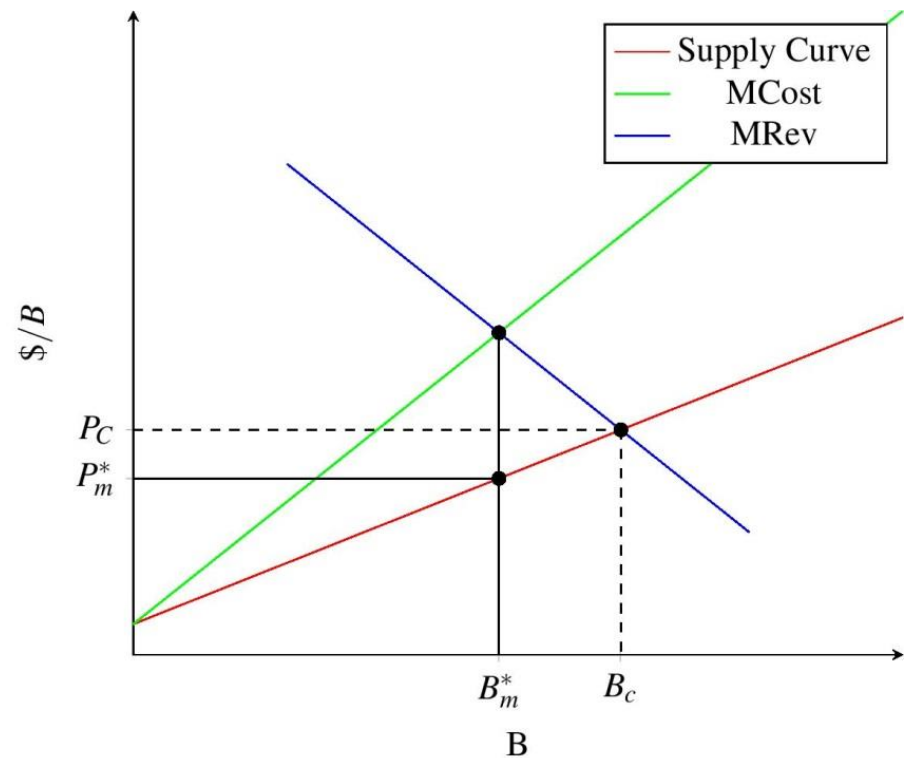
# Legal Problems for Demand Response

- **Data Privacy**
  - Energy consumption, what kind of equipment you have, pattern, etc are considered to be personal data
  - Compliance with data privacy laws
  - System security
- Major issue pending is **aggregation** of demand response
  - Utility chosen or independent?
  - Competition law limits?
  - More on this to come!



# Competition law and aggregated demand response

- Demand response is **an agreement** under Article 101 TFEU and 53 EEA
  - Two or more people concur to **purchase less electricity**
    - This **decreases the market price**
  - Electricity price has an **upward slopping supply curve**
    - The more you buy and need, the more it costs
  - For the **economists** in the room:



# Is this a cartel?

- At first sight it is **indeed a cartel**
- **Fixes purchasing quotas**
  - There is an **explicit decision to purchase less**
  - This drives the **prices lower than they would have been in the competitive market**
  - This is in principle **good for everyone(?)**
    - But the law is clear, **purchasing cartels that fix prices and/or quotas are anticompetitive by their object** (Herrera Anchustegui, Buyer Power in EU Competition Law, 2017)
  - So, these programs to **aggregate demand could be illegal despite being helpful**
  - Is there a way out?

# A way out?

- The **content and context** in which the aggregation of demand response takes place makes it NOT to be an restriction by object
  - If anything *by effect*
- Also, both object and effect agreements may be exempted under the 101(3) efficiency analysis
  - And here is where the benefits brought by demand response will shine
  - Prices are reduced
  - Peak time hours are eliminated
  - Benefits for consumers, environment and the system (transmission)
  - Bad for the producers – particularly those are pivotal



# Takk for meg!