

Regulatory barriers (and enablers) to Demand Response development



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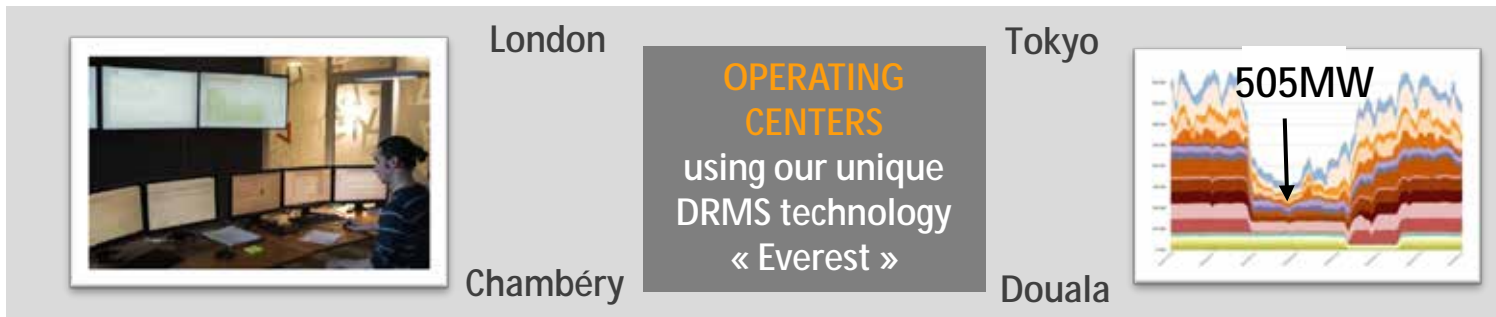
HISTORY



EXPERTISE



RESOURCES



Why do we need a regulatory framework for Demand Response ?

1 If markets (balancing, wholesale, reserves) are liquid,

2 If market signals and products effectively reflect system needs,

3 If Demand Response can prove competitiveness vis-à-vis generation,

Most electricity markets = dominant market players (former monopolies)

Markets traditionally designed for generation
Distorted market signals (due to various subsidies)

Analysis prove competitiveness of DR, but
Less trust and recognition of traditional stakeholders (BRP, suppliers)

à No need for additional regulation

à No DR development without a streamlined regulatory framework

Why do we need a regulatory framework for Demand Response ?

- Political priorities:

1 Environmental concerns
(increase share of RES)

Demand Response as a flexible resource can help
integrating RES in the system

2 Reduce energy costs for
customers (residential &
industrial)

Monetizing Demand Response can become a
revenue source for end users

3 Develop smart grids and
energy efficiency

Demand Response is integral part of smart grid
business

è DEMAND RESPONSE IN THE POLITICAL AGENDA

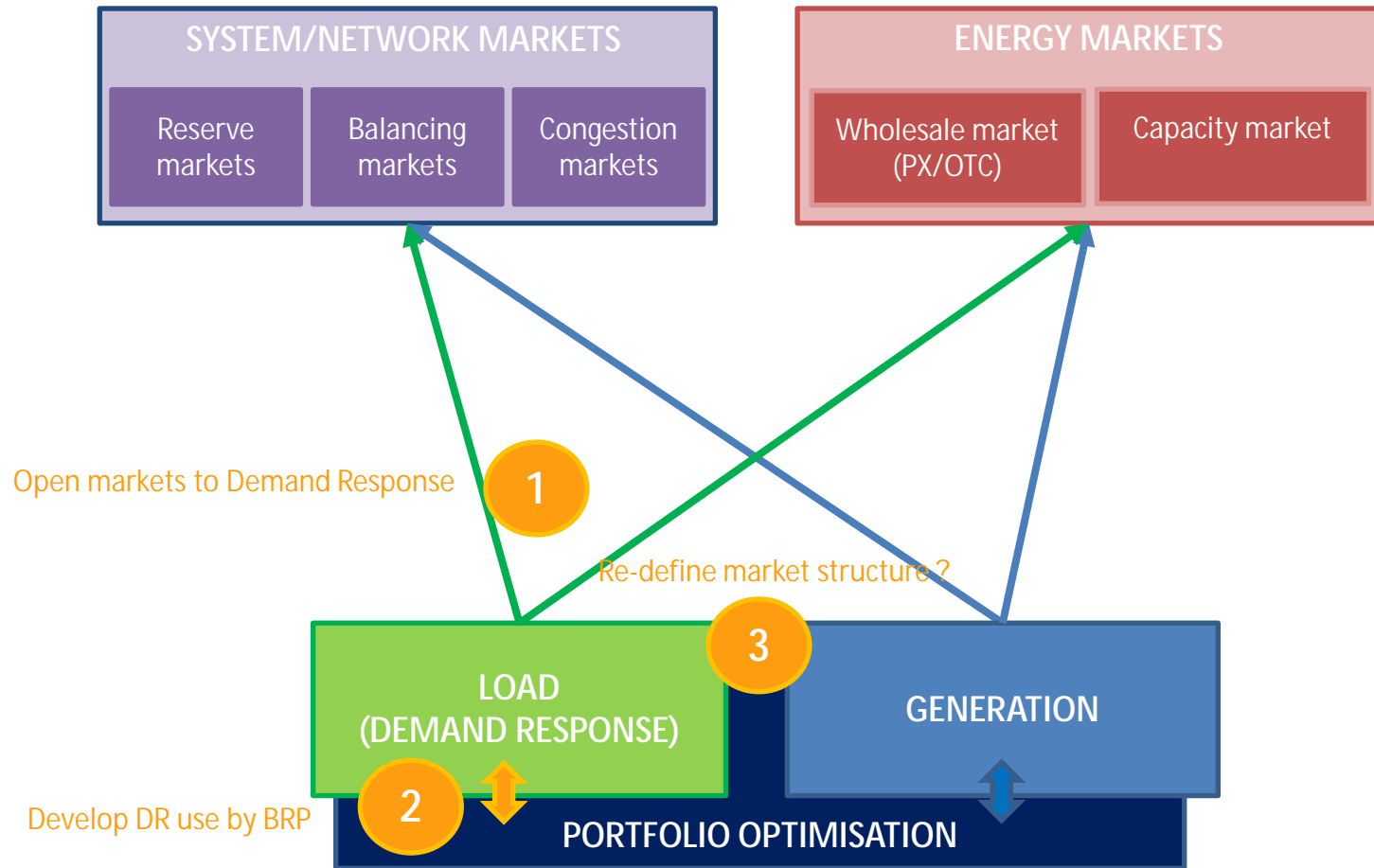
Why do we need a regulatory framework for Demand Response ?

> We NEED a regulatory framework for DR since markets are not perfect

> We CAN develop a regulatory framework for DR since strong political interest for DR

Regulatory framework for DR development

3 challenges to unlock DR potential



Regulatory framework for DR development

Open markets to Demand Response

- **Regulatory Framework in Europe = Art. 15.8 (Energy Efficiency Directive)**
 - *“Member States shall ensure that national regulatory authorities encourage demand side resources, such as DR, to participate alongside supply in wholesale and retail markets”*
 - *“ [...] shall promote access to and participation of DR in balancing, reserves and other system services markets, inter alia by requiring national regulatory authorities [...] in close cooperation with demand service providers and consumers, to define technical modalities for participation in these markets on the basis of the technical requirements of these markets and the capabilities of DR”.*

- **Implementation by 5th June 2014, but...**



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Regulatory framework for DR development

Open markets to Demand Response

			France	Belgium	Great Britain
SYSTEM/NETWORK MARKETS	Ancillary services	Frequency response < 15' reserves	Primary and secondary reserves	Primary and secondary reserves	FFR
			Interruptibility		
	Balancing Services	> 15' reserves	Fast Reserve	R1 load	FCDM
		Balancing Market	Supplemental Reserve	ICH	Fast Reserve and STOR
	Congestion management	AOE	R3 DP		
ENERGY MARKETS	Wholesale Markets		Balancing market		
			Brittany mechanism		
	Capacity Markets		NEBEF		
			Capacity Market	Strategic reserve	DSBR
					DSR TA and CM

 Mechanism for DR only

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Regulatory framework for DR development

Open markets to Demand Response

Define DR and the role and responsibilities of the parties (end users, BRP, aggregators...)

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Adapt market rules to DR specificities

- Measurement & Verification
Aggregation (number of sites per aggregate, minimum size (in MW) of each site)

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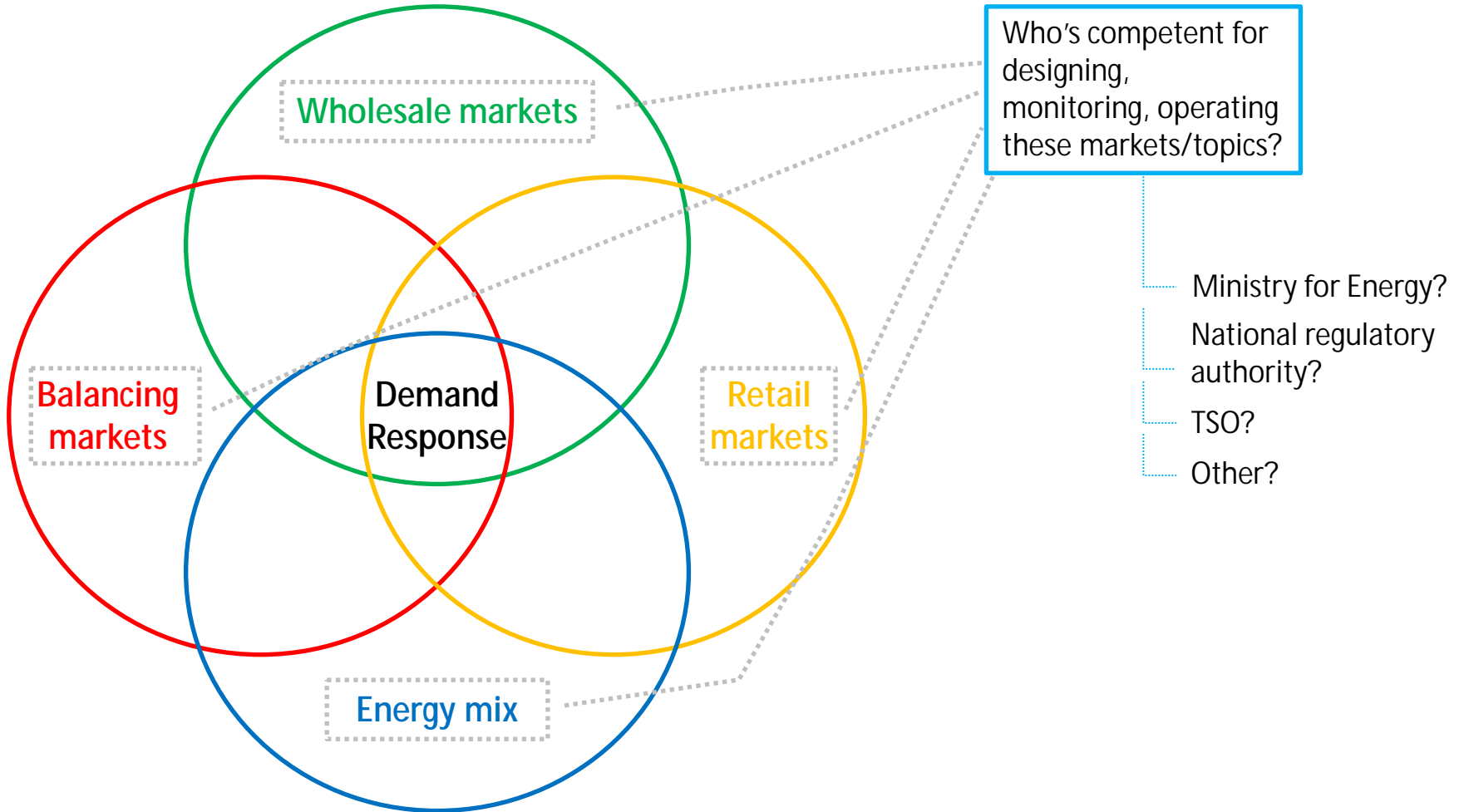
- Measurement & Verification
- Aggregation (number of sites per aggregate, minimum size (in MW) of each site)

Identify the competent authorities to manage and monitor opening of the markets to DR

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Regulatory framework for DR development

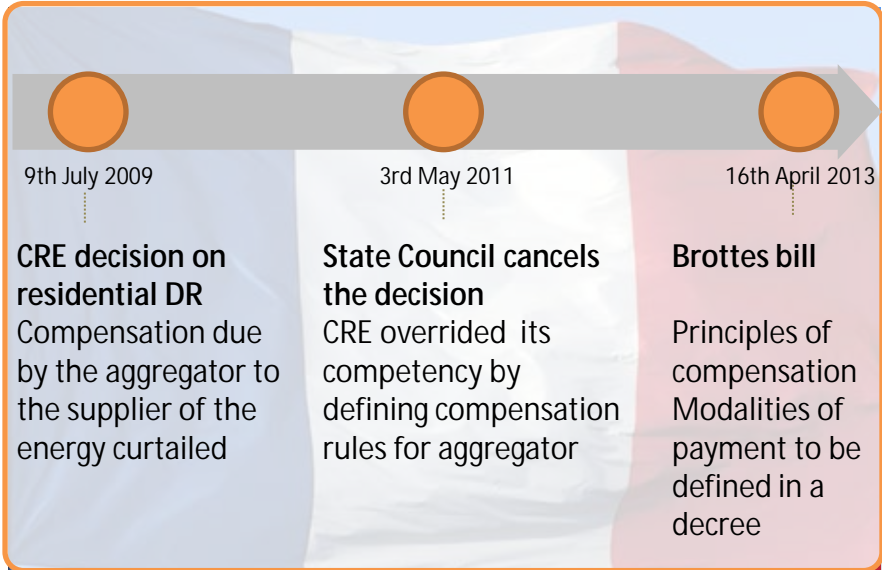
Open markets to Demand Response



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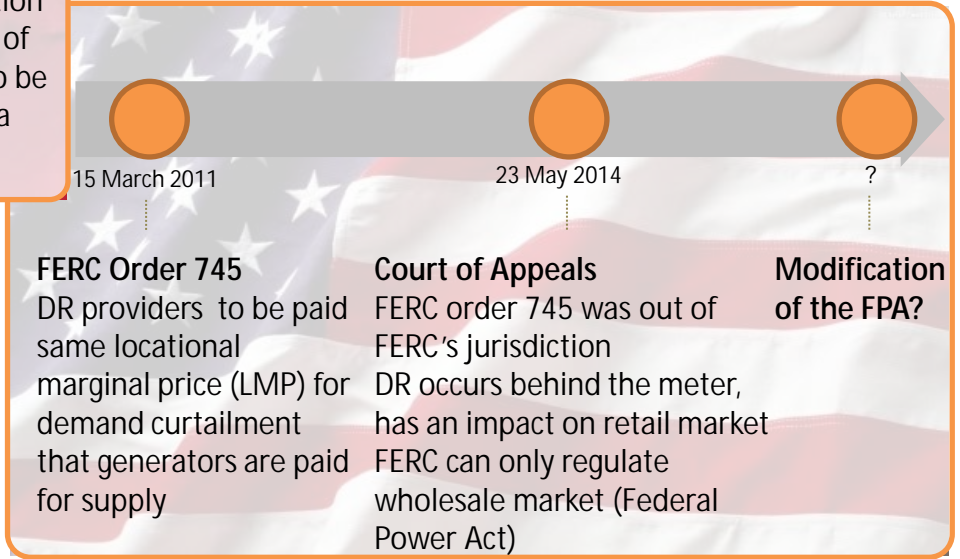
Regulatory framework for DR development

Open markets to Demand Response



A horizontal timeline with three orange circular markers. The background is a stylized American flag. The timeline is divided into three colored segments: light blue for the first event, white for the second, and light red for the third.

Date	Event
9th July 2009	CRE decision on residential DR Compensation due by the aggregator to the supplier of the energy curtailed
3rd May 2011	State Council cancels the decision CRE overrode its competency by defining compensation rules for aggregator
16th April 2013	Brottes bill Principles of compensation Modalities of payment to be defined in a decree



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Date	Event
15 March 2011	FERC Order 745 DR providers to be paid same locational marginal price (LMP) for demand curtailment that generators are paid for supply
23 May 2014	Court of Appeals FERC order 745 was out of FERC's jurisdiction DR occurs behind the meter, has an impact on retail market FERC can only regulate wholesale market (Federal Power Act)
?	Modification of the FPA?

Regulatory framework for DR development

Open markets to Demand Response

Define DR and the role and responsibilities of the parties (end users, BRP, aggregators...)

Adapt market rules to DR specificities

- Measurement & Verification
Aggregation (number of sites per aggregate, minimum size (in MW) of each site)

Identify the competent authority to regulate Demand Response

Secure a budget which can ensure a sustainable DR development (amount and visibility)

BENEFITS OF DR

- Optimisation of generation assets
- Reduced costs for reserves
- Network investments avoided
- CO2 savings

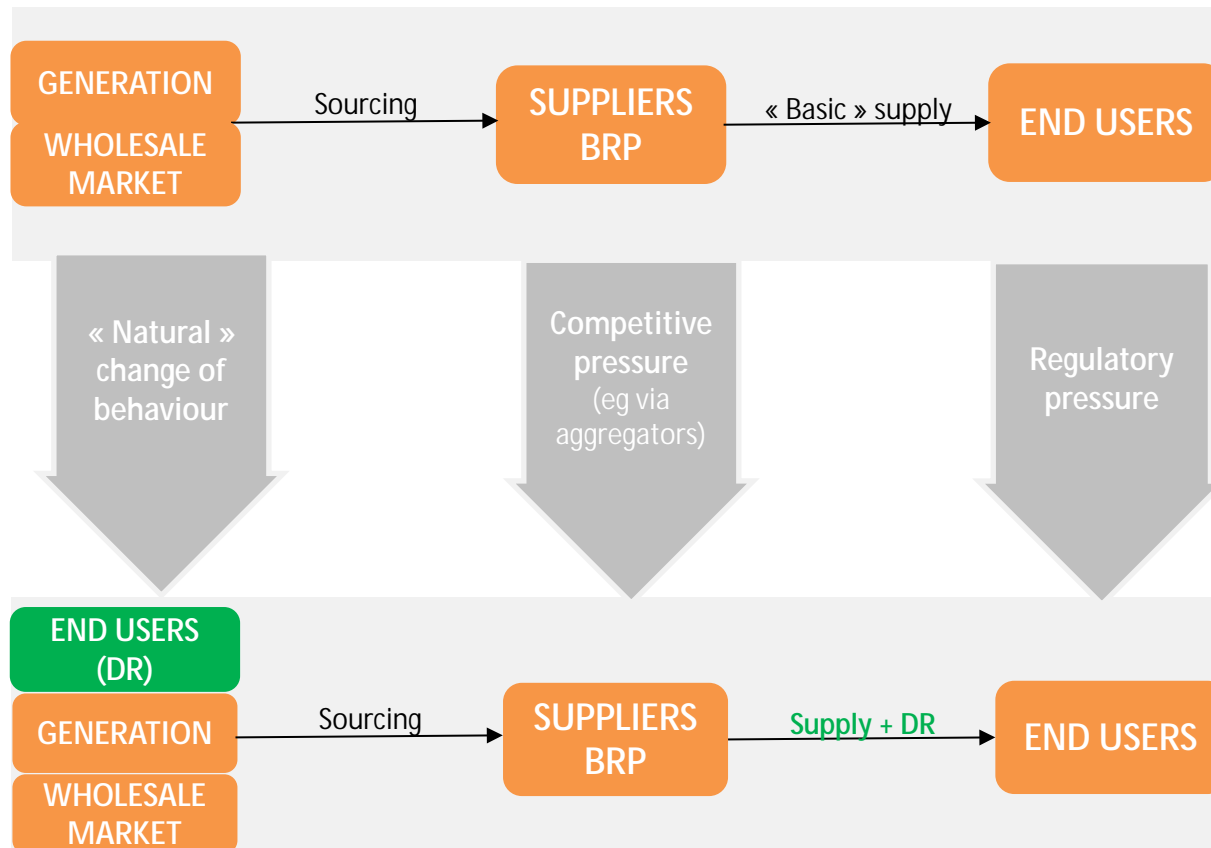
MARKETS



REVENUES



- How to make sure BRP/utilities use DR to optimize their portfolio ? And offer DR programs to their clients?



- Is the distinction "Load" vs "Generation" still relevant?
- Quid Prosumers ?

LOAD
(DEMAND RESPONSE)

GENERATION

Thank you for your attention



ENTSO-E, 09/12/2014

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