

# Study on the means for facilitating the access of demand side response to electricity markets in Belgium

Andreas Tirez – Director CREG  
DSM IA workshop 13 October 2016



# Market model for the transfer of energy

## Interest of demande-side flexibility

Development of RES => need for more flexibility

Demand is one of the possible sources of flexibility (generation, storage)

It can contribute to:

- Grid security (ancillary services)
- Security of supply (strategic reserve)
- Limit price spikes for the benefit of all consumers; and
- A better functioning of the electricity markets by increasing liquidity and reducing market power.

+ could generate additionnal revenues for consumers

# Market model for the transfer of energy

## Why a market model?

The customer has to own its own flexibility

- He must be at the core of the chosen model
- He should be able to valorise it as he likes, on the market of his choice (*balancing, RS, intraday, day ahead*)

But, currently, he can only valorise it:

- Via his supplier (who is not always interested because demand response could be in competition with his own production units and/or has enough flexibility to balance its portfolio)
- Via the TSO (participation of demand response is limited for some products)

**=> Lifting the barriers**

## Market model for the transfer of energy

### Why a market model?

**BUT** this freedom given to the final customer cannot adversely affect other market participants. Without correction measures, this could be the case.

Source final consumer:

- signs a contract with the supplier in order for this latter to provide him with the necessary electricity needed to cover his consumption. The contract foresees that consumption can vary inside predetermined limits;
- signs a contract with a third party (FSP) to valorise his flexibility.

The supplier predicts his customer's consumption (100) and buys electricity in order to cover its demand (100). The supplier injects 100 into the grid.

In parallel, the FSP sells the customer's flexibility to a buyer (20) (TSO,...) without informing the supplier and requires from the consumer to reduce his offtake (20). The FSP then diverts the electricity (20) to another consumer.

# Market model for the transfer of energy

## Why a market model?

### Consequences (1):

1. The supplier must pay the electricity he bought for the consumer. However the consumer has not consumed it, the supplier can thus not invoice it to him

⇒ The supplier has a shortfall that must be compensated

But, the FSP sold this electricity

⇒ The FSP must compensate the supplier

2. The balancing responsible party (BRP) of the supplier has injected more electricity than the customer has consumed, the BRP has an imbalance and is exposed to a penalty (positive or negative)

⇒ The imbalance must be neutralised

# Market model for the transfer of energy

## Why a market model?

### Consequences (2):

3. If the final consumer whose flexibility is activated is not able to reduce his consumption from the requested amount (15 instead of 20), the FSP does not assume the balancing responsibility between the energy he has sold and the energy that has been made available by the consumer by not consuming it (5)

⇒ The FSP must assume the imbalance between what he committed to deliver and what flexibility is activated in reality

### A market model is needed to correct these effects

This could be easy, BUT there are confidentiality issues:

- Supplier: with regard to the selling price
- FSP: with regard to his customers portfolio

# Market model for the transfer of energy

## Components of the model

CREG proposes a market model that allows to do so only, at first, for consumers equipped with a 15-minutes meter

This model is based on:

- 10 principles
- The creation of **two new roles**:
  - Flexibility Service Provider (FSP)
  - Flexibility Data Manager (FDM)
- An interaction model between the different roles

# Market model for the transfer of energy

## Components of the model

### Main principles (1):

- *Every end customer is entitled to activate his flexibility without opposition of his supplier or his BRP*
- *The FSP must take responsibility for the balance in the activation of flexibility within the demand it manages*
- *The FSP may not act at the expense of other parties.*  
*Therefore:*
  - *1. The balance perimeter of the source BRP must be corrected;*
  - *2. The electricity supplier of the source end customer's must be subject to financial compensation.*



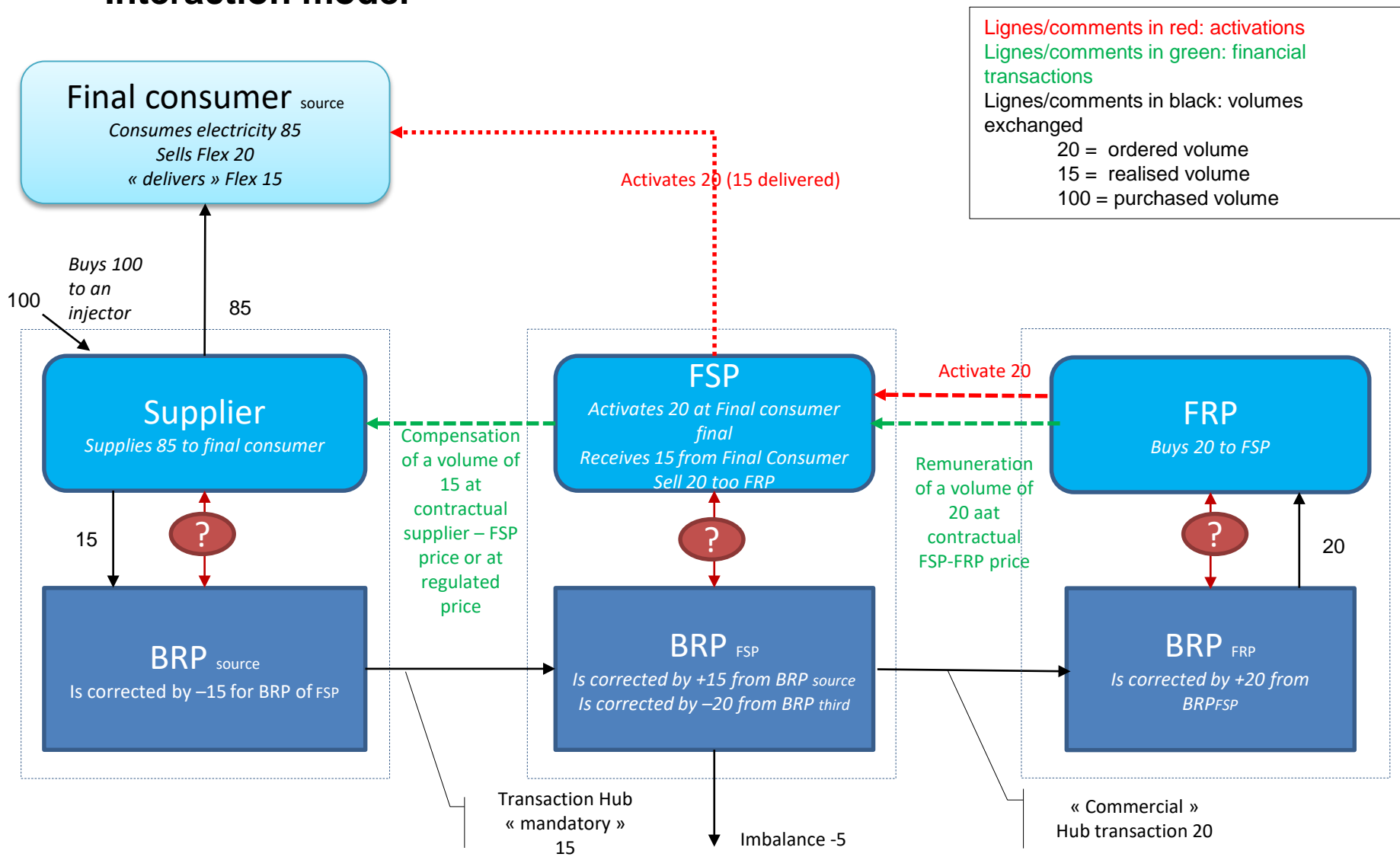
# Market model for the transfer of energy

## Components of the model

### Main principles (2):

- *The end customer is the owner of its measuring and metering data, he must be free to have access to his data, in a timely manner with regard to the process for rewarding flexibility and be able to provide them freely.*
- *Confidentiality of commercially sensitive data must be guaranteed.*

## Interaction model



# Market model for the transfer of energy

## Interaction model between market roles

Based on:

- a centralised data management model linked to the flexibility volumes allowing the neutralisation of the imbalance of the supplier's BRP and the accountability of the FSP (*baseline* + transfer of energy blocks among BRPs)
- a bilateral financial compensation model between FSP and supplier (at supply price or negotiated price)
  - + in case of disagreement, obligation to opt for a standard price formula = approximation of the average selling price to consumers (standard sourcing cost + profit margin)

# Implementation

## Phase-by-phase approach:

1. Balancing products (R3 (bid ladder 06/2017, R2) and reserve products (RS))
  2. ID et DA
- Adaptation of the Law
  - Approval of functioning rules