


Drivers and Hurdles for Gas Market Integration in Europe: Evidence from Belgium-Luxembourg Pilot Market Merger Project

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Outline

- **Project Timeline**
- **Project Scope**
- **Project Challenges**
 - **Challenge 1: no commercial IP Be-Lux**
 - **Challenge 2: capacity solution**
 - **Challenge 3: market balancing**
 - **Challenge 4: balancing tariff**
 - **Challenge 5: regulatory oversight**
- **Benefits so far**
- **Lessons so far**

Acknowledgement & Disclaimer

The BeLux Project is the outcome of teamwork between colleagues from CREG, ILR, Creos Luxembourg and Fluxys Belgium.

This presentation is for discussion purposes only and not in any way binding on the CREG.

Project Timeline

- **May 2013:** ILR (Institut Luxembourgeois de Régulation) requests Creos Luxembourg to provide a feasibility study
- **January 2014:** after outcome feasibility study => Creos Luxembourg & Fluxys Belgium initiative to create Belux market integration and start discussions with CREG and ILR
- BeLux is not a merger of companies: Creos Luxembourg and Fluxys Belgium remain two TSOs, commercializing services in their respective transmission grids
- **7 May 2015:** Creos Luxembourg & Fluxys Belgium create a common balancing company in Luxembourg (Balansys)
- **1 October 2015: Creos Luxembourg & Fluxys Belgium have integrated their national H-gas markets => first market integration between two EU Member States is a fact**
- Balancing within BeLux area harmonized and operated by a common balancing operator: Fluxys Belgium in first instance (since 1/10/2015), Balansys later on => regulatory process is ongoing in order to achieve this goal

Set-up of Balansys Balancing Company

Belgian Gas Act has been modified in order to allow Fluxys Belgium to a.o. delegate the responsibility of balancing to another entity i.e. Balansys.

- Belgian Gas Act of 8 July 2015 (published 16 July 2015)

Regulatory process to activate Balansys as the balancing operator in the BeLux area knows a list of stages subject to public consultation and approval procedures incl. the appointment of a compliance officer (CREG approval June 2016) and an ACER approval of the compliance program.

Balansys (www.balansys.eu) ownership: 50% Fluxys Belgium (OU TSO) + 50% Creos Luxembourg (VIU TSO),

Creos Luxembourg, Fluxys Belgium, together with ILR and CREG, developed a transitory set-up, started on 1st October 2015:

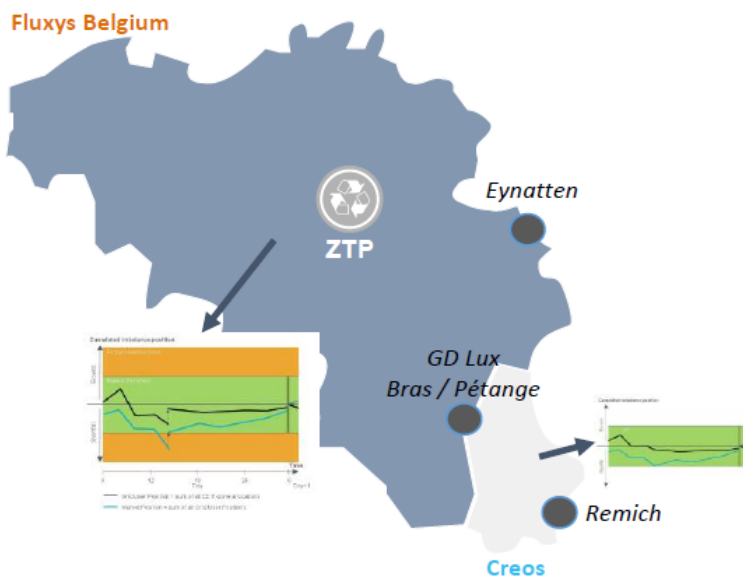
- Imbalances of Belgium and Luxembourg aggregated in one single balancing account by Fluxys Belgium
- Focus on minimal contractual and operational impact for market

A transitory set-up has been developed to maintain launch of BeLux on 1st October 2015

to offer the market already the comfort of market integration as from that date

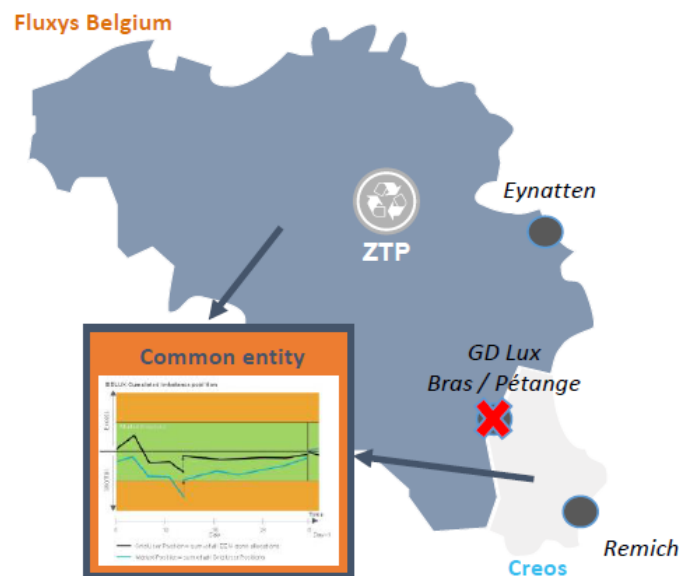
Project Target

Before Belux



- 2 Entry/Exit markets with capacity fees in-between
- Gas trading place in Belgium only
- 2 independent sets of balancing rules

BeLux



- Single E/E market capitalizing on TSO existing means
- Single gas trading place in BeLux ZTP
- Harmonized balancing rules set; 1 common balancing contract

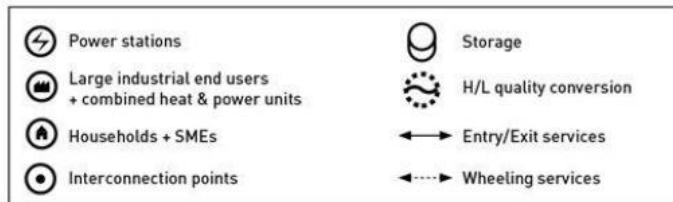
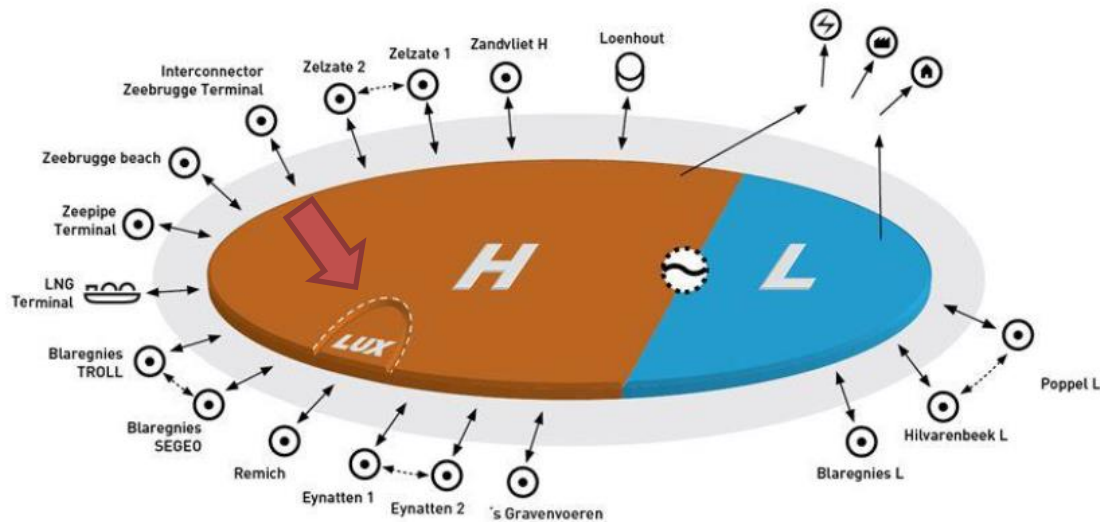
Go Live: 1/10/2015

Transition period in attendance of Balansys as balancing operator for entire Belux market => Fluxys Belgium aggregates imbalances of Belux in one single balancing account

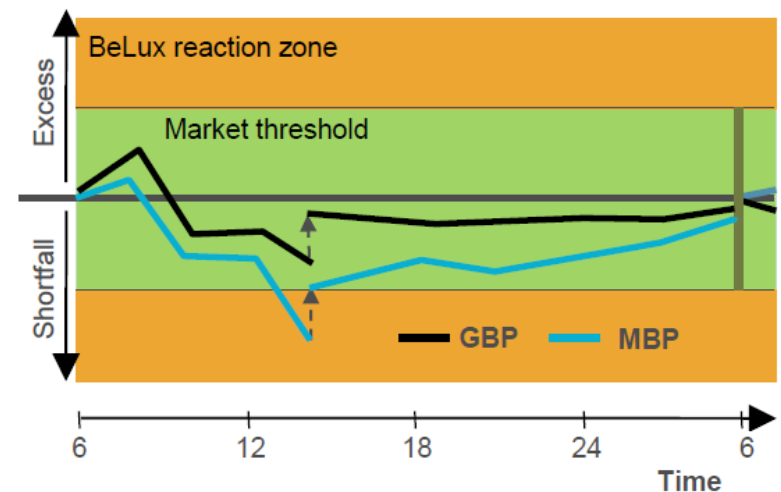
Moving towards one single integrated Belux market

- **Before 1/10/2015, as other national gas markets in EU, BE and LUX have separate gas markets**
 - With capacity fees to move gas from the Belgian to the Luxemburg market
 - With obligation for shippers to balance their position separately on the Belgian and Luxemburg markets, each having their own balancing regime
- **Creos and Fluxys Belgium (promoters) together with ILR and CREG (NRAs) have been working closely together to analyze a merge of both H-gas markets (start beginning of 2014)**
 - Move towards a single cross-border entry exit system and gas trading place by 2015
 - Abolish the commercial interconnection points and related capacity fees between Belgium and Luxembourg
 - Create a joint entity (Balansys) to manage the rules of the common commercial balancing system in the integrated market
 - Align with EU efforts to harmonize the future gas market design and to promote regional cooperation (cf. GTM)
- **Each TSO will retain its own identity and organizational structure within the integrated market area**
 - System integrity of each network remains responsibility of the TSO

BeLux Market Area: 1 VTP, 1 EEzone, 1 BALzone



Market-based Balancing in the BeLux Area



Balancing performed by Balansys and by TSOs

Balancing activities performed by Balansys

Commercial Market-Based Balancing

- Calculation of market imbalance per shipper and of the whole market (based on TSO data)
- Settlements of imbalance positions through gas sales/purchases on exchange platform (on ZTP) of which transaction prices serve for formation of ref price
- Data publication / messaging / support to shippers
 - hourly imbalance position per shipper
 - hourly market imbalance position (public)

Balancing activities performed by TSOs

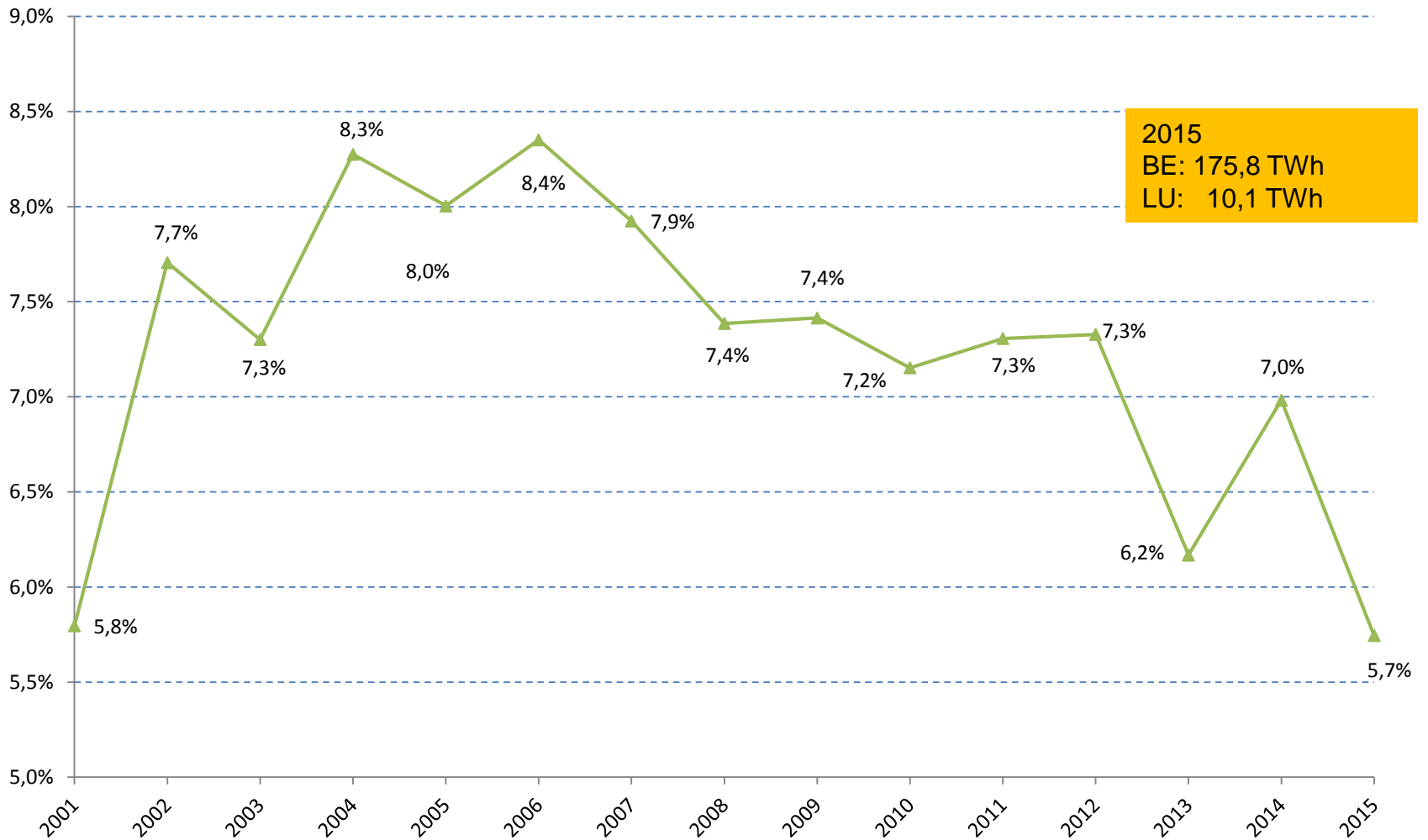
Physical Balancing

- Responsibility to maintain the physical integrity of their network (incl. incident management)
- Determination of physical flows on the borders

Go Live: 1/10/2015

Transition period in attendance of Balansys as balancing operator for entire Belux market => Fluxys Belgium aggregates imbalances of Belux in one single balancing account

Luxembourg gas market compared to Belgian market



Challenges BeLux

No commercial interconnection points BE-LU

- Compensation of lost revenue on border

Capacity solution: sufficient transfer capacity entry/exit zone

- Capacity constraints in integrated market area

Belux Market Balancing

- Alignment of regulation (incl. balancing rules)

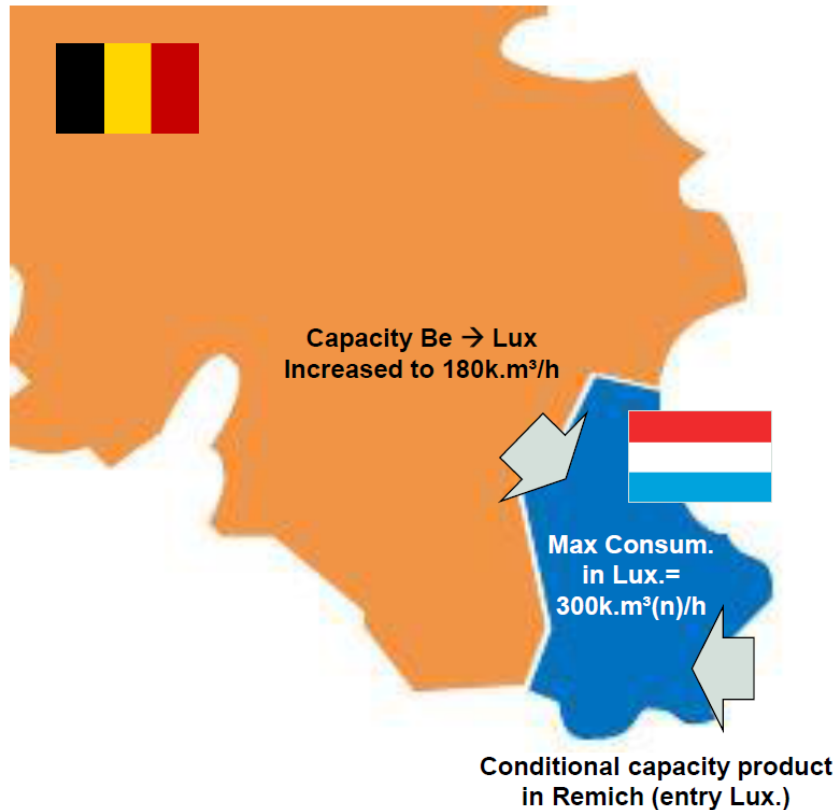
Belux Balancing Tariffs

- Neutrality Charge

Regulatory oversight

- Governance

Specific Capacity Product



- ✓ BeLux allows to supply the whole Luxembourg market from any IP of Fluxys Belgium and/or from the ZTP...

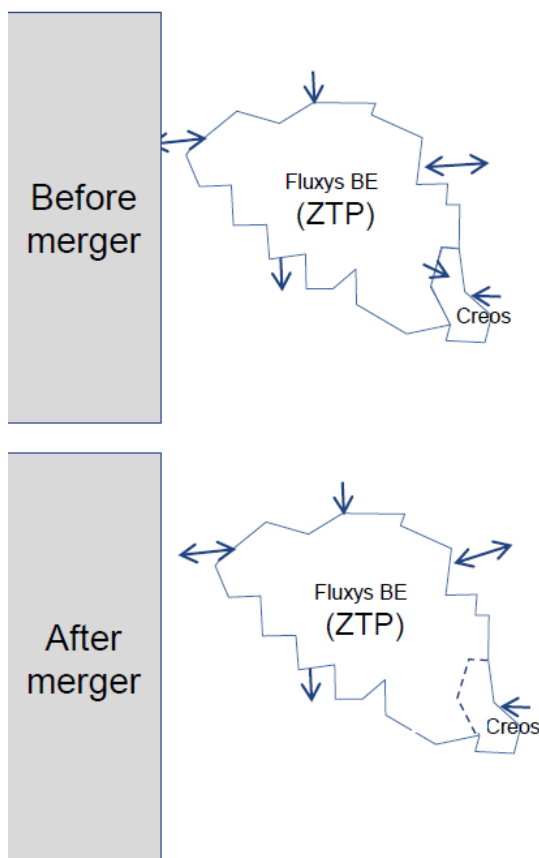
... while the maximum consumption in Luxembourg exceeds the technical capacity between Belgium and Luxembourg.

- ✓ Up to 120k.m³(n)/h entry flow must be secured during coldest periods in Remich (entry in Lux. from Germany)
- ➔ Commercialization by CREOS of a specific capacity product in Remich

Maximal capacity @ BE/LU	Highest total peak demand (Feb 2012)
180 000 m ³ (n)/h	297 000 m ³ (n)/h

- LUX network = end user system, no physical reverse flow, no physical transit
- Need to ensure gas flows via Remich when LUX consumption $\geq 180\,000\text{ m}^3(\text{n})/\text{h}$ in winter via specific capacity product at Remich

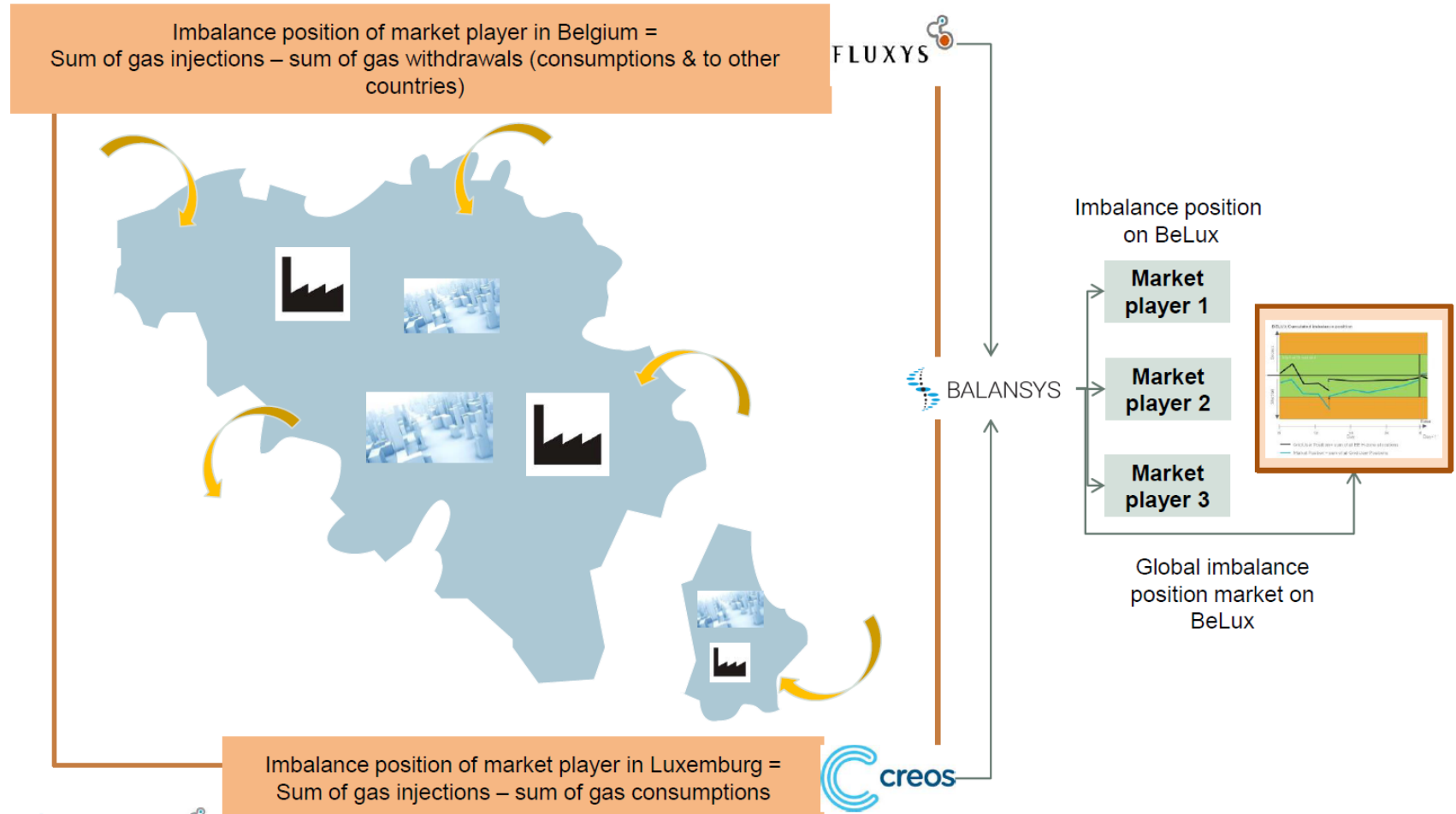
No commercial IPs between BE and LUX => ITC



	Capacity (GWh/h/y)		Tariff (€/kWh/h/y)		Revenue M€		
	Entry	Exit	Entry	Exit	Entry	Exit	ITC
Fluxys Belgium Creos Luxembourg	133 3	133 3	0,75 4	1,75 0	100 12	233 0	
<p>Loss of capacity at exit BE and at Entry Lux</p> <p>• Stable BE tariff; • Lux tariff shifted from entries to exits and increased for payment of ITC</p> <p>• Loss of revenue in BE compensated by ITC; • ITC payment of Creos covered by tariff increase</p>							
Fluxys Belgium Creos Luxembourg	133 2	131 4	0,75 0	1,75 4,8	100 0	230 19	3 -3
Creos Luxembourg OGE	Capacity solution @Remich						-4 4

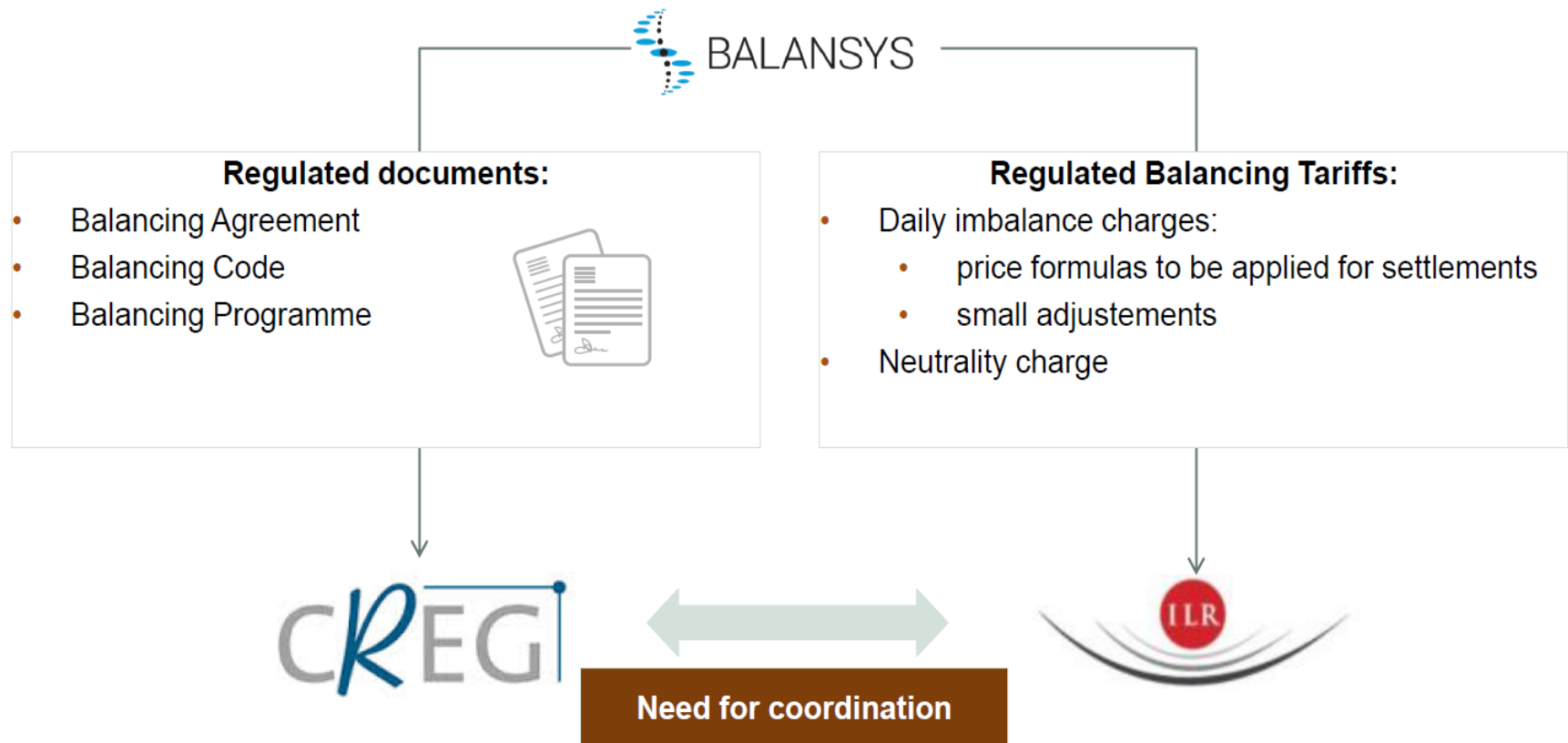
The new tariffs enable to compensate for the lost revenue and to avoid cross-subsidiation

Aggregated Imbalance Positions



BeLux is a full cross-border balancing harmonization based on EU Network Code Balancing

CREG and ILR to Regulate Balansys



Balansys will have as regulators both CREG and ILR for matters related to the integrated area, i.e. Luxembourg & H-gas area of Belgium.

Matters related to L-gas area in Belgium are under CREG competence only.

Balancing Tariff in Belux: Neutrality Charge & Small Adjustments

Neutrality charge

Goal is to ensure neutrality of balancing activity, in accordance with BAL NC

Neutrality charge determined ex ante & applied on domestic exits

Current Neutrality charge: 0 €/MWh

Small adjustment

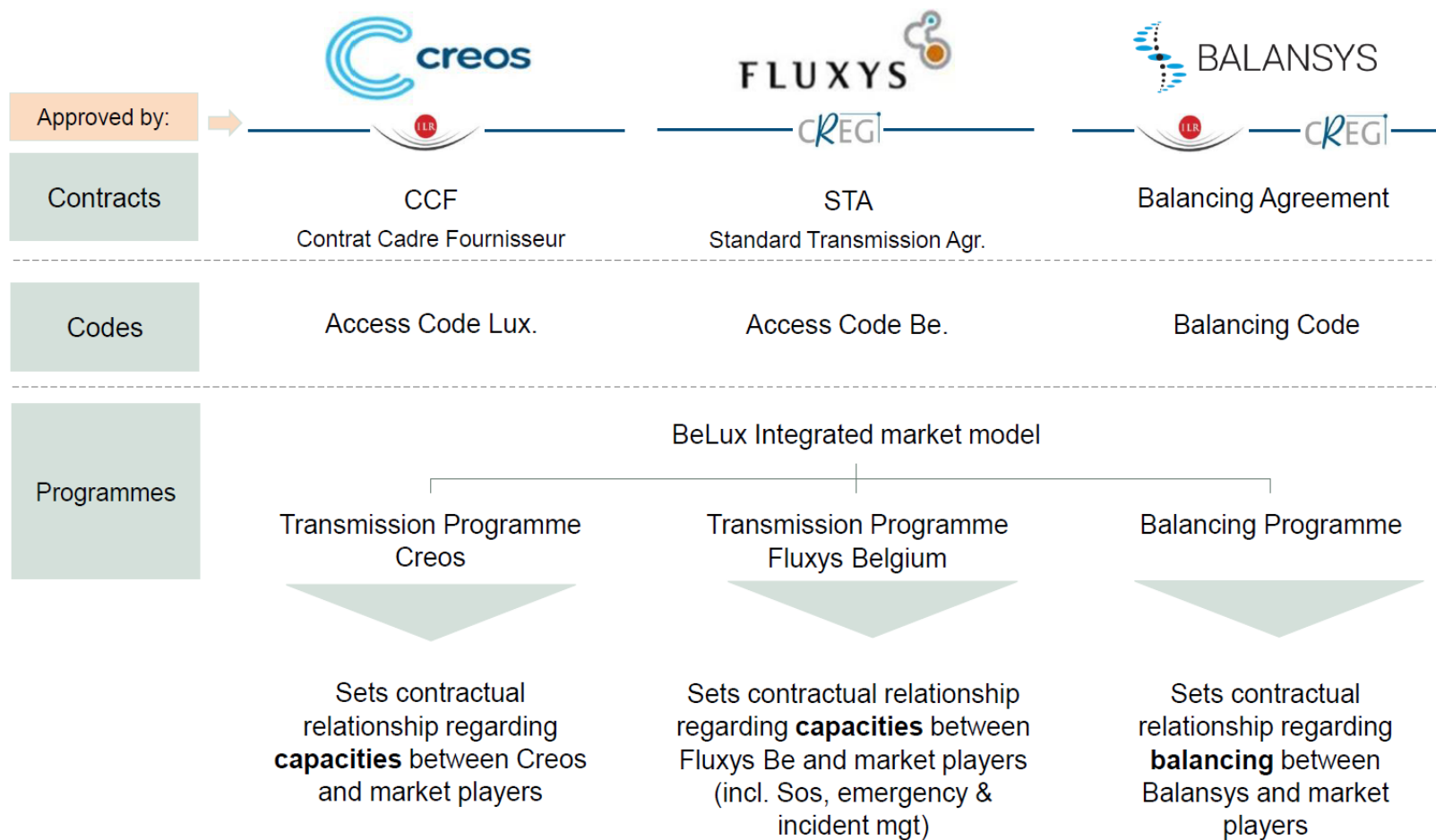
Current values for small adjustment:

- for helpers: 0%
- for causers: 3%

Tariff period = 1 calendar year*:
Possible revision during a tariff period

Balancing tariff jointly approved by ILR & CREG

Contractual structure and regulatory oversight



Benefits so far

Improved market functioning & added value for customers

- Stronger foundation for competitive prices with increased number of suppliers
- Opportunities to pool end-user and supplier portfolios
- Wider sourcing possibilities to guarantee a correct price at all times

Position at the forefront of European market integration

- First TSO cross-border gas market integration in EU
- Huge experience gain for Fluxys Belgium, Creos Luxembourg and the regulators (CREG, ILR)

Realization of market integration in smart way – More brain with same steel

- Realization of market integration without 'steel' investments and with amount of (firm) capacity unaffected
- No impact on tariffs in Belgium since Creos Luxembourg compensates Fluxys Belgium for lost revenues of capacity bookings at the Belgian-Lux interconnection points (which disappeared)
- No overall cost impact for LUX consumers: shift of transmission costs from shipper portfolio towards TSO exit tariffs

Efficient implementation of European network codes

- Synergies for TSOs to implement European network codes in an integrated setting

Improved Security of Supply in Luxembourg

- Supply guaranteed to 60% of Lux customers compared to 37% before integration in case of a disruption of the single largest gas infrastructure

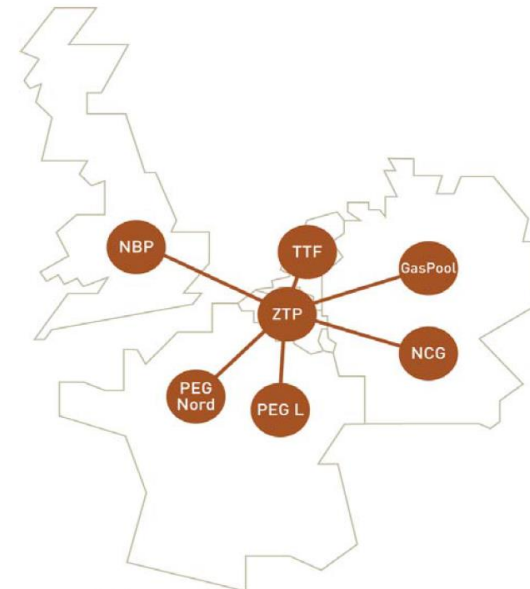
Benefits so far

BeLux offers a comfortable playing field to market players, being suppliers but also industrials aiming to source their gas:

- A notional trading point with gas prices most frequently cheaper than neighbouring gas market places, and showing adequate liquidity in order to source gas and balance positions
- A system-wide balancing regime, having shown huge reliability since 2012
- A high quality and frequency information stream to market players, allowing for a perfect steering of positions

**FURTHER MARKET DYNAMICS HAVE TO SHOW THE TANGIBLE BENEFITS OF THE MARKET INTEGRATION
=> TOO EARLY TO MAKE AN OVERALL EVIDENCE BASED EVALUATION**

**BeLux is not considered as an 'isolated' case
but a 1st step in a further market integration in the EU
and inspired by the EU targets (e.g. Gas Target Model)**



Lessons so far

- Legal preparation is of major importance
=> **legal blueprint before starting**
- The transfer capacity issue is a hurdle and the related costs may outweigh the benefits of a market integration process
=> **full scale CBA before starting**
(incl. sensitivity analysis, identification of pre-conditions and their costs)
- The lost of revenues from transmission fees which disappear at the cross-border interconnection points between the merged markets may be important and difficult to be compensated in an overall cost neutral manner (a overall cost neutral solution could be applied in the BeLux case) .
- National legislation and regulation
=> **cooperation between NRAs**

Lessons so far

- Least cost solutions to overcome hurdles ('smart solutions')
 - => early involvement and cooperation of impacted NRAs to develop appropriate and efficient solutions (e.g. BnetzA concerning capacity solution in the BeLux case)
- Market merging becomes very complex in order to keep a legal and regulatory oversight when promoters (TSOs):
 - wish to delegate TSO tasks to a new entity
 - when TSOs of different nature are involved
 - => BELUX case: OU TSO Fluxys Belgium and VIU TSO Creos Luxembourg
 - => BELUX case: compliance officer and compliance program to respect "Chinese walls"
- Market merging should fit within an effective process within the EU to realize an internal energy market
 - => value creation from larger scale market merging process

Thank You for Your Attention