



Market integration from the perspective of OTE

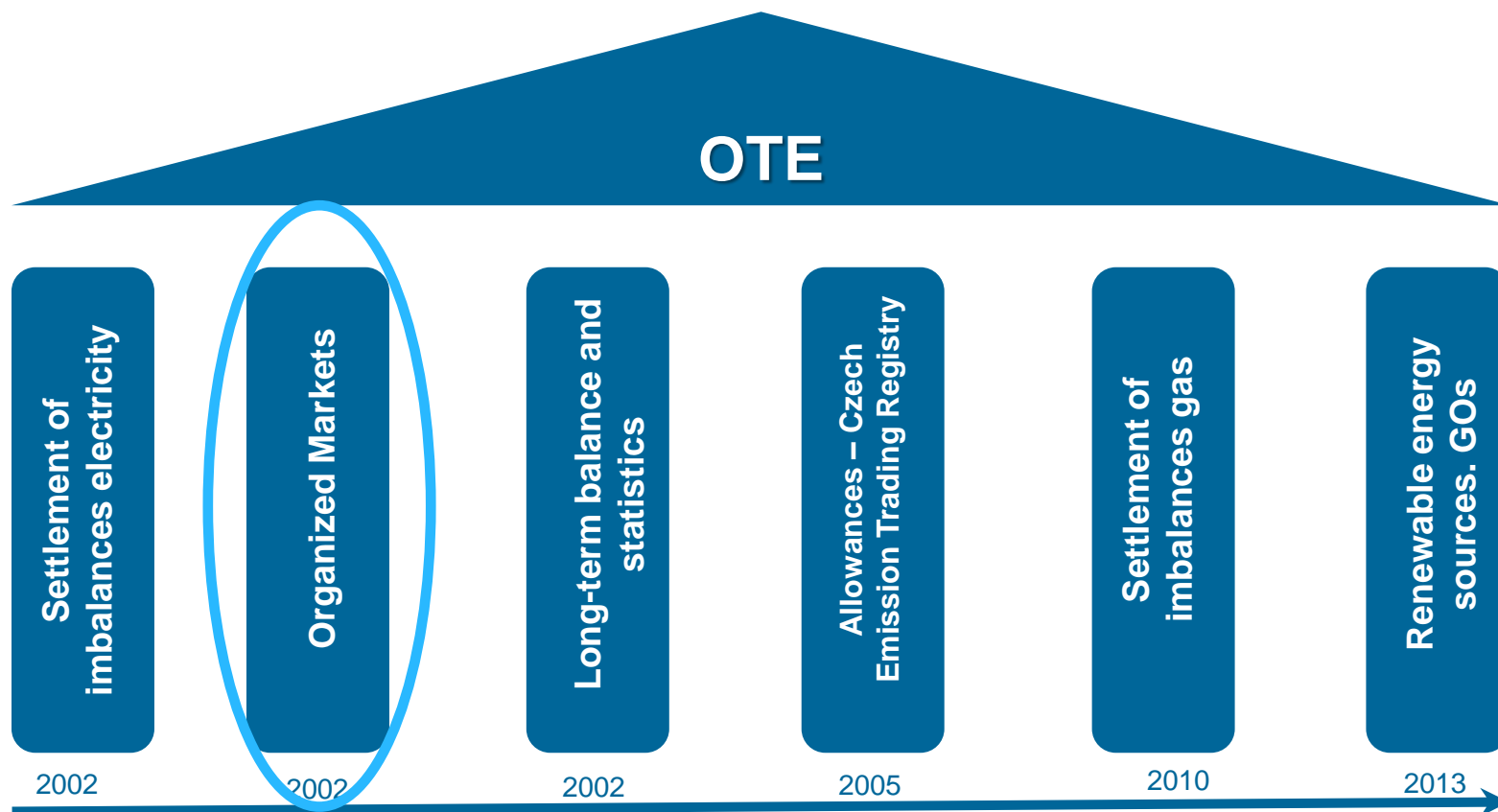
Igor Chemišinec

**CENTRAL EUROPEAN ENERGY CONFERENCE 2013
PANEL III. MARKET-COUPLING OF ELECTRICITY MARKETS
25. 11. 2013**

Name of the company:	OTE, a.s.
“OTE“ translation:	Market Operator for Electricity And Gas markets / Operátor trhu
Founded:	18 April 2001 (Czech Energy Act No 458/2000)
Start of business:	1 January 2002 (electricity market) 1 January 2010 (gas market)
Owners:	Czech state (100% shareholder), governed by Ministry of Industry and Trade
Location:	Prague, Czech Republic
Equity:	Join stock company – fixed capital 340 mil. CZK (~ 13.6 mil. EUR)
No. of employees:	58
Ownership:	No other ownership allowed

OTE, a.s., the Czech electricity and gas market operator, (OTE) is a joint stock company established in 2001. OTE provides comprehensive services to individual electricity and gas market players. OTE commenced organizing trading in the day-ahead electricity market in 2002 and the intra-day and block electricity markets in later years. OTE has been the market operator on the gas market since 2010 including operation of day-ahead gas market and intraday gas market. Continuous data processing and exchange required for the accounting and settlement of imbalance between the contractual and actual volumes of electricity and gas supplied and received are among services offered by the OTE to players in the Czech electricity and gas markets, as well as administrative procedures associated with a switch of supplier. The OTE also administers the National Register of Greenhouse Gas Emissions and payments of subsidies for renewable energy sources.

OTE is the holder of the license for market operator's activities, which includes activities in the electricity and gas market in the Czech Republic.



- **Act No. 458/2000 Coll.**, on Business Conditions and Public Administration in the Energy Sectors and on amending certain acts, as amended (hereinafter the „Energy Act“)
- **Act No. 165/2012 Coll.**, on Supported Energy Sources
- **Act No. 383/2012 Coll.**, on on Conditions for Emission Allowances Trading

Organized markets

Power

Block market

- Continuous matching
- Settlement currency CZK

Day-ahead market

- Daily auction – supply and demand matching curves
- Coupled market with SK and HU
- Settlement currency EUR or CZK

Intraday market*

- Notice board
- Settlement currency CZK

Gas

Day-ahead market

- Daily auction – supply and demand matching curves
- Trading currency EUR
- Settlement currency EUR or CZK

Intraday

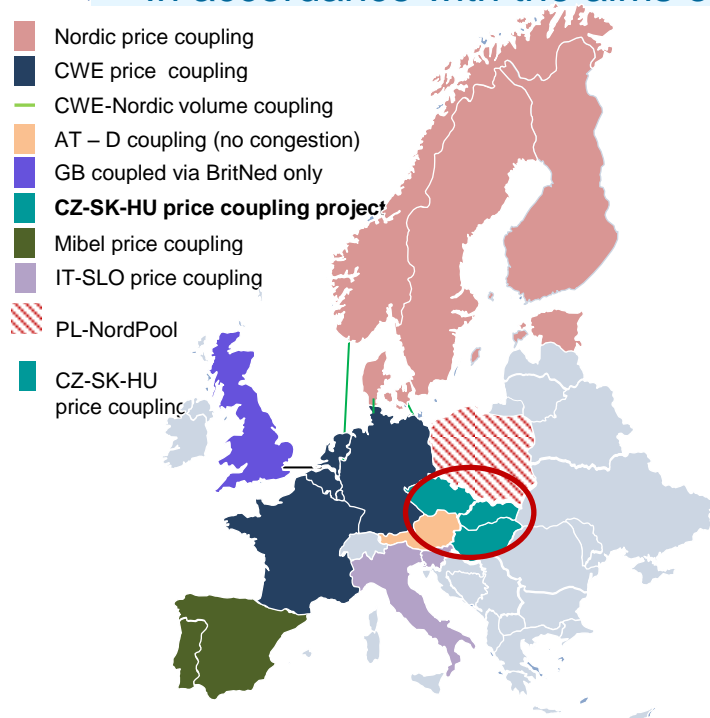
- Continuous matching
- Trading currency EUR
- Settlement currency EUR or CZK

Unused tolerance market

- ex-post market after the end of the month
- Trading currency CZK

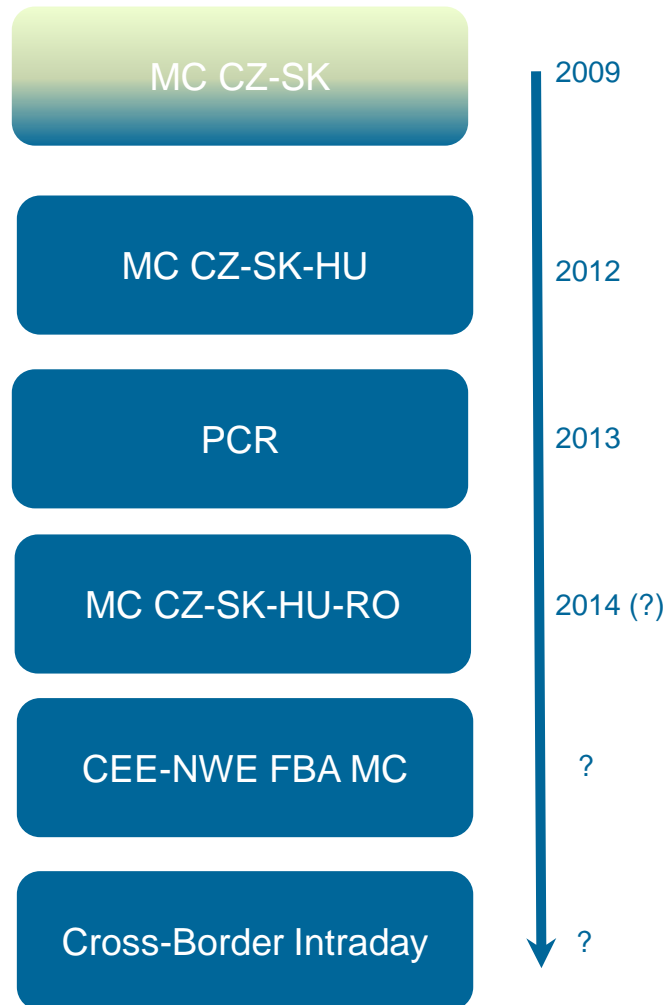
.... is also known as „*Market Coupling*“, „*Implicit auction*“, „*Implicit allocation*“

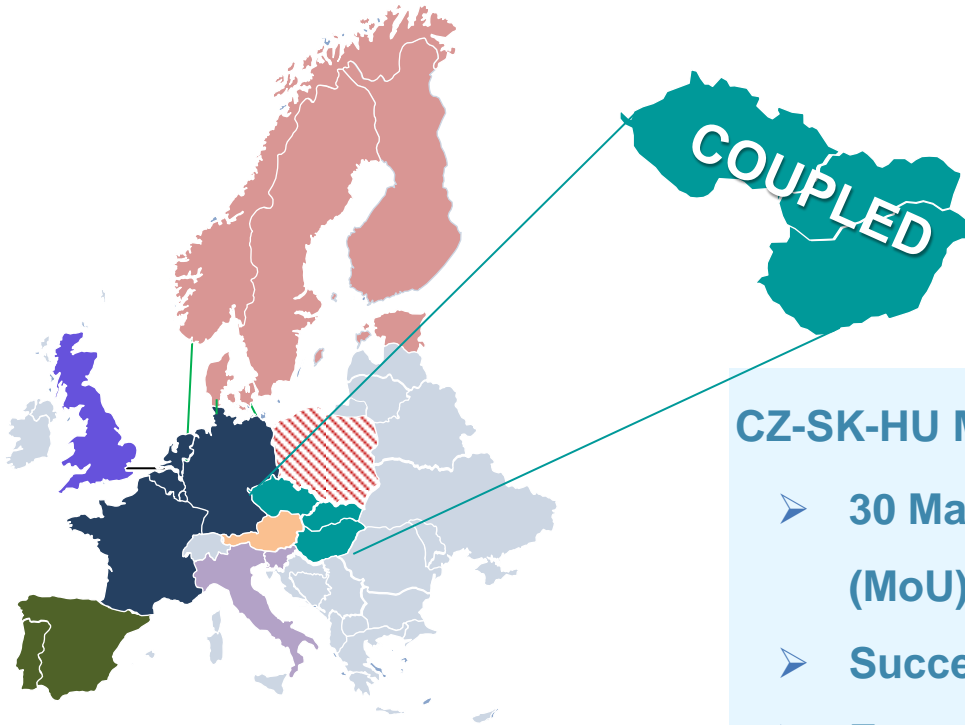
- Energy trading on several markets at one time without need of explicit allocation of cross-border capacity and in this case replacing of day-ahead explicit allocation of cross-border capacity
- In accordance with the aims of integrated European power market



Main benefits ...

- Removing uncertainty in explicit allocation and buying/selling energy
- Increase in competition
- Market expansion => more trading opportunities
- More possibilities to balance own position
- Optimal usage of cross-border capacities – more effective utilization of bottlenecks
- Reducing price volatility



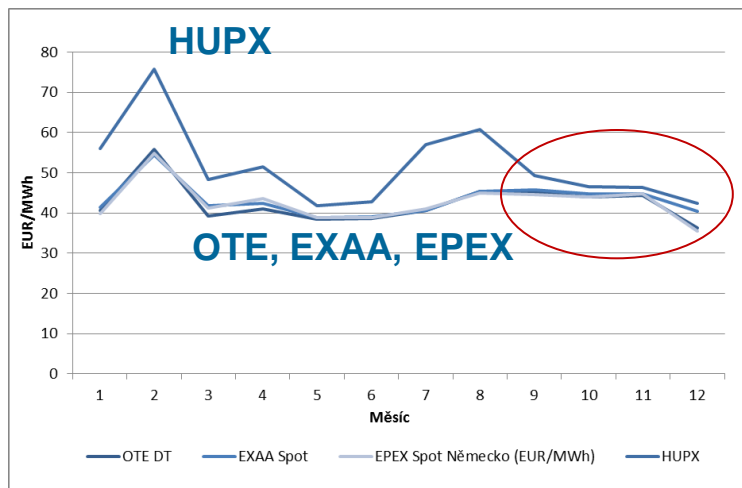


CZ-SK-HU Market Coupling Project:

- 30 May, 2011 Memorandum of Understanding (MoU) was signed by project partners
- Successfully launched 11th September 2012
- Example of cooperation between markets, TSOs and regulators
- Step towards to integrated market till 2014
- Trading partially compatible with CWE region
- Starting point was already coupled market CZ-SK
- Open for further cooperation

Interesting facts from the DA market OTE - 2012

Average monthly prices on the DA



Max. price => 170 EUR/MWh; 8. 2. 2012; 19 hour

Min. price => - 150 EUR/MWh; 26. 12. 2012, 3–7 hour

Second Auction => 26. 12. 2012; 26. 12. 2012; 2–7 hour

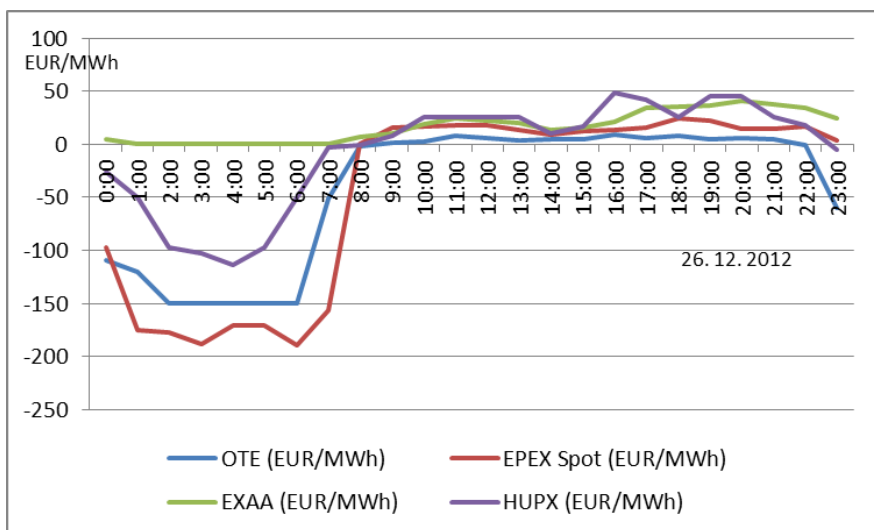
Average price = 42,38 EUR/MWh

Price convergence:

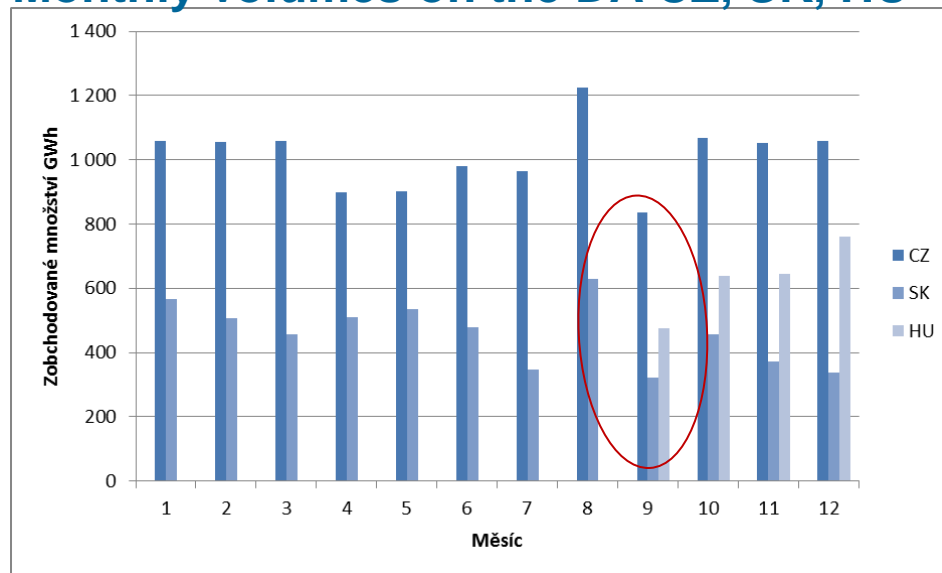
Price difference CZ-SK => 2 % h. 2012

Price difference CZ-HU => 24 % h. 2012 (since 12. 9. 2012)

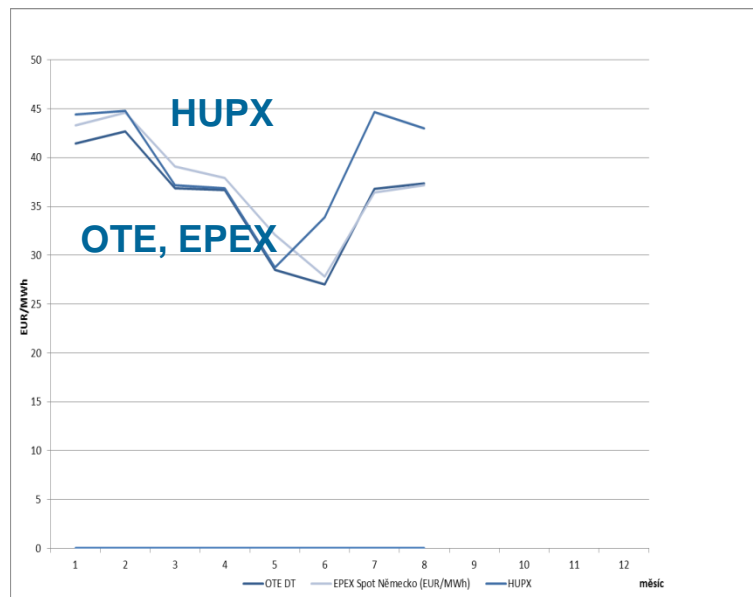
Negative prices and second auction



Monthly volumes on the DA CZ, SK, HU



Average monthly prices on the DA



Max. price => 108,40 EUR/MWh; 28. 3. 2013; 20 hour

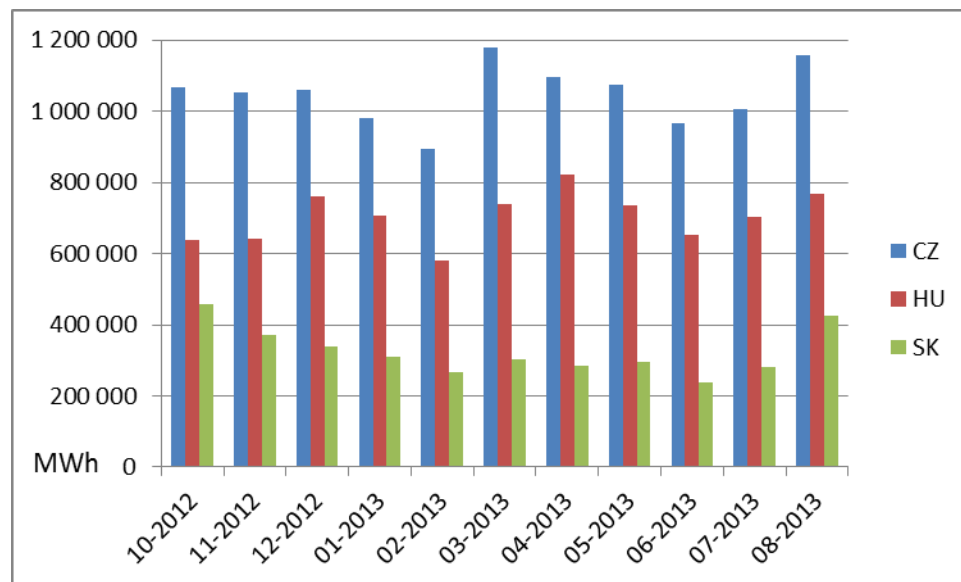
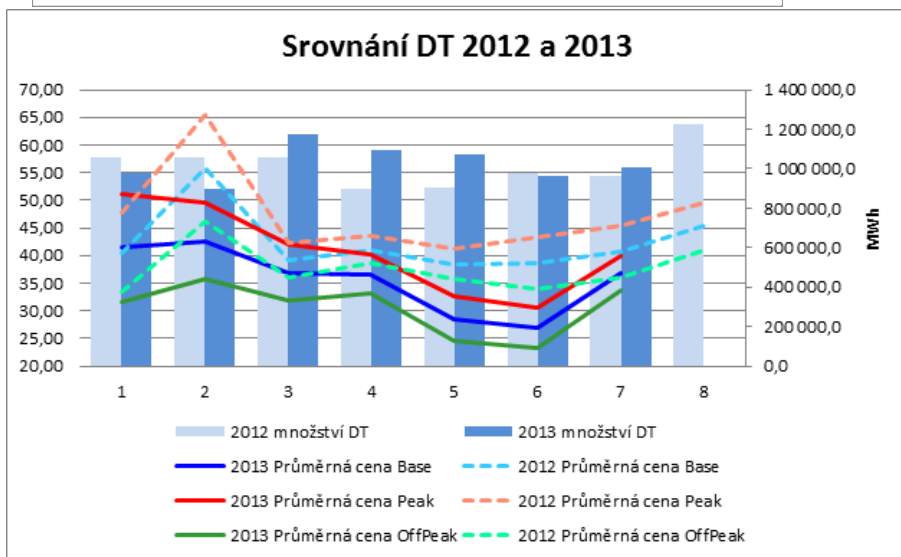
Min. price => - 55 EUR/MWh; 1. 3. 2013, 3 hour

Second Auction => ---.

Average price = 35,84 EUR/MWh

Decoupling: 10. 3. 2013 for delivery day 11. 3. 2013

Monthly volumes on the DA CZ, SK, HU



MC CZ-SK-HU integration with PL/RO

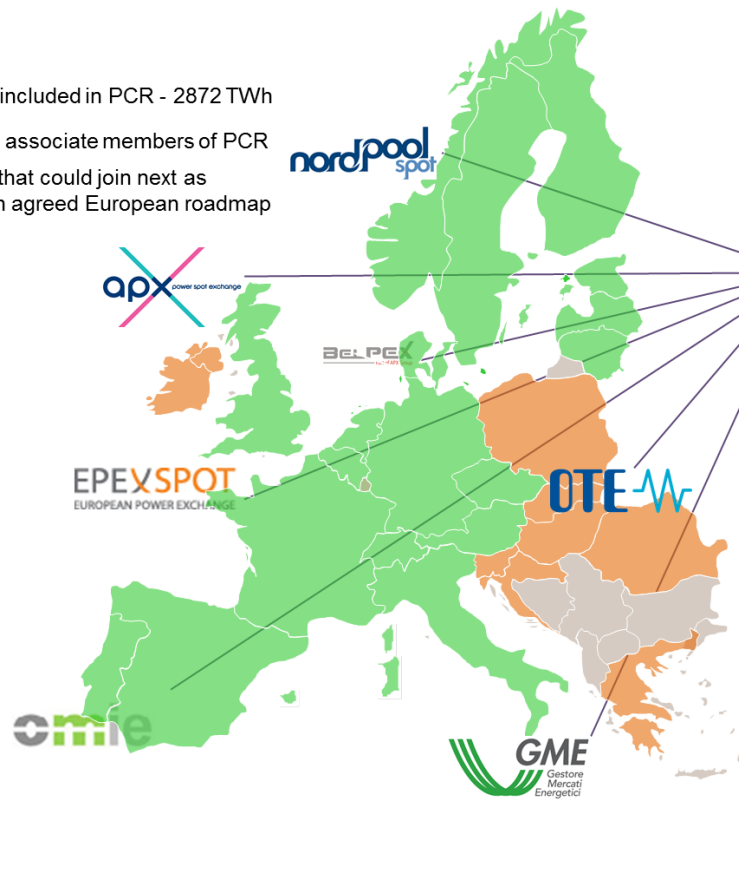
- January 2013 - launch of the joint project, which assess possible options and select the most convenient and efficient way of market integration
- July 2013 – MoU aiming to extend the CZ-SK-HU Market Coupling towards RO and PL markets
- July 2013 - Survey on gate closure time in CZ-SK-HU & PL-RO day-ahead markets
- August 2013 – in reaction to survey results, decision by national regulators of involved countries MC CZ-SK-HU was made, to extend to Romania with gate closure time at 11:00 CET
- IT solution => PCR
- Analysis of necessary steps ...



- Discussion on unplanned flows solution including the distribution of market zones between TSOs practically stopped searching for solution for integration while these problems could be solved with the integration of CEE and NWE regions in parallel
- Compared with CWE/NWE practically no communication between NRAs, TSOs and PXs in CEE region.
- ATC/NTC solutions discussed at CEE regulators level, without official outputs
 - Support of Florence Forum
 - Disagreement between TSOs
 - CEE PXs support ATC/NTC solution as a pragmatic solution
- Necessary steps to do:
 - Project establishment
 - Pre- and Post- Coupling organizing (capacity, cross-border allocation)
 - TSOs: Harmonization of FB solution with CWE region
 - PXs: Harmonization of IT solution between PXs => **PCR solution**



- Markets included in PCR - 2872 TWh
- Markets associate members of PCR
- Markets that could join next as part of an agreed European roadmap



PCR
PRICE COUPLING OF REGIONS

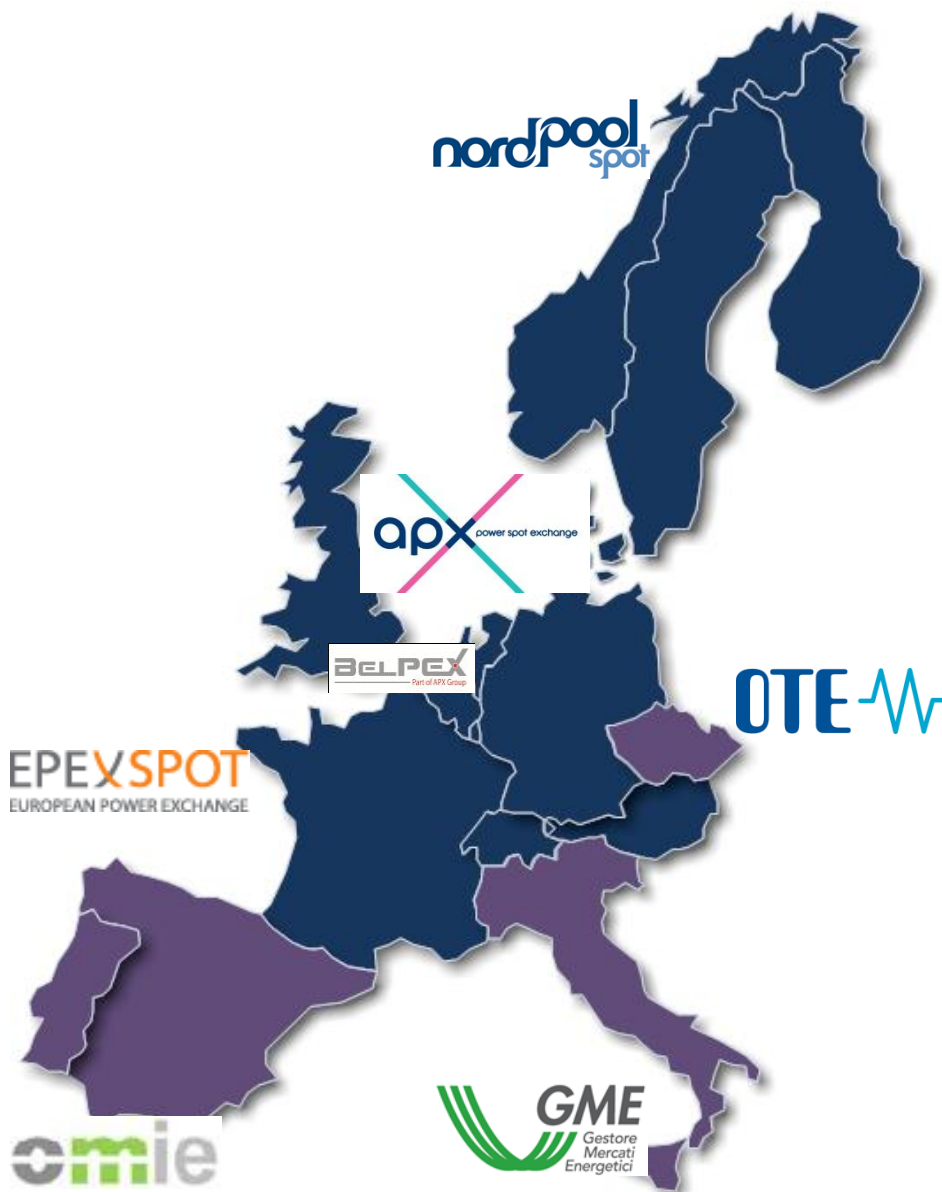
PCR – PRICE COUPLING OF REGIONS

- Initiative of six European Power Exchanges to harmonize markets in Europe
- Since 3/2013 OTE is a part of this initiative as seventh member

Basic principles

- Covers NWE, SWE and CSE Regions inc. Czech republic
- Project is open to all Power Exchanges wishing to join
- Solution does not contain pre- and post-coupling activity (capacity determination, financial settlement of cross-border flows...)

- Joint development of single algorithm, which will be used in Europe => EU-PHEMIA
- Reliability
- Responsibility for solution
- Further development of markets due to possibility to extend the wide range of offered products.



XBID projekt

(Implicit Cross-border Continuous
Intraday Capacity Allocation Project)

- Implementation and operation of Europe-wide implicit continuous intraday trading
- Based on centralized IT solution, that integrates SOB-CMM
- Project of 7 PXs - NPS, EPEX Spot, APX/Belpex, OTE, OMIE, GME
- With cooperation of 15 TSOs
- With support of 16 NRAs, incl. Czech NRA
- Unfortunately no participation of CEE TSO

Project schedule

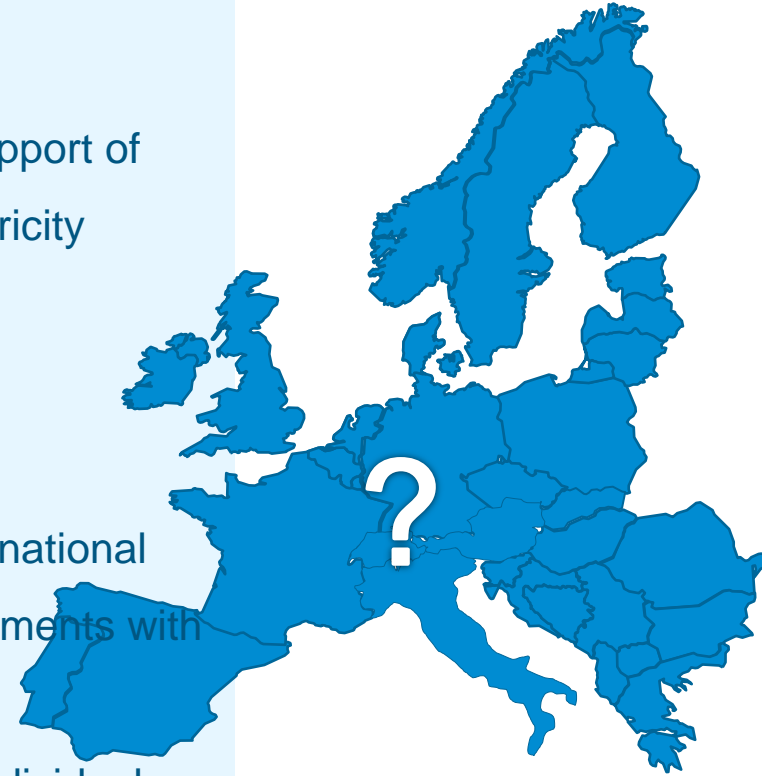
- October 2012 - preparation of documentation and joint tender to choose system supplier
- January 2013 – completion of documentation
- February-October 2013 – selection of system supplier and agreements preparation (*Contract, PX-PX Cooperation Agreement, Development Agreement...*)
- Next steps:
 - Detailed specification and following-up implementation XBID solution
 - Linking of PX systems and XBID system
 - Testing with the supplier
 - Integration of individual trading zones, regions and grids
 - Testing with market participants
 - Go-Live
- OTE actively involved from the beginning of the process

Implementation of intraday solution in CEE region requires high commitment and performance of all stakeholders:

- **PX: Creating of local intraday markets**
- **TSO: Modifying the conditions of intraday cross-border capacity allocation**
 - 1 hour + nominations as close as possible to delivery hour compatible with the target model, harmonization of requirements between TSOs
- **NRA: Support and management from the NRAs and ACER (fulfilled at Czech Republic level)**

Despite the obstacles to the single market

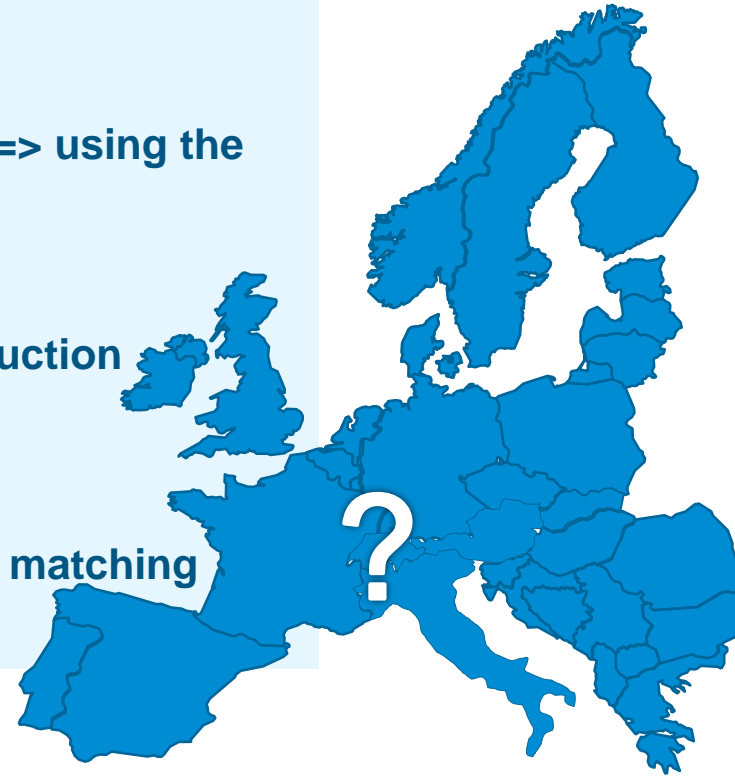
- Intervention of NRAs and European countries vs support of market liberalization and integration of national electricity markets
- Influence of non-market instruments (CO₂; RES ...)
- Intervention in national energy policies
- Not always developed infrastructure and defense of national interests at the TSOs level or even individual governments with reference to „energy security“
- Attempts to interfere in the rules and principles on individual markets

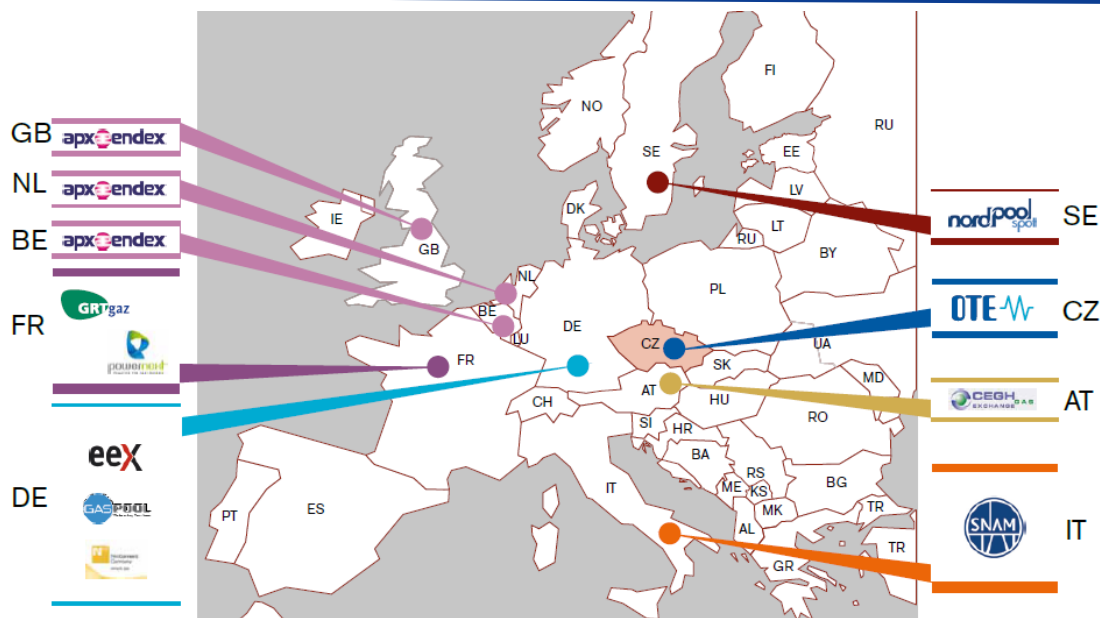


=> Does an effort to harmonize EU rules (EU Regulations and Directives, Network codes) support the liberalization and integration of national electricity markets or, conversely, lead us to the extreme controls of everything, regardless of the specifics of the individual member states?

Target Model is creating single European market

- According to European Council should be completed by the year 2014 => *Is it still possible?*
- Cross-border capacity allocation market-based => using the implicit allocation principle
- Day-Ahead Market: Flow-based allocation and auction principle
- Intraday Market: ATC allocation and continuous matching





... Gas market integration

















Organized Short-Term Gas Market

- allows market participants to optimize trading positions in accordance to the current situation in their production/customers portfolio
- attractive not only for balancing of the trading position, but also for unexpected climatic changes or complications in the transmission system

Market places

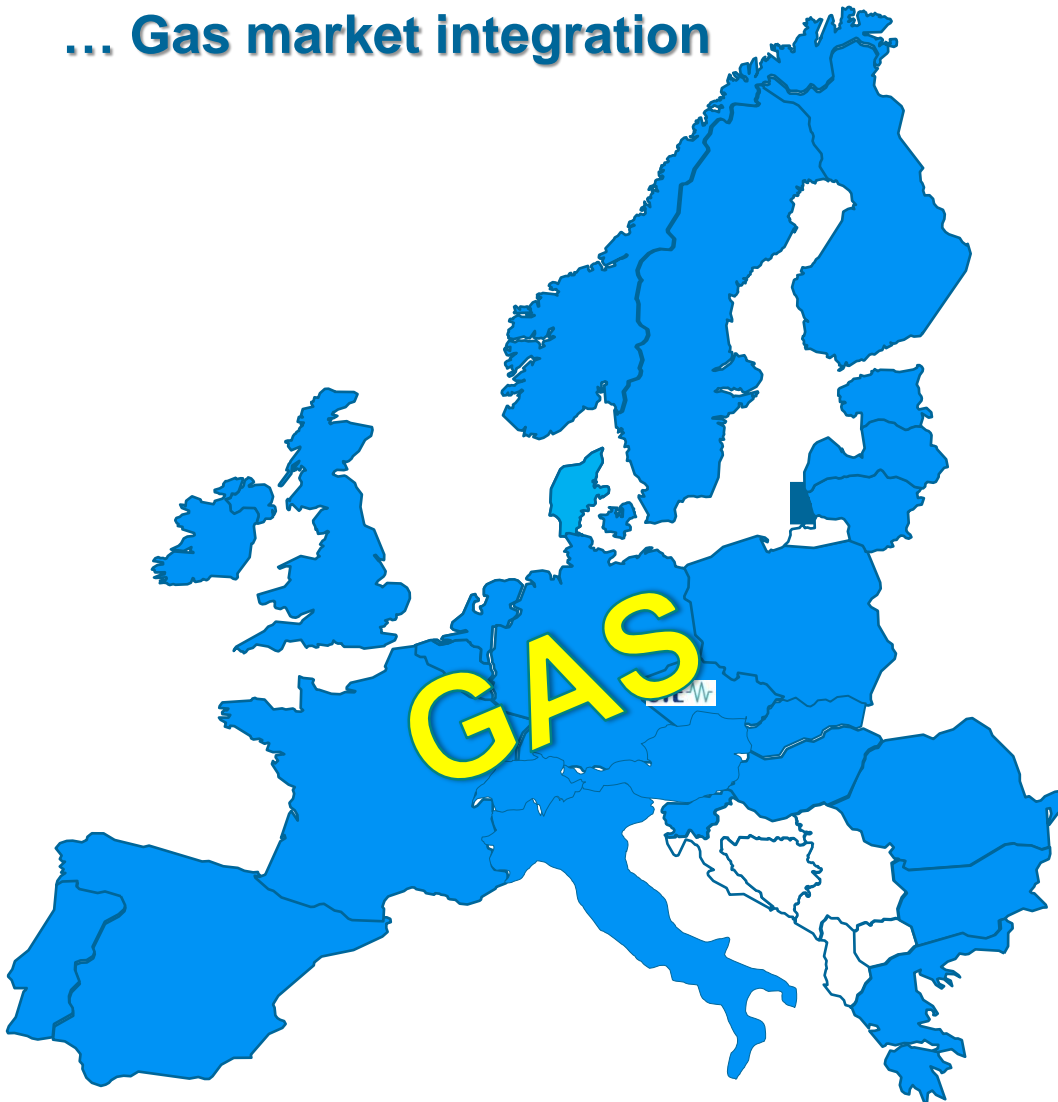
- Penetration of market places
 - is insufficient in comparison with the situation on the electricity market
 - resembles the situation on the electricity market five years ago
 - high reliance on bilateral trade
- Some projects started (CETR, V4 Trading Region) unfortunately without participation of all involved parties and are not mutually coordinated



European Spot Power Exchanges			
	EPEX		TGE
	EPEX & EXAA ¹		OTE
	EPEX & NPS & EXAA ²		Borzen and BSP
	NPS		HROTE
	APX		LAGIE
	APX & NPS ³		OKTE
	SEMO		OPCOM
	GME		
	OMIE		
	HUPX		

1 EPEX operates DA and ID, EXAA operates DA
 2 EPEX operates DA and ID, NPS operates ID, EXAA operates DA
 3 APX operates DA and ID, NPS operates DA and ID. GB is currently the only Member State planning to coupling both PX's DA markets

... Gas market integration



- in connection with network codes there are discussions about gas market integration
- same as on the electricity market it is necessary to harmonize basic parameters
- situation is more complicated due to the different models of individual gas markets and compared to the electricity market to lack of market places
- harmonization examples:
 - gas day
 - settlement of imbalances
 - different allocation mechanisms at each border
 - establishment of market places
- however, the situation is not critical, the example of electricity market integration can be used for the gas market integration
- OTE with its markets is ready to discuss this topic as well



Thank you for your attention !

www.ote-cr.cz

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OTE  Combining opportunities with markets

ACER – EU Agency for the Cooperation of Energy Regulators
APX/Belpex – Exchange in The Netherlands (APX) and Belgium (Belpex)
ATC – Available Transmission Capacity
CEE – Central Eastern Region
CETR - Central European Trading Region
CSE – Central South Europe
CWE – Central West Europe
DA – Day-Ahead market
EXAA – Exchange in Austria
EPEX/EPEX Spot – Exchange in France and Germany
FB – Flow Base
FBA – Flow Base Allocation
GME – Exchange in Italy
GOs – Guarantess of Origin
HUPX – Exchange in Hungary
IM – Intraday market
MC – Market Coupling
MoU – Memorandum of Understanding
NPS – Nord Pool Spot , Exchange in Scandinavia
NRA – National Regulatory Authority
NWE – North West Europe
OKTE – Short-term electricity Market Operator in the Slovak Republic
OMIE – Exchange in Spain
PXs – Spot Power Exchange
SWE – South Western Europe
TSOs – Transmission System Operator
V4 - V4 trading region