PCR Project
Main features
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Introduction

- **WHAT is PCR?** Price Coupling of Regions (PCR) is a project of European Power Exchanges to harmonise the European electricity markets.

- **HOW is this done?** By developing common assets, a single price coupling algorithm and PCR Matcher and Broker SW, to be used to calculate electricity prices across Europe.
Key Elements in European Integration

• Price Coupling of Regions (PCR) is a Market Coupling project focused on the delivery of a Market Coupling Operations Function (MCO Function) described by CACM Regulation 2015/1222

• An important part of all regional market coupling projects, linking them all together

• This is to accommodate the overall EU target of a harmonised European electricity market

• Based on three main principles:
  • One single algorithm
  • Robust operation
  • Individual accountability
Key Elements in European Integration

- PCR is a project currently being operated by eight Power Exchanges: EPEX SPOT, GME, HEnEx, Nord Pool, OMIE, OPCOM, OTE and TGE, open to other European Power Exchanges wishing to join. PCR is creating a governance structure based on a Co-Ownership Agreement and a Co-Operation Agreement among exchanges.

- PCR is used to couple the following countries: Austria, Belgium, Czech Republic, Croatia, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Ireland, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and UK.

- Development of a single price coupling algorithm, Euphemia. It is used to calculate electricity prices across Europe. It also optimises the overall welfare and increases transparency of prices and flows.
Benefits of European Price Coupling

• The integrated European electricity market is beneficial due to increased liquidity, transparency, efficiency and social welfare.

• Guarantees the overall welfare and optimal use of electricity network constraints.

• Implicit trading removes unnecessary risks of trading cross-border capacity and electricity separately.
PCR can have two functions:

- **For Power Exchanges:** More competitive prices and overall increased welfare

- **For TSOs:** Efficient use of electricity network constraints
PCR Project Structure

The Steering Committee
- The ultimate decision-making entity for the project with representatives of each PX
- Responsible for the efficient management of the Project
- Focused on achieving the objectives

Workgroups
- They share out the tasks according to the needs.
Towards Single European Market: History of Market Coupling

1993 - 2000
• Nordic Price Coupling: The Nordic markets are coupled

2006
• Trilateral Market Coupling, integrating the Netherlands, Belgium and France

2007
• MIBEL market started coupling Spain and Portugal

2009
• Czech Republic and Slovak Republic Market coupling started
Towards Single European Market: History of Market Coupling

2010
- Central West European Market Coupling (CWE); integrating the Netherlands, Belgium and France with Germany
- Interim Tight Volume Coupling (ITVC) between the CWE region and the Nordic – Baltic region

2011
- NorNed cable is integrated into the CWE-Nordic ITVC
- Launch of BritNed coupling linking the GB market to the wider CWE region
- Italy and Slovenia Market coupling started

2012
- 3M MC project integrating the CEE region markets of Czech Republic, Slovak Republic and Hungary
Towards Single European Market: History of Market Coupling

2014

- Launch of common synchronised operation of NWE and SWE regions Day-Ahead markets using PCR solution

- Full Coupling of NWE and SWE regions launched- stretching the coupled region from Portugal to Finland

- 4M MC project replaces the trilateral Coupling now integrating the markets of Czech Republic, Slovakia, Hungary and Romania

2015

- The Italian-Austrian, Italian-French and Italian-Slovenian borders have been coupled with the Multi-Regional Coupling (MRC), linking the majority of EU power markets–from Finland to Portugal and Slovenia

- Launch of the CWE Flow-Based market coupling in May
Towards Single European Market: History of Market Coupling

2016

- Launch of market coupling of the Austrian – Slovenian border with the Multi-Regional Coupling (MRC)

2018

- Joining of the Slovenian – Croatia market coupling to the Multi-Regional Coupling (MRC)

- Successful Ireland – GB market coupling has included Ireland and Northern Ireland to the countries coupled through the Multi-Regional Coupling
PCR users and members

Markets using PCR: MRC

Markets using PCR: 4MMC

Markets PCR members

Independent users of PCR

Markets associate members of PCR
Thank You