

Day Ahead Market Coupling Implementation Road Map

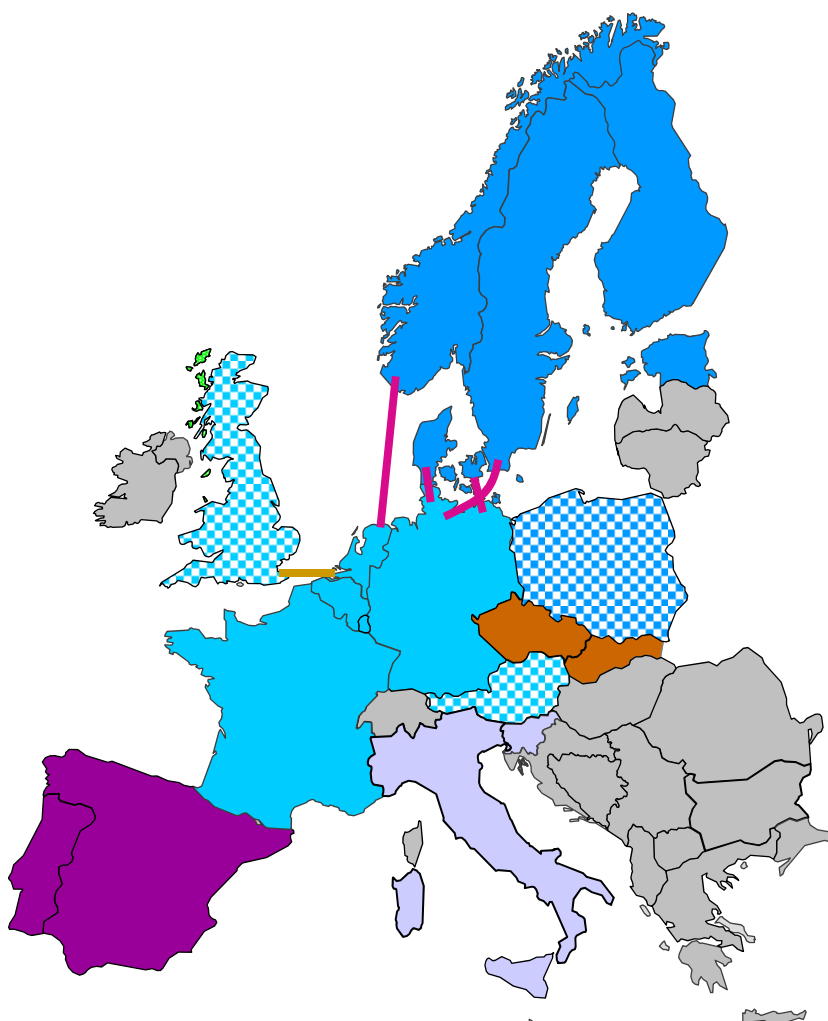
ENTSO-E and EuropeX

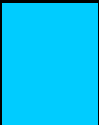


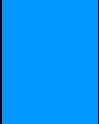

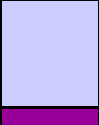
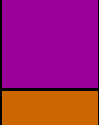

Florence Forum
23 May

Setting

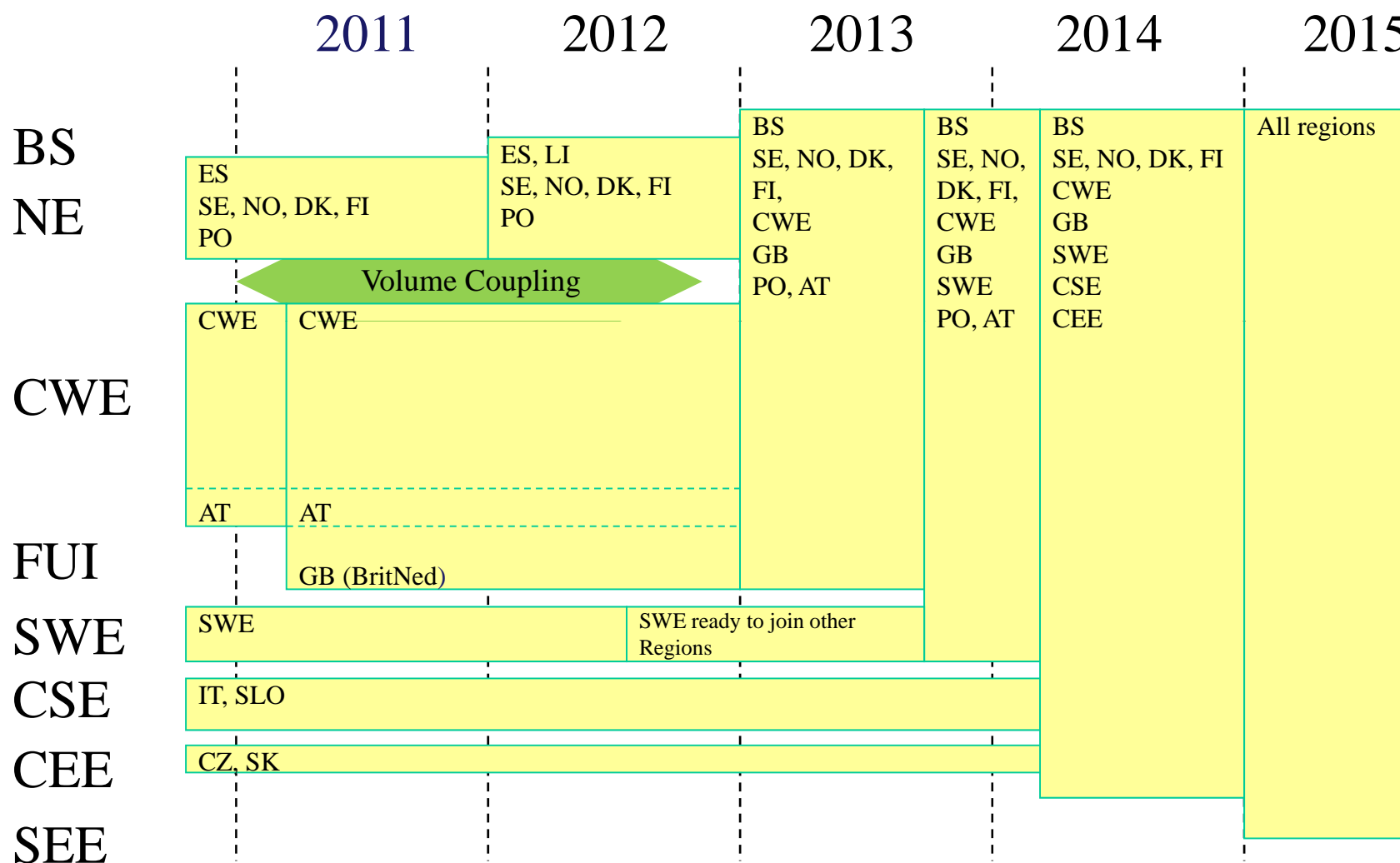
- The target model for day ahead is acknowledged by all stakeholders: **European-wide single price coupling**
- This is the basis for the Network Code and Governance GL
- Work on the target model and on the Network Code starts already today:
different existing circumstances, e.g. in governance regimes, have to be taken into account
- PXs propose to use PCR, Price Coupling of Regions - as European coordinated matching function, subject to TSO requirements
- The NWE TSO project, which covers GB, CWE and Nordic, is in a geographically central position. It plays a pivotal role in ensuring consistency across regions and will be the connection region for Baltics, CEE, CSE, SWE

Current Status



REGIONAL IMPLICIT AUCTIONS		
	CWE	Price coupling
	Austria	1 AT PX price coupled to GE (no congestion)
	GB	1 GB PX price coupled to NL via BritNed only
	Nordic + Estonia	Price coupling, also Poland via Swebol
	ITVC	Volume coupling CWE - Nordic
	Italy - Slovenia	Price coupling
	Mibel	Price coupling
	Czech - Slovak	Price coupling

Preliminary Roadmap

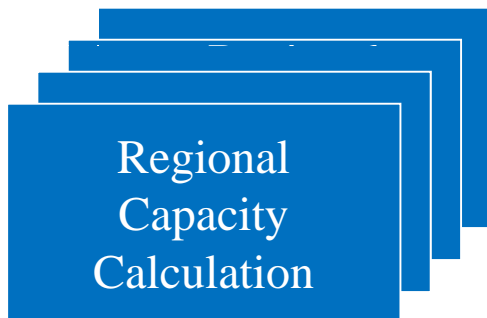


Open planning issues: CEE, SEE, Ireland (SEM), CH and the joining of SWE to the other Regions

Overview of Day Ahead Solution Functional Blocks

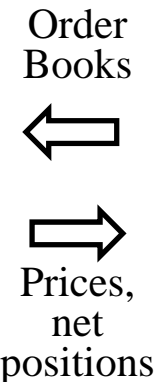
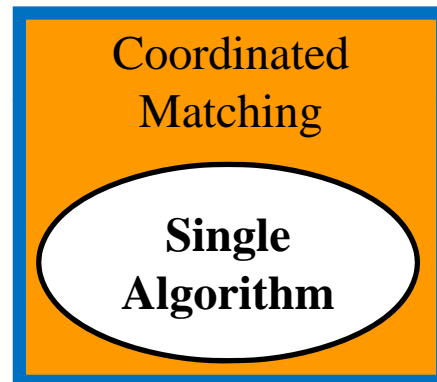
Pre-Coupling Functions

TSO responsibility



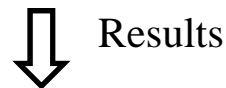
Coupling: Matching & Allocation

Joint PX responsibility, must meet TSO requirements regarding capacity allocation

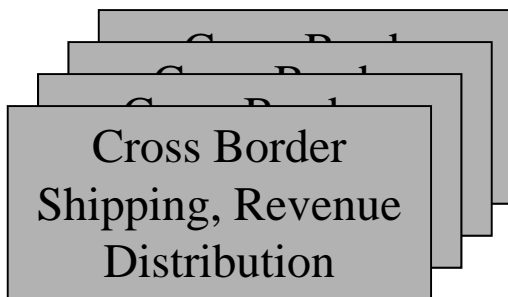


Local Markets

PX responsibility



Post-Coupling Functions



The NWE Project

- The NWE day ahead project is initiated by ENTSOE – Regional Group North West Europe (NWE)
- Targeted at the introduction of Single Price Market Coupling in the 10 NWE countries by the end of 2012
- Introduction of Flow Based in CWE planned for 2013
→ **Target Model reached in NWE in 2013**
- As a first step, existing pre- and post-coupling structures shall be used where available. Processes have to be re-assessed
- The current algorithms shall be replaced by a single new algorithm
- The PCR algorithm is positively received and could deliver the allocation service provided meets the public service requirements of TSOs (efficiency, regulation)
- Regular high level meetings with NWE PXs have been held for alignment; initiation terms for a common TSO/PX coupling project are under discussion

Developing the Coordinated Matching Function - PCR

- PCR project – supported by EuropeX – now comprises six core members (Nord Pool Spot, APX-Endex, Belpex, EPEX, GME and OMEL) plus associate members (OTE, EXAA, HUPX, OPCOM, Polpx, BSP)
- Committed to delivering single European coordinated matching function for market coupling (algorithm, systems and procedures)
- Support parallel regional implementations of PCR, with subsequent joining/extension of regions
- Nearing end of design phase:
 - Starting point algorithm selected
 - Decentralised solution design and procedures largely completed
 - Joint PX agreements nearing finalisation
- Requires local funding commitments to begin next phase of development

Validation and endorsement of PCR algorithm

- The algorithm's choice constitutes a major step in the achievement of a Single European Price Market Coupling
 - The PCR algorithm seems very promising in that respect
- In order to go quickly for implementation, following PCR coordinated matching assumptions need validation with respect to TSOs 3rd package obligations on capacity allocation
 - The PCR algorithm, to be validated by TSOs under coordination of ENTSO-E
 - Existing governance arrangements, as starting point with a view to the future Governance GL
 - Local arrangement of funding, against efficiency requirements
 - NRAs need to endorse this validation in a timely manner
- NRAs endorsement could take the form of, e.g. a "commitment letter" signed by all NRAs
- This endorsement can only be conditional to the provision of the necessary TSOs-PXs and PX-PX arrangements in line with the model in the future Governance Guideline

BACKUP

Prerequisites and conditions for the Introduction of Market Coupling (i.e. single price coupling)

- Market structure: A liquid organised day-ahead market in all hubs where MC is introduced (liquidity might be imported in small hubs)
- Governance: Consensus among all stakeholders (TSO, PXs, Regulators, Politics, Market Actors) is needed on the introduction of MC, including target date, business process, funding, i.e. cost sharing and cost recovery, decision making processes
- Unambiguity. In price coupling, one hub can only adhere to one coupling.
- Consensus of the different parties affected by each border on the way to the introduction of the target model, i.e. the way to Flow Based Market Coupling

A variety of sequencing options is possible:

- as a big bang, i.e. pan European FB MC at once
- stepwise for capacity calculation (e.g. from coordinated ATC to flow based)
- stepwise for the allocation method (e.g. via explicit auctions)
- combinations are possible, how to remain compatible with neighboring regions is key
- Harmonization: of capacity calculation, firmness regimes , region-wide business processes, gate closure times, schedule nomination times, algorithm ...
- Co-operation must be tight: TSOs responsible for capacity calculation and allocation, PXs for coordinated matching

PCR foreseen to provide a single pan-European Coordinated Matching

- PCR can have two functions, depending on the perspective:
 - For PXs, PCR project is developing and implementing decentralized solution for a single price coupling function as coordinated matching service for European PXs which allows replacement of their existing matching services by a single price coupling function within the different existing PXs arrangements
 - For TSOs, PCR can provide the tool to grant efficient capacity allocation
 - TSOs and PXs challenge is now to enable PCR in both functions: as the single pan-European day ahead market coupling solution for each hub (bidding area) and border
 - Main challenges:
 - Essential alignment between PCR governance and allocation service governance
 - Public service aspect of market coupling
 - PCR as a single provider
 - Countries without PXs today
 - Countries with multiple PXs today
 - Neutrality on PX level playing field
 - DA business process harmonization (including gate closures)
 - Funding, i.e. cost sharing and cost recovery
 - Regulation of the single Market Coupling – function or entities
- ➔ keeping this in mind, the (regional) road maps follow

Regional roadmaps and challenges

NWE: DA roadmap until 2015

	2010	2011	2012	2013	2014	2015
Regional developments						
• CWE price coupling						
• ITVC between Nordic and CWE						
Single price coupling target						
• Single price coupling Nordic+Baltic, CWE and GB						
• Pre- and post-coupling regional approach (Nordic, CWE) + locally between GB and CWE						
Joining other regions						

NWE: Challenges to meet target dates

- European governance approach is under development
 - Network Code and Governance Guideline
- Ensure compliance with competition legislation
- Regulatory issues:
 - confident efficient cost recovery
 - regulatory review may delay the project
 - national vs. European legislation / rules /agreements
- Implementation risk
 - systems / IT interface
 - conflict of planning between implementation of MC and extension of flow based solution
 - human resources has to be ensured
- Decoupling / fallback scenarios has to be defined

Baltic Sea Area: DA Roadmap until 2015

	2010	2011	2012	2013	2014	2015
Regional developments						
Estonia integrated with NPS DA market						
CWE-NPS ITVC						
Poland integrated with NPS DA market						
Lithuania into NPS DA market						
Latvia into NPS DA market						
Single price coupling target						
NWE price coupling						
Joining other regions						
NPS-Russian PX coordinated DA trade						

Baltic Sea Area: Challenges to meet DA target dates

- Lithuania into NPS day-ahead market, target 2011
 - legal changes are needed.
 - NPS Elspot price area will not be connected/coupled physically to the rest of NPS Elspot market until the NPS price area introduction in Latvia.
- Price coupling between CWE and NPS day-ahead markets, target 2012
 - See NWE Region
- Latvia into NPS day-ahead market, target 2012
 - legal changes must be finalized. These are connected to the role of power exchange in Latvia. The role and rules of the Latvian ISO have to be accepted by the EC according to the EU third package.
- Coordinated day-ahead trade between NPS and the Russian power exchange, target 2015
 - When the Russian market structure allows for trade between power exchanges and when the TSO responsibilities are agreed on and the technical preconditions are fulfilled.

CSE: DA roadmap until 2015 (Italian border)

	2010	2011	2012	2013	2014	2015
Regional developments						
Italy-Slovenia market coupling in operation						
Initiate sequential implementation of target model on different borders						
Implementation of target model on at least one border						
Single price coupling target						
Extension to other borders						
Joining other regions						

CSE: Challenges to meet target dates

- Gap analysis to be further evaluated on some borders in order to identify obstacles and risks: i.e. regulatory issues to be handled (reforms required in current market structure at the national level)
- Some details of MC target model are not deeply defined (matching algorithm)
- PUN on the Italian market: to be defined the matching algorithm rules, several options under discussion with competent institution
- GCT harmonization
- Settlement timing (in Italy $m+2$): different solution are under investigation with competent institution

SEE: DA roadmap until 2015

	2010	2011	2012	2013	2014	2015
Regional developments						
Establishing Power Exchanges		• In line with to National Action Plans				
TSOs/PXs MoU for bilateral and/or trilateral MC						
Pilot implementation price coupling						
Single price coupling target						
Depending on successful pilot						
Joining other regions						

SEE: Challenges to meet DA target dates

General: evolutionary approach:

- Next steps depend on successful previous steps
- All target dates are indicative at this stage

SWE: DA roadmap until 2015

	2010	2011	2012	2013	2014	2015
Regional developments						
Proposal REE-REN-RTE-OMEL for DA MIBEL GCT change to 12h00 CET						
Identification and preparation of main required Regulatory and IT changes						
Implementation of required changes → DA MIBEL GCT at 12h00 CET in June 2012						
Single price coupling target						
Implementation of PCR algorithm in MIBEL (foreseen in July 2012)						
Joining other regions						
Process of coupling MIBEL with other regions from July 2012 to June 2013						

SWE: Challenges to meet DA target dates

- MIBEL DA Market GCT change to 12h00 CET, that involves:
 - Changes in MIBEL Market and generation scheduling timeframes (DA, ID, System Services Markets)
 - Regulatory updates (Operation procedures, France-Spain interconnection rules, TSO-PX agreements, MIBEL Market rules...)
 - Changes on information exchanges among TSOs, PXs and MPs
 - Changes on working shifts in some companies
- The implementation of PCR algorithm in the MIBEL Market (foreseen in July 2012), will facilitate the subsequent joining process with other regions if PCR is finally chosen as the Price Coupling Algorithm
- Process of coupling MIBEL with other markets will also depend on:
 - Single price coupling algorithm implemented
 - Governance: Regulatory changes in the national regulations and/or revision of cross border and national agreements among TSOs and/or PXs will be required
 - Development or modification of IT exchanges (specification, testing and go-live)

CEE: DA roadmap until 2015

	2010	2011	2012	2013	2014	2015
Regional developments						
Czech-Slovak market coupling in operation						
Decision for flow-based allocation or calculation (FBA) or ATC						
FB with explicit auctions - <i>dates are indicative at this stage</i>						
TSOs/PXs bilateral and/or trilateral and/or multilateral MC agreements						
TSO/PXs and regulators as well as ministries req. for MC and elaboration of steps towards EU solution						
Single price coupling target						
Joining other regions						
CWE						

CEE: Challenges to meet DA target dates

- FB allocation/calculation with explicit auctions: Requirement: to have successful completion of FB tests and performance evaluations - dates are indicative at this stage (*Q4 2011*)
- Multilateral activities towards MC in the region
- Coupling algorithm
- Depending on the developments
 - If good FBA performance is obtained quickly, CEE region will choose implementing explicit FBA auctions
 - If bilateral/multilateral market coupling initiatives will appear before, FB calculation could still be used as a means to improve capacity calculation under both explicit and implicit schemes
 - Question: Which initiative - implicit or FB explicit – does have priority? (Currently explicit FBA has the priority, till now there are no other decision. Bad FBA performance can result with other priorities)
 - FB capacity calculation and allocation could be used to its full efficiency once the capacity calculation and allocation in the CEE region will be coherent, i.e. the same type of allocation in the whole region
- Completion of work requires the establishing of a European-wide flow based single price coupling