

# The path from regional electricity markets to a pan-European market: building a comprehensive EU market integration strategy

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A EURELECTRIC Report

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In line with its mission, EURELECTRIC seeks to contribute to the competitiveness of the electricity industry, to provide effective representation for the industry in public affairs, and to promote the role of electricity both in the advancement of society and in helping provide solutions to the challenges of sustainable development.

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■ Transparency, ethics, accountability

# The path from regional electricity markets to a pan-European market: building a comprehensive EU market integration strategy

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## EXECUTIVE SUMMARY

The prospect of introducing an increasingly large share of RES into European electricity markets should be seen as an opportunity, which will bring new impetus to market integration. The combination of larger and more liquid wholesale markets and new grid investment opens up more possibilities to accommodate intermittent generation, reinforce security of supply and allow deployment of RES, with the least cost to society.

This EURELECTRIC report champions an **EU market integration strategy** based on the development of robust regional markets, which build on best practices and pilot projects. EURELECTRIC believes in an oil-spread approach, thus paving the way for a pan-European market to emerge from a CWE-Nordic core market, which will gradually expand as neighbouring regions and countries link up to it over time.

Although recent developments in regional markets have been a firm step in the right direction, they have been insufficiently market-focussed and are unlikely to develop organically into a fully fledged pan-European market. In EURELECTRIC's view, an overall EU market integration strategy is urgently needed and should:

- be an **inclusive process** embracing all pan-European countries. In particular it needs to set out the market fundamentals, with which countries with recently liberalised energy markets need to comply in order to develop liquid wholesale markets with trustworthy prices;
- be focussed on a **limited number of priorities** conducive to market integration. In practical terms, this should be done by enlarging spot markets through day-ahead market coupling and the introduction of continuous cross-border intra-day trading platforms;
- build on governments' commitments, market forces and best practices to develop robust **regional markets** as a stepping stone to the development of a pan-European market;
- ensure a **high level of coordination** between regions, allowing them to develop in a consistent manner, on the basis of specific target models (covering all trade timeframes) and following well-defined roadmaps. Such a process will require an interactive interplay between the regions and a supervisory/monitoring function.

EURELECTRIC recognises that an important step was made in 2009 when agreement was reached within the Project Coordination Group on five target models for forward, day-ahead, intra-day and balancing markets and capacity calculation. This work, which was widely acknowledged at the 17<sup>th</sup> Florence Forum, has been continued through the establishment of the ERGEG **Ad Hoc Advisory Group** (AHAG). Whilst this group will help to foster greater coordination and progress on the ground through the implementation of concrete projects, it was not given the task of liaising with regions, nor of engaging in essential dialogue with them on the implementation of the target models and roadmaps. A comprehensive EU market integration strategy should therefore address this missing link.

To address this, EURELECTRIC recommends establishing a **genuine culture of cooperation** within and across the regions so that governments, regulators, TSOs, Power Exchanges (PXs) and market stakeholders, with the assistance of the European Commission, are all closely involved in making the single electricity market become a reality. This requires:

- **governments** to take on a more active role in creating political momentum by drawing up a detailed and well defined Memorandum of Understanding (MoU), which will set the priorities of the regional cooperation, with the primary aim of fostering wholesale markets. Following this, regular Ministerial meetings should be held to oversee and monitor the implementation of the MoU;
- the **European Commission** to define a more comprehensive market integration strategy. Furthermore, the Commission needs to allocate sufficient resources to regional markets, maintain a strong presence and lead in the AHAG and ensure that regular reports are submitted to the EU Council of Ministers on regional market strategy and state of progress.
- the **regulators** to cooperate closely in order to speak and act within the region with one voice. The involvement and commitment of regulators is key in ensuring consistency across the regions in line with the roadmaps. Likewise greater synergy should be built between governments' projects and regulators' initiatives; in cases where they both exist, they are currently insufficiently linked;
- the **TSOs** to work more closely with one another within and in particular across the regions, in order to coordinate their actions and implement market solutions, which will facilitate inter-regional integration. Of equal importance is the need to strengthen cooperation between TSOs and PXs, facilitated by mediation where appropriate;
- **PXs** to put in place mechanisms which comply with the needs of the market. They also need to establish robust and reliable cooperation with TSOs. Even greater cooperation is needed between the PXs themselves so that their role as market facilitator prevails over their commercial ambitions;
- **market stakeholders** to be involved extensively and early on in the process of market integration. Arrangements developed by regulators, TSOs and PXs alone are unlikely to result in efficient market-based solutions unless they allow active stakeholder participation at an early stage. Consultation with market parties should preferably, but not exclusively, take the form of an open dialogue as part of a stakeholder platform. Of greatest importance is the development of a genuine culture of dialogue which allows frequent interaction between TSOs, regulators and PXs.



## FOREWORD

Looking at the changes, which have taken place in the electricity sector since the turn of the new century, it is clear that good progress has been made. Liquidity in wholesale markets across the EU has improved steadily; we see increased volumes of electricity being traded on wholesale market places, growing numbers of market participants, and established power exchanges in every Member State. In addition to this, long term reservation capacity contracts on interconnectors have been removed, transit and import/export feeds have been abolished in the inter TSO compensation area, Power Purchase Agreements have been terminated, electricity companies have undertaken major restructuring and have developed a European dimension, whilst end-user electricity prices have increased moderately.

The reality of regional markets, however, is less positive, especially when measured against the EURELECTRIC roadmap, which foresaw the completion of regional electricity markets by 2009. The task of bringing wholesale markets together has remained far from accomplished and electricity markets are still by and large national or semi-regional in size<sup>1</sup> (except for the Nordic market). This can be explained by the lack of a comprehensive EU-wide market strategy and also by the low level of priority accorded to integration of wholesale markets. Thus, much more still needs to be done to fulfil the founding fathers' aspiration of forging a single electricity market.

The adoption of the Climate Change package in 2009 has created a new paradigm and provided fresh opportunities to foster market integration. Whilst exemption of RES from market rules could be justified when RES was still a nascent technology, the same logic can no longer be applied when RES is intended to amount for 35% of the electricity consumption by 2020. In this case, only larger and more liquid wholesale markets will allow market parties to close their positions closer to real time, provide sufficient balancing powers and reserves to accommodate intermittent generation and enable electricity generated from RES (such as off-shore wind) to be transported from the production site to where it is consumed. Thus, rather than being in contradiction with one another, the Climate Change Package and the Third Energy Package – if properly implemented - will bring about mutually beneficial effects, thereby leading to a win-win solution. Integrated wholesale markets and grid development are the best solution to meeting the RES target in the most timely and cost efficient way.

This report has been drawn up at the request of the 17<sup>th</sup> European Regulatory Electricity Forum with a view to contributing to the forthcoming European Commission Communication on regional markets. This report calls for a comprehensive, EU-wide market integration strategy, aimed at paving the way for a carbon neutral society, whilst at the same time ensuring security of supply and social welfare.

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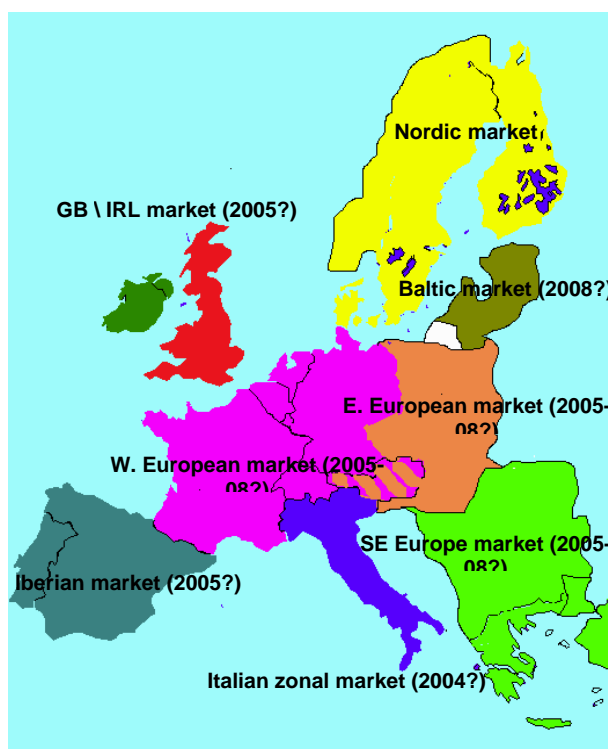
<sup>1</sup> The development of a regional spot market in Central Western Europe is nearing completion (the start of operation is scheduled for 1<sup>st</sup> May 2010).



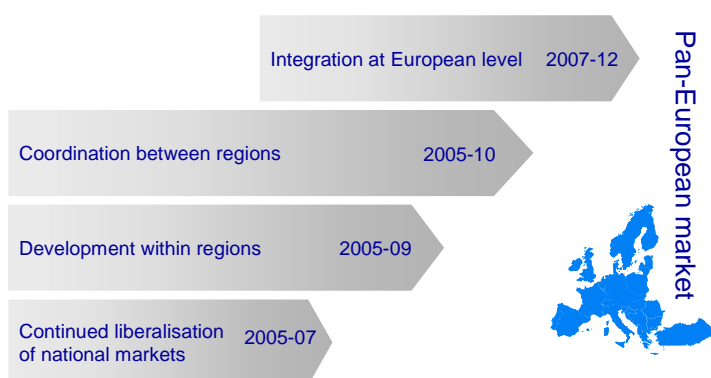
## INTRODUCTION

In the early years of electricity market liberalisation, decision-makers focussed principally on establishing appropriate national regulatory frameworks to support the gradual opening up of electricity markets. The general belief in those days was still that a single EU electricity market would naturally emerge from national liberalised markets and no specific action or process was foreseen.

The creation of the Florence Forum in the late nineties<sup>2</sup> helped to identify the complexities surrounding limited cross-border trade and raised awareness about the inherent limited cross-border available capacity and the use of inefficient/discriminatory congestion management methods. A significant conceptual step was made when the Commission issued a first draft of a Strategy Paper<sup>3</sup>, which grouped countries into seven regions as an intermediary step towards a pan-European electricity market. This was the first attempt to define a process to move towards a single market – which went rather unnoticed at this Forum – but has actually inspired all the discussions and thinking thereafter.



### Road Map to a European Electricity Market: parallel approach



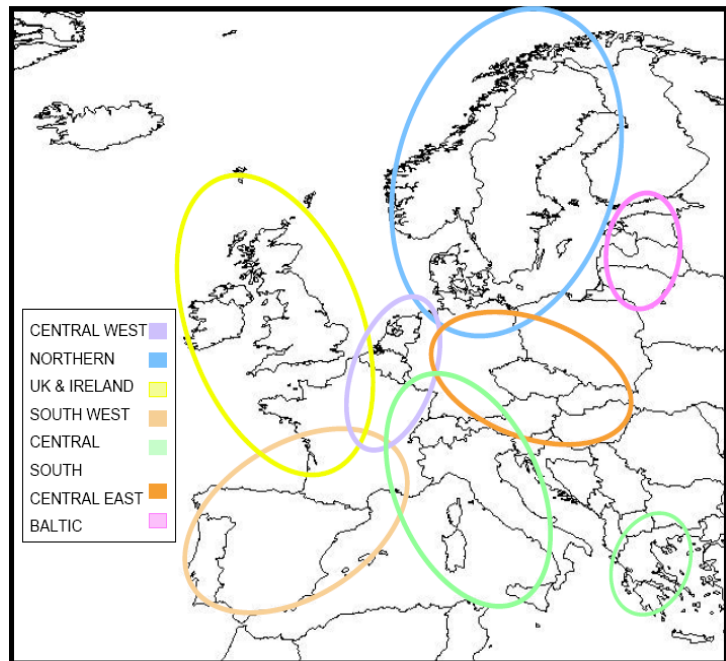
In 2005, EURELECTRIC engaged in a similar exercise, during which a roadmap for developing a pan-European wholesale electricity market was elaborated. This document set out the major steps and requirements for an incremental process of wholesale integration and provided a valuable contribution to the Florence Forum.

<sup>2</sup> The first meeting of the European Electricity Regulatory Forum (Florence Forum) took place in February 1998.

<sup>3</sup> This Strategy Paper entitled 'Medium term vision for the Internal Electricity Market' was first issued as a discussion paper at the 9th Florence Forum on 17-18 October 2002 and was then further elaborated based on comments received from stakeholders. The final Strategy Paper dated 1<sup>st</sup> March 2004 was submitted to the 10<sup>th</sup> Florence Forum on 8-9 July 2003.

In February 2006, ERGEG took on a leading role in developing regional markets by establishing the Electricity Regional Initiatives (ERI) and Gas Regional Initiatives (GRI). So far, this has been a unique attempt to build an EU wide strategy for regional markets.

The adoption of the Third Energy Package in June 2009 provided new impetus by enshrining the concept of regional markets in a key provision, which requires Members States as well as regulatory authorities to cooperate with each other *'for the*



*purpose of integrating their national markets at one or more regional levels, as a first step towards the creation of a fully liberalised internal market'*. In addition, new structures are to be set up at European level to facilitate the emergence of a single EU market, namely the Agency for Cooperation of Energy Regulators (ACER) and the European Network of Transmission System Operators (ENTSO). The framework guidelines and network codes, together with the Commission's guidelines will be essential tools to drive market harmonisation forward.

With the transposition of the Third Energy Package, electricity markets are now entering a new era, which requires a consistent EU market integration strategy. The objective of this report is therefore firstly to provide an objective review of existing regions, in particular with respect to the lessons learnt and best practices identified. Secondly, the report aims to explore ways of building a comprehensive and integrated process towards successful integration of wholesale markets, with the help of new tools created by the Third Energy Package.

This report is a first attempt to provide a comprehensive analysis of the development of regional markets from market stakeholders' perspective. It identifies the steps needed to trigger further regional integration and outlines the elements that an overall EU strategy needs to incorporate. Due to time constraints, certain parts of the report could not be dealt with extensively and would therefore benefit from further elaboration. This report should thus be regarded as a first building block, which may be developed over time as a 'living document'.

The first part of the report ('regional markets') is based on an extensive range of meetings held with EURELECTRIC regional platforms in Q3 and Q4 2009 which provided a good insight into market parties' expectations and aspirations for each region.

Although regions differ in their stage of development and maturity, these meetings revealed an overwhelming appetite for more coupled wholesale markets, showing in most cases that solutions already exist. Discussions also stressed the need to take a dynamic approach and build market models not only on the basis of today's needs but also tomorrow's requirements. In this respect, it is already foreseeable that large scale RES introduction will significantly impact the functioning and development of regional markets. This reality must consequently be accounted for in any comprehensive EU market integration strategy.

The second part of the report is aimed at investigating the interrelations between European-wide harmonisation of cross-border market design (a top down approach) and regional market development (a bottom-up approach). Regional markets should be seen as the main stepping stone, since any efficient, comprehensive EU strategy needs to make use of existing market forces and aspirations in the regions in order to foster progress. However, care must be taken to ensure that regional markets develop in a consistent manner. This will require appropriate coordination structures or processes to be put in place. This second chapter will therefore examine the fundamentals underpinning a suitable comprehensive EU strategy by looking into the balance between 'bottom up' and 'top down' processes and will come up with proposals to reinforce existing mechanisms through new coordination tools and supervision. In particular, it will shed light on the involvement of Member States and their pivotal role in creating a dynamic market integration-oriented process.



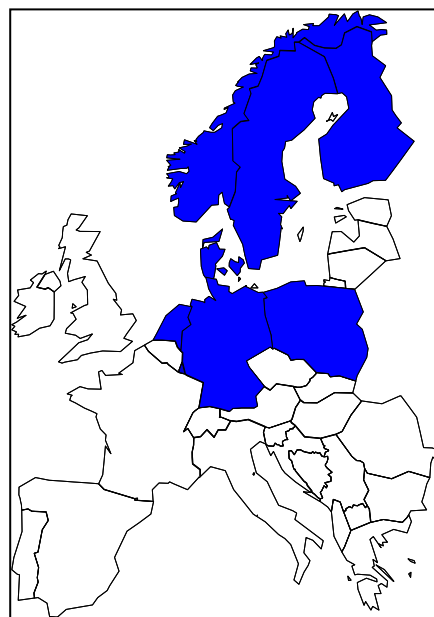
## CHAPTER I: Regional markets

### Northern region

This chapter will address the issues relevant to the internal regional developments in the Northern region. The inter-regional market integration process with CWE will be covered in a separate chapter later in the report.

#### 1. Overview

The Northern region consists of the Nordic, German and Polish markets. The Nordic market represents the core of the region and is regarded to be one of the most liberalised and integrated markets in Europe. The day-ahead and intra-day markets organised by the Nordic power exchange NordPool are among the most liquid and well-functioning regional markets in Europe. The Nordic TSOs are working on grid planning cooperation and are operating a common balancing market. In the period of 2010-2015 Nordic retail market integration will become one of the top issues on the agenda. The perspective of establishing the first regional retail market in Europe is directly linked to the high degree of maturity and integration of the Nordic market. The progress in market integration in the Nordic market has been achieved thanks to a strong political support and governmental involvement through the Nordic Council of Energy Ministers.



The other markets in the region, namely Germany and Poland, are regarded mainly as a “link” to other regions (CWE and CEE respectively). The integration process with these markets has been developing in a less consistent manner. While integration between Nordic and German markets has made some progress, particularly in the day-ahead market, integration with Poland incurred bigger difficulties due to ineffective liberalisation in the Polish electricity market and lack of political support for market integration.

## Summary of achievements and on-going initiatives

<u>Achievements</u>	<u>Open issues</u>
<b>Market coupling (tight volume coupling) project on Danish-German border (EMCC)</b> – introduced in Sept 2008, but suspended after a few weeks. Re-launch in November 2009 with acceptable results.	Technical difficulties in running the process and calculation inaccuracies, for example due to differences in market rules and exchange rate differences  Coordination with CWE market coupling project needed
<b>Nordic common balancing market launched in September 2009 in NordPool countries</b>	Timing for extending this solution to the whole region
<b>The Nordic Grid Master plan of Nordel</b> in March 2008 (1 <sup>st</sup> example of coordinated grid planning)	Effective implementation of the plan  Extending the scope to other regions and adopting European perspective
<b>Political support for common Nordic retail market</b> from the Nordic Council of Ministers in December 2009	Development of an implementation plan

<u>On-going projects</u>	<u>Open issues</u>
<b>Plans to move from EMCC tight volume coupling to price coupling on West Denmark – German border.</b>	Timing for introducing price coupling  Effective solution for EMCC coupling at CWE price coupling launch
<b>“Kick off” report for ERI IG on cross-border balancing</b> in June 2009	Next steps in the area of balancing
Project of <b>dividing price zone Sweden into further price areas to deal with congestion</b>  Norway introduced 5 <sup>th</sup> price area in February 2010	Plans to establish 4 price areas from November 2011  Maintaining effective trading in the situation of moving price areas
<b>Multi-regional grid planning project of Nordic, Baltic and Polish TSOs</b>	Development of a 10 year regional network plan  Timing of the project



<b>Preparation for Nordic retail market liberalisation: status report (by June) and implementation plan envisaged (by September in 2010)</b>	Meeting the outlined implementation schedule
<b>2<sup>nd</sup> Nordic Transparency report</b>	Timing of publication

## 2. Key challenges and obstacles for market integration

EURELECTRIC has identified the key challenges which fall into 3 major categories: Market Fundamentals and Intra-regional Integration, Transmission Capacity, Integration of Renewables.

**Market Fundamentals and Intra-regional Integration:** one of the obstacles for the full integration of the region is insufficient market liberalisation in Poland and difficulties in establishing a truly integrated CEE regional market. Cooperation in ERI has not been sufficient to align Poland's policies and market mechanisms to those of the more advanced Nordic and German markets. At the same time, the market integration between Nordic and Germany has also been stalled or delayed due to a number of differences in market rules/design between these markets. At this stage, coordination with CWE is becoming crucial to make significant progress. (This issue is addressed further in the report.) The main obstacles include the following:

- Lack of liquidity on the Polish market due to absence of well-functioning market, long term contracts, regulated tariffs, etc.
- No clear and coherent approach to Polish market integration with the rest of the region due to its immature state of market development.
- Delayed launch of EMCC due to inconsistencies in market rules between the two coupled markets and lack of clarity about future functioning after the launch of CWE market coupling project. The EMCC project was re-launched in November 2009 after more than a year's delay. Since then, the volume coupling has been functioning reasonably well, showing a limited degree of price deviations between EMCC and relevant power exchanges. This project has provided a valuable experience for all the stakeholders involved in implementing market coupling solutions, but has also revealed the difficult task of overcoming market rules inconsistency.

**Transmission Capacity:** available capacity is largely insufficient compared to the trade needs due to lack of physical infrastructure (limited cross-border interconnections, internal bottlenecks) as well as allocation methodology.

- Lack of internal transmission capacity and interconnector capacity with the CWE region, as well as moving congestion to the borders. There are frequent grid congestions in internal branches of TSOs in the Nordic area. The TSOs are often solving the internal bottlenecks by moving congestion to the country border to avoid splitting the national markets into several price zones. This practice significantly limits cross-border trade and competition and prevents further progress in creating an integrated internal electricity market.

**Integration of Renewables:** the increasing share of renewables in the markets, especially intermittent wind generation, is increasingly becoming one of the biggest challenges and has already had negative impact on transmission capacity and cross-border trade in the region. Among the main challenges to be addressed are the following:

- No cross border intra-day market between Nordic and Poland.
- Extension of the Nordic market balancing solution to other markets in the region is at a very early stage and may not be the only solution. The Nordic market has continuously progressed towards increased harmonisation of balancing regimes across markets and a common balancing market was introduced in the Nordic market in September 2009. The main areas of harmonisation include principles for cost allocation, calculation and pricing of balance power and common fee structure. However, liquidity is still quite low and development of cross-border balancing solutions for the whole Nordic region as well as on the inter-regional level is still in an early phase.
- Lack of coordination between energy and climate policies across the national markets of the region. This raises particular concern, due to the fact that generation capacity is expected to rise substantially to meet the ambitious EU 20-20-20 targets, while the export capacity in the Nordic area remains limited. Introducing new capacity in areas that have an expected net generation surplus will cause challenges for the functioning of the wholesale electricity market, the need for network investments and system operation. Increasing supply in certain areas could lead to operational instability if the Nordic grid and Nordic interconnection capacities, for example to Germany, are not reinforced.

### 3. Priorities and solutions: outlook for the future

Against the background of 2020 RES targets, progress in integration between the Nordic market, Poland and Germany - and on a larger scale with the CWE - will be increasingly important in order to accommodate wind capacity into the market and to ensure grid stability. On the basis of the obstacles mentioned in the previous section, EURELECTRIC calls for the following solutions:

**Market Fundamentals and Intra- Regional Integration:** the integration of the whole Northern region depends on aligning the market fundamentals across countries and coordination with other integration initiatives.

- Develop market coupling on the Nordic and CWE borders into a price coupling as a target model. This should be done using the experience gained from coupling until now and in coordination with the CWE projects, which is addressed in more detail later in the report.
- Develop a roadmap on the integration of Poland as a part of the CEE region with Nordic and German (CWE) markets. The plan should take developments in other regions into account.
- Develop an implementation plan for the Nordic Retail Market. The market model should be market-driven and develop using best practice, but also prepare for future challenges and European integration. Any changes in national market rules should lead in the direction of a common Nordic retail market.
- Further investigate the topic of introducing Financial Transmission Rights (FTRs) issued by the TSOs – agreed by the PCG as the target model for European forward market - in the Nordic financial market instead of the current Contracts for Differences (CfD's) issued by the market players.
- Finalise the 2<sup>nd</sup> Nordic Transparency report.




**Transmission Capacity:** there is a clear need to strengthen the regional approach to grid planning and congestion management.

- Limit TSO practices of moving congestion to the borders. The TSOs should solve internal congestions inside the country by making the necessary investments and using market-based mechanisms.
- Continue developing the regional grid planning process. The work in this area was started with the project of the Baltic, Nordic and Polish TSOs and their report in February 2009 on new interconnectors. Interconnections between the Nordic and the CWE region also need to be strengthened in the future.

- Encourage active participation of stakeholders in the initiative “The North Sea Countries’ Offshore Grid Initiative” launched by the Ministers of the Nordic, Germany, Ireland and Benelux in December 2009. The main part of this initiative will be to develop a strategic work plan in 2010 with the aim of coordinating offshore infrastructure development.

**Integration of Renewables:** integration of large-scale renewables into the market should be achieved by using market-based solutions. Among the key solutions are the following:

- Develop further the inter-regional cross-border intra-day market (Nordic-CWE as a first step).
- Develop a roadmap towards harmonising the balancing regimes in the Northern region and strengthen the regional cross-border balancing market. In October 2009, the work on the issues started with a kick-off report outlining the main features of balancing regimes across markets in the Northern ERI. This input will be used by a newly established Implementation group on Balancing.
- Increase coordination between regulators and politicians with respect to the RES policies

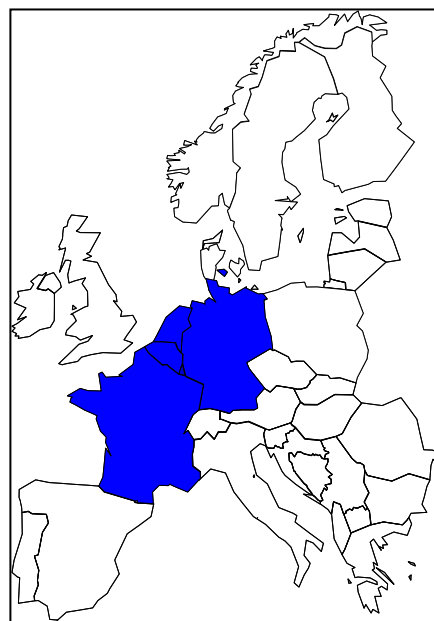
<u>Obstacles</u>	<u>Urgency</u>	<u>Solutions</u>
MARKET FUNDAMENTALS AND INTRA-REGIONAL INTEGRATION		Price coupling DK -DE Integration of Poland Nordic retail market FTRs issued by TSOs Transparency report
TRANSMISSION CAPACITY		Prevent moving congestion to the borders Regional grid planning Work on North Sea offshore grid
INTEGRATION OF RES		Regional intraday market Harmonisation of balancing principles in the whole region Aligning RES policies

## **Central-West region**

This chapter will address the issues relevant to the internal regional developments in the CWE region. The inter-regional market integration process with Nordic will be covered in a separate chapter further down in the report.

### **1. Overview**

The CWE region has seen quite a dynamic process of market integration during the last couple of years and developed into one of the most advanced regional markets. The establishment of the Pentilateral Energy Forum in 2005 by the ministers of the countries and members of the CWE region provided a stronger political backing to the process of regional integration and put extra pressure on all the stakeholders in the region to make progress with integration projects. Originally launched as a security of supply forum, it soon adopted market integration as one of the main topics. In 2007 a Memorandum of Understanding on market coupling and security was signed by the governments, TSOs, PXs, regulators, market parties and the European Commission. The objective of this agreement was to implement flow based day-ahead market coupling by 1 January 2009. This deadline has not been met and the new target was set on May 2010 for ATC- based coupling and early 2011 for the flow based coupling.



In 2006 the Central West region (CWE) was established within the ERGEG Regional Initiatives (ERI) and launched an ambitious action plan covering all trading timeframes and transparency. However, implementation of the action plan has incurred delays and until now remains work in progress. For the day-ahead market coupling, the ERI process was integrated in the Pentilateral process. For the cross-border intra-day market, the position in the region was formulated as late as in November 2009. The TSOs of the region were invited to come up with an enduring proposal based on continuous trading by the end of January 2010. However, there has been no request to set a fixed implementation date. Furthermore, the ERI produced a report on transparency. However, implementation is still not fully achieved in all markets (Germany being the only one so far). Overall, a number of deadlines in the action plan were not met as they were overly optimistic and so far the plan has not been fully updated.

One of the earlier achievements in the CWE region was the introduction of the Trilateral day-ahead market coupling (TLC) in 2006. A more recent development is the establishment of an auction office to allocate longer term capacity by the Capacity Allocation Service Company for Central West-Europe (CASC-CWE). Also some bilateral cross border intra-day arrangements have been put in place. On all borders within the CWE region cross-border intra-day trade is possible, although most of the mechanisms implemented are neither coordinated between each other, nor comply with the European regulation.

Another development is the increased operational coordination amongst TSOs. However, the common activities' split into two separate initiatives in CWE - Coreso (ELIA/RTE, further completed with NGC) and the TenneT-RWE initiative – can be seen as counter-productive to the harmonisation of market arrangements across various countries.

### Summary of achievements and on-going initiatives

<u>Achievements</u>	<u>Open issues</u>
Trilateral market coupling (TLC)- based on bilateral NTC calculation – in November 2006	Harmonisation of gate closure between TCL region and Germany + Nordic
Different intraday XB platforms inside CWE - pro rata FR/BE, NL/BE, FR → GE - obligatory use GE/NL, GE→FR	Differences do not allow an easy shipment of energy on intra-day basis inside CWE  Complex procedures hamper trade
Establishment of CASC-CWE, joint auction office of 7 TSOs	Auction rules not fully harmonised  Despite the new rules (in the CWE market coupling), firmness issue not fully solved Secondary trading rules do not allow full flexibility (only till D-2)
Establishment of the Pentalateral Forum in 2005	Delay in the implementation of market coupling Governance of the process
Transparency report by the CWE regulators	Implementation is still on-going Lack of resources within the TSOs

<u>On-going projects</u>	<u>Open issues</u>
CWE market coupling (based on coordinated NTC) to start in May 2010	New delays of the project Keeping available capacities at current level?
Continuous intraday trading project BE/NL, NL/GE and possibly NL/NO (APX + Belpex + NPS) Continuous intraday trading project FR/GE and GE/DK (EPEX) <sup>4</sup>	Timing for the projects Compatibility of both projects FR/BE border is not included, NL/ GE border only in a second step of the BE/NL project NL/NO border still depends on Norwegian approval

<sup>4</sup> This project has not been publicly announced.

Development of the Flow Base CC method foreseen not earlier than 2011	Timing of the project Modelling complexities Compatibility of different projects
Implementation of the transparency report	Lack of resources at TSOs Harmonisation of definitions
Other projects in the ERI action plan (balancing, ...)	Status unclear Pilot projects to be further studied Regional monitoring under preparation?

## 2. Key challenges and obstacles for market integration

EURELECTRIC has identified the key challenges in 3 major categories: Completion of CWE integration, Transmission Capacity, Integration of Renewables.

**Completion of CWE Integration:** the integration process in CWE comprises long term, day-ahead and intra-day capacity allocation. The balancing market integration has been accorded lower priority and is more complex given that it is heavily related to the TSOs' task of real time operation. Furthermore, the market designs implemented in different countries vary considerably.

- For the long-term allocation the main challenge is to find a harmonised definition of firmness of capacity. If this is not achieved, the move to financial transmission rights (giving the market a more efficient hedging mechanism) is blocked and it also hampers the full development of the secondary trade. The problem seems to be related to the legal aspects and allocation of risks.
- The day-ahead market coupling in the CWE region itself will probably be achieved by mid May 2010 and this planning seems to be on track as recently communicated by the project owners. However, overlapping projects with other regions (NorNed, EMCC) lead to uncertainties regarding how the CWE coupling eventually will start. The main questions are the following: will CWE coupling start together with market coupling with Nord Pool or not?, which type of coupling (loose/tight volume coupling) will be at the start?, and will the NorNed cable be included or not in the coupling process?. The way these issues will be resolved remains unclear to the market even barely a couple of months before the launch of the coupling, which severely hinders efficient preparation by the market parties and cannot be seen as acceptable. Market participants have asked for a fall-back solution in case a volume coupling or a hybrid coupling delivered unacceptable results. From the perspective of market players, the option of temporarily replacing the coupling on the Danish/German borders with explicit auctions until a well functioning market coupling (with acceptable results) has been developed, should not be excluded. It would indeed be unacceptable to have unreliable price formation due to a malfunctioning algorithm.

- Governance and the role of different stakeholders: it represents another key problem for market coupling. The TSOs have not yet defined their exact role and responsibilities and have not received any guidance from the regulators on this issue. Meanwhile, the power exchanges have also launched separate initiatives. There is a clear lack of coordination between the TSOs and power exchanges, and parallel initiatives are generally perceived to be in competition for being the final provider of the price market coupling solution. This leads to inefficient processes and solutions that give rise to below maximum added value.
- The intra-day and balancing integration: this issue is addressed in the section “Integration of RES”.

**Transmission Capacity:** the focus for the region is currently on the need to improve the process of capacity calculation.

- Internal congestion. In some markets internal congestion may occur. Some of these congestions cause loop flows induced by intermittent wind generation, which in turn have a strong impact on congestion at cross-border interconnectors. This limits the increase in cross-border trade and hinders progress in integration and price convergence across markets in the region.
- Coordinated capacity calculation. One of the objectives of the Pentalateral MoU is the development of a coordinated capacity calculation to decrease uncertainties for individual TSOs. So far the calculations have not resulted in additional capacity available to the market on the borders, and some of the communicated results in the PLEF meetings should indicate even potentially lower NTC values during a certain period of the time.
- Move to Flow Base capacity calculation. Moving to flow based calculation of capacities should optimise the system from an economic perspective. So far, first calculations have shown a number of unwanted effects, such as high volatility, adverse flows and decrease of capacity. With a parallel run during the first six months of ATC-based market coupling, TSOs want to gain experience and optimise the calculation.
- Transparency in capacity calculation. So far the process of capacity calculation has not been sufficiently clear to the market. It seems hard to explain this process, although this transparency is urgently required. This will become more difficult when flow based allocation is introduced. However, it is very important for the market to understand the main features of the capacity calculation process in order to manage their risks more effectively.



**Integration of Renewables:** the growing impact of renewables will require all market-based flexibility tools to be combined as optimally as possible. Therefore cross-border intra-day trading and balancing are essential tools.

- Significant delays in introducing regional cross-border intra-day market. As mentioned earlier, there are a number of on-going bilateral projects driven by the power exchanges, which are not very compatible and do not cover all the borders. In this context, the agreement of the governance issue is also very relevant. While the regulators had reached an agreement on the target concept in November 2009, the TSOs have so far not formulated their position. TSOs will not have resources available for cross-border intra-day before 2011. As a result, there are no concrete plans to start an intra-day project for the whole CWE region, although this should be a top priority for this region.
- No projects on cross-border balancing. Except for some existing processes between Germany and France (towards France), cross-border balancing is completely ignored at the moment inside the CWE region.

### 3. Priorities and solutions: outlook for the future

#### **Completion of CWE market integration**




- Launch the CWE market coupling in accordance with the schedule. (Implications for the EMCC and NorNed are analysed in a separate chapter).
- Introduce a (financial) firmness definition featuring market-based compensation
- Improve market transparency
- For intra-day and balancing see the section “Integration of RES”.

#### **Transmission Capacity**

- Introduce regional grid planning
- Develop preferably a single, but at least a common, capacity calculation methodology and process
- Avoid moving congestions to the country borders and treat internal congestions where they occur.

## Integration of Renewables

- Implement fast a continuous intraday trading solution in CWE. As the implementation of cross-border intraday markets stipulated in the Congestion Management Guidelines incurred significant delays, the high degree of urgency for this project should be recognised by all stakeholders involved.
- Start the cross-border integration of balancing markets by developing pilot projects and start the harmonisation process by aligning gate closures and technical characteristics.

<u>Obstacles</u>	<u>Urgency</u>	<u>Solutions</u>
COMPLETION OF CWE MARKET INTEGRATION		CWE market coupling Financial Firmness Transparency
TRANSMISSION CAPACITY		Coordinated capacity calculation and regional grid planning
INTEGRATION OF RES		CWE cross-border intraday Pilot projects for balancing

## **Inter-regional market integration: employing an oil-spread approach in the Nordic – CWE**

This chapter is primarily dedicated to the Nordic-CWE market integration as the first larger inter-regional integration process, but the chapter also refers to projects with other regions bordering CWE. The Nordic-CWE market integration process is expected to create a solid platform for further European integration based on the “oil-spread” principle supported by EURELECTRIC.

### **1. Overview**

The Nordic –CWE market integration process is still in its early phase at the moment, but its successful implementation will be the first big step in inter-regional market integration. It will definitely provide valuable experience for other regions and will therefore give necessary impetus to the inter-regional integration projects in the rest of Europe.

It is already clear that against the background of overlapping structure of the ERI, a close coordination of on-going market integration projects in these regions will be needed to ensure progress.

The projects to be primarily coordinated include the recently re-launched EMCC project connecting Germany with Denmark and the CWE market coupling project. Moreover, the NorNed cable connecting Norway and the Netherlands, as well as BritNed project (launch 2011) connecting the Netherlands and the UK will also have to be integrated in the market coupling process. As a next step, the inter-regional integration potential of the CWE region should be developed in the direction of CEE, FUI, SWE and CSE.

### **Summary of on-going initiatives**

<b><u>On-going projects</u></b>	<b><u>Open issues</u></b>
Market coupling (tight volume coupling) project on Danish-German border (EMCC) re-launched in November 2009.	Since its re-launch in November 2009 the project has been delivering reliable results, but there are still some hours (mainly when flows change direction) where the results are not fully correct, however, mostly acceptable
CWE market coupling to be launched in May 2010.	Impact on CWE-Nordic interconnections
Market price coupling initiative of Nord Pool	This project does not include APX and

Spot, EPEX Spot and OMEL (PCR)	Belpex
Market price coupling initiative of Nordic and CWE TSOs	This project does not include AT/CH
Explicit capacity auction on NorNed cable from May 2008	Although it was initially required to have implicit allocation on this cable, it was not feasible, essentially due to gate closure differences. Integration in the Nordic-CWE price (or intermediate volume coupling is not clear)
Establishment of market coupling between Great Britain and the Netherlands via BritNed cable in 2011	The IFA cable (between FR and GB) will (probably) not be included in the market coupling, making the coupling between CWE and GB incomplete, Optimal use of capacity may be hampered by barriers on the UK side like triad periods, grid losses, etc )
Cross-border intra-day between DK1 and Germany via obligatory use trading platform	This platform is in principle functioning well on the German side, but is not appropriate for the existing market rules on the Danish side, and therefore not used efficiently
Cross-border intra-day between DK2 and Germany via continuous trading platform Elbas	This platform complies with the market needs. However, high liquidity on the largest German intra-day market on EPEXspot requires market participants to be active on both platforms
No cross-border intra-day between Norway and the Netherlands	This is unacceptable and not compliant with the Congestion Management Guidelines.
SWE-GE interconnector (Baltic cable)	
PO-SWE interconnector (SwePol link)	
Plans for North Sea Grid	There are several plans for a North Sea Grid. Unclear is whether this will be coordinated from the start or would be left to individual member states Ownership issues are unclear Who will be the responsible regulator in such a network

## 2. Key challenges and obstacles for market integration

EURELECTRIC has identified the key obstacles in 4 major categories: Inter-regional market coupling process, Governance, Transmission Capacity, Integration of Renewables.

**Inter-regional market coupling process:** the key aspect is related to coordination of on-going initiatives.

- Lack of coordination and harmonisation between various day-ahead capacity allocation projects and initiatives in the Nordic and CWE. (EMCC, NorNed, CWE). The currently running day-ahead capacity allocation projects include EMCC tight volume coupling and NorNed explicit capacity allocation. The implementation project for the CWE market coupling is on-going. The EMCC project has been running from November 2009 showing a limited degree of price deviations between EMCC and relevant power exchanges (Nord Pool and EPEX spot). This project provided a valuable experience for all the stakeholders involved in implementing market coupling solutions but has also revealed the difficult task of overcoming market rules inconsistency at its earlier unsuccessful launch in October 2008. At the same time, in the CWE region, the Power Exchanges and TSOs of the region have been working on the project to couple the CWE region, and this has been considered a high priority supported by the Pentilateral Forum. The launch of the CWE market coupling is envisaged for May 2010. It is likely that at CWE market coupling launch, if no improvement is made on the current volume coupling (which would not take into account the CWE order books and potentially all CWE cross-border constraints), EMCC results will be seen as unacceptable by market parties. Therefore at the CWE market coupling launch, EMCC should provide an appropriate algorithm for the coupling of CWE and Nord Pool. Other solutions are under consideration such as hybrid coupling, whereby one platform (Nord Pool or the CWE market coupling algorithm) would first calculate both regions in order to determine the volumes between the two regions, after which the other region would calculate its outcome, taking into account the determined volume. But only a few months before the start of the CWE coupling it is still unclear whether these processes will deliver acceptable results. Therefore, it is evident to most stakeholders that there is a strong discrepancy between the Nordic and CWE regions and no clear strategy for harmonising various cross-border day-ahead market projects. Against the background of the PCG project where stakeholders agreed on price coupling with a single matching algorithm as a target model for day-ahead capacity allocation, the coordination of efforts from all stakeholders appear to be crucial in achieving further progress in the implementation of the target model. Market participants have asked for a fall-back solution in case a volume coupling or a hybrid coupling does not deliver acceptable results. Temporarily replacing the coupling on the Danish/German borders again by explicit auctions until a well functioning (with acceptable results) market coupling is available should not be excluded from the perspective of market players. It would indeed not be acceptable to have unreliable price formation due to a malfunctioning algorithm. Although the PLEF had asked all the parties to come up with concrete proposals, nothing has been announced by TSOs and PXs yet. It would be unacceptable for this to lead to a delay in the CWE market coupling process.

- Integration of the DK1 border with Germany in the existing intra-day continuous trading platform in Nord Pool. This would open a second inter-regional border between Nord Pool and Germany together with the existing DK2-German border (Kontek cable) that already forms part of this platform. Although incorporation of the border into the platform should not represent a big challenge as there is no significant difference between the DK1 and the DK2 border, nothing has been implemented yet.

**Governance:** agreement on clear roles and responsibilities in the inter-regional market coupling has been identified as one of the key elements of the integration process that should be urgently addressed.

- Lack of cooperative spirit and parallel initiatives of TSOs and Power Exchanges. During 2009 both TSOs and Power Exchanges announced the launch of work on their respective initiatives with the objective of introducing inter-regional market coupling. A group of twelve TSOs from the Nordic and CWE regions confirmed their support for a single price coupling mechanism across their area, thus paving a way for the creation of one market region. The project started by developing an outline for the high level market design, organisation, roles and responsibilities, governance principles and the requirements for the coordinated matching, as well as a road map. The end of 2009 has also witnessed the launch of a cooperation initiative between Nord Pool Spot, EPEX Spot and OMEL with the objective of testing the concept of a pan-European price coupling called “Price Coupling of Regions” (PCR). The intention is to conduct PCR in parallel with existing market coupling projects that are due to deliver results in the coming months, such as the CWE price coupling and the Danish-German EMCC volume coupling. The conclusions of the test should be presented to the other stakeholders in order to seek for agreement on a project structure for implementation. It is worth stressing that the project does not ensure that relevant stakeholders are sufficiently involved as APX and Belpex are not yet part of the process.

**Transmission Capacity:** expansion of the transmission capacity between regions is hindered in many cases by the incompatibility of market rules in the regions.

- Further development of interconnectors between the Nordic region and CWE region (like the Cobra project between the Netherlands and Denmark) and between Great Britain and CWE (like the study project with Belgium) are welcomed by Eurelectric. It is, however, of utmost importance that the market rules in the different regions are harmonised further. In particular, market players also need allocation of long-term rights, which is not provided on the NorNed cable. Such long-term allocation could be under the form of financial transmission rights issued by the TSOs, as it is mentioned in the PCG target models.

**Integration of Renewables:** the growing impact of renewables will require all market-based flexibility tools to be combined as optimally as possible. The introduction of inter-regional cross-border intra-day platforms is crucial in order to accommodate RES into the market.

- No on-going project to introduce cross-border intra-day market between CWE and Nordic. It is of utmost importance that day-ahead allocation (whatever the process in place, be it a well functioning, reliable but imperfect volume coupling or explicit auctions) can be completed with a well functioning intra-day market. Introduction of cross-border intra-day markets is stipulated in the Congestion Management Guidelines and urgent implementation of a continuous intra-day trading solution in CWE and between the Nordic and CWE region should be recognised by all stakeholders. This is particularly necessary to bring all flexibility resources (and especially the Nordic hydro flexibility) together in order to be able to cope with the growing impact of intermittent wind generation.
- Similarly, there is no intra-day trading between Norway and the Netherlands, even though there is no evidence of any technical reason why it should not be feasible to be implemented in the short term perspective.
- No plans for intra-day trading on the BritNed cable. It still remains unclear whether intra-day trade will be possible at all, and if so, which process will be implemented. As this is an inter-regional link, it should be in line with the target model as proposed in the PCG outcome.
- An explicit allocation, currently functioning on the IFA (FR/GB) link is not compliant with the PCG target model. At the same time, it could be questioned whether the explicit allocation on this IFA cable should be replaced with very short notice in order to make it compliant with the mentioned PCG target model.

### 3. Priorities and solutions: outlook for the future

#### **Interregional market coupling:**

- Develop a roadmap towards introducing price market coupling between the markets of the Northern and CWE regions. Such a roadmap should ensure coordination between all the on-going and new projects as well as compatibility of the designs of various solutions. It also should represent a clear sequence of concrete steps to be taken in all the relevant projects due to a high degree of interdependency between them.

#### **Governance:**

- Further improve communication and collaboration between Northern and CWE on the political level, between the Pentilateral Energy Forum and Nordic Council of Ministers, as well as between respective TSOs and Power Exchanges. Effective integration of these regions will facilitate the overall process of European market integration.




- Agreement on the governance model for day-ahead market coupling. Meanwhile, within the framework of the PCG project it has become clear that the cornerstone of the target model for the day-ahead market based on price market coupling with central matching is related to governance issues, and that different governance models are possible. Development of an optimal governance model will require very close collaboration between TSOs and Power Exchanges and should be urgently addressed in the Day-Ahead implementation project within the AHAG's scope of work. The project should be organised in a transparent manner and provide for opportunities for market parties to follow up the process and give advice.

### Transmission Capacity

- Active participation of stakeholders in the initiative "The North Sea Countries' Offshore Grid Initiative" launched by the Ministers of the Nordic, France, Germany, Ireland and Benelux in December 2009. The main part of this initiative will be to develop a strategic work plan in 2010 with the aim of coordinating offshore infrastructure development. There is a need also to reinforce the continental grid to further evacuate offshore energy to the mainland.

### Integration of Renewables

- Against the background of PCG agreement on the target model for intraday trade, it is crucial to speed up of the implementation of a cross-border intra-day platform. As a priority action for 2010 EURELECTRIC calls on all relevant power exchanges to team up to come to a joint solution. As the implementation of cross-border intraday markets stipulated in the Congestion Management Guidelines incurred significant delays, the high degree of urgency for this project should be recognised by all stakeholders involved.
- Start the cross-border integration of balancing markets by developing pilot projects and start harmonisation process by aligning gate closures and technical characteristics.

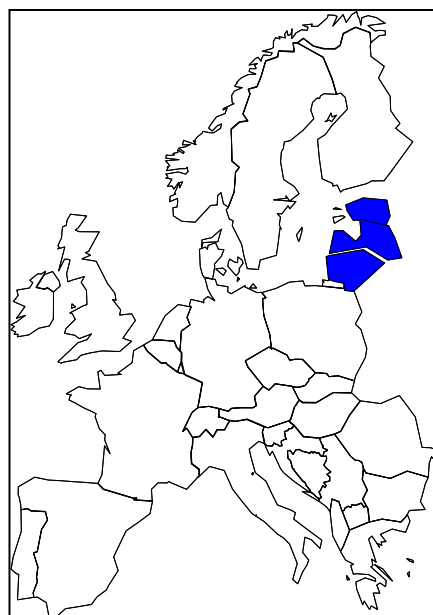
<u>Obstacles</u>	<u>Urgency</u>	<u>Solutions</u>
INTERREGIONAL MARKET COUPLING PROCESS		Roadmap for market coupling
GOVERNANCE		DA governance model Cooperation between PLEF and Nordic Council of Ministers
INTEGRATION OF RES		Inter-regional intraday platform



## Baltic region

### 1. Overview

After a period of fragmented progress in the Baltic region, with a lack of coordination between Baltic markets and little political will to implement liberalisation reforms in the electricity industry, the adoption of Baltic Energy Market Interconnection Plan (BEMIP) plan has finally brought a much-needed impetus to the Baltic market. EURELECTRIC fully supports the BEMIP plan and calls for its consistent and timely implementation. In our view, 2010 will be the crucial period for ensuring that the plan is on track and that all market changes and interconnection projects envisaged in the plan become a reality.



### Summary of achievements and on-going initiatives

<u>Achievements</u>	<u>Open issues</u>
<b>Adoption of BEMIP</b> in June 2009	Timely implementation. Electricity market opening in Lithuania is not in line with timetable set in 2nd electricity directive.
<b>Adoption of Amendments to the Estonian Electricity Market Act</b> in February 2010	Actual opening of 35% of the market
<b>Nord Pool decision to open price area Estlink in Estonia April 1, 2010.</b> Part of the “Estlink” merchant cable was given to TSOs and will be allocated according to price differences between Nord Pool Helsinki (Finland) and Estlink (Estonia) price areas.	
<b>Lithuanian Power Exchange</b> in Jan 2010	Compulsory full trade through power exchange at Latvian-Lithuanian border does not comply with regulations (EC) No 1228/2003 and (EC) No 714/2009 as forward financial electricity markets are not well developed
The <b>Baltic, Belarusian and Russian TSOs</b> agree on a <b>temporary acceptable congestion management method</b> in the end of 2009	Proportional reduction of all cross-border volumes in case of congestion does not comply with regulations (EC) No 1228/2003 and (EC) No 714/2009. Russian company INTER RAO UES has priority rights in cross-border trading in Baltic countries

Ownership unbundling of the Estonian TSO in January 2010	
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<u>On-going projects</u>	<u>Open issues/Features</u>
<b>NordPool Spot Baltic project</b> – introduction of market bidding areas and implicit auctions on all Baltic countries: Price area in Latvia – early 2011, How Nord Pool Spot price area in Latvia will be connected to Lithuanian spot market - 2011.	Coordination between all stakeholders involved
<b>Common Baltic intraday market</b> - latest in January 2013	Greater urgency is needed. Development of financial electricity market needed before 100% of cross-border capacities can be allocated through implicit auctions.
<b>Separation of responsibilities of TSO and electricity trading in all Baltic countries, coordinated implementation of transparency rules.</b>	BEMIP does not have enough detailed guidance for implementation.
The <b>Baltic TSOs will prepare</b> the market based <b>congestion management</b> rules by 2011.	Clarity of the framework for the market parties is essential
The <b>Baltic, Belorussian and Russian TSOs- to agree on a long term solution for congestion management</b> and capacity allocation	For non-EU parties there is little motivation to agree with any changes.
<b>Preliminary agreement of Elering and Fingrid on construction of Estlink 2</b> in late 2010.	Liquidity in Estlink price area

## 2. Key challenges and obstacles for market integration

EURELECTRIC has identified the key challenges, which fall into in 4 major categories: Market Fundamentals and Baltic integration into the NordPool, Governance, Transmission Capacity, Integration of Renewables.

**Market Fundamentals and Baltic integration into the NordPool:** integration of the Baltic markets into the Nordic requires a number of market fundamentals to be addressed, such as the removal of regulated tariffs, unbundling, removal of subsidies for generators if electricity cannot be sold freely to the market, separation of TSO activities from electricity trading etc. The Baltic Energy Market Integration Plan (BEMIP) stipulates the main direction and the timing of the measures to be consequently and coherently implemented to achieve market liberalisation and integration. Among the key concerns are the following:

- Delays in adoption of amendments to the Estonian Electricity Market Act. The main changes in the law include the establishment of an electricity exchange for trading with an obligation of 35% of the electricity consumers to buy electricity on market-based terms. This obligation will affect about 300 of the biggest consumers, who will no longer have the option to buy electricity at a regulated price, thus promoting real market liberalisation. The adoption of this legislative framework, which is necessary to kick-off the launch of the Estlink price area encountered difficulties in the Estonian Parliament, but was finally adopted and signed by the President of Estonia at the end of February 2010. However, there are still concerns whether the actual market opening will reach the level of 35%. Due to the delay in the adoption of the law, the consumers had little time to prepare for changes, which may result in low participation in the spot market (Nord Pool Spot Estlink price area), which is due to be opened on April 1, 2010.
- Possible competition between two power exchanges. The Lithuanian PX (launched in January 2010) and NPS Estlink price area (to be launched in April 2010) may lead to limited liquidity on both exchanges and hamper progress on ESTLINK 2 project. This may put the whole implementation of the BEMIP at risk, as of the ability to demonstrate sufficient liquidity was announced by Fingrid to be the main precondition for starting the ESTLINK 2 cable project. A negative decision by Fingrid on the ESTLINK 2 project in August 2010 would significantly undermine the process of market integration and would lead to a delay of the project of more than 5 years.
- High degree of market concentration and dominance of Russian export monopoly INTERRAO. The Baltic region is strongly dependent on Russian electricity supplies (primarily Latvia and Lithuania) and the market price formation is strongly influenced by INTERRAO, which is the marginal supplier in the market during majority of traded hours.
- No common Baltic regulatory framework for congestion management and capacity allocation and lack of a Baltic TSO common position on trading rules with non-EU markets. Current congestion management arrangements are not market-based. The Baltic TSOs are expected to be sufficiently motivated to agree upon the congestion management methods as the ITC compensation of cross-border flows will only be available for the volumes for which the capacity was allocated through the market-based mechanism.

**Priority Setting and Governance:** implementation of the BEMIP plan and policy guidance remains crucial for the future of liberalisation reform and market integration in the Baltic market.

- Strong support from the EU constantly needed. Political support and setting appropriate priorities was ensured only under guidance of the European Commission. Sufficient political support is also needed with regard to the revision of the principle of cross-border electricity trading with non-EU countries.
- Lack of support for electricity market liberalisation and market integration in society. Electricity liberalisation is associated with high risks for economic welfare as the introduction of a liberalised market is predicted to lead to a price increase of around 40% in Estonia and Lithuania. Therefore, while market integration is supported by generators, it finds strong opposition among consumers. For instance, the association of Estonian major consumers has submitted a joint petition to the Estonian Parliament to implement a 9-month transition period so that the market price stabilizes and the consumers gain some trading experience.

**Transmission Capacity:** being almost an electricity island, Baltic region has to get physically connected to the rest of the EU system. Implementation of BEMIP plan in its interconnectors' chapter remains the most crucial for the future of market integration.

- Lack of transmission capacity between the Baltic and the rest of the EU. As it was originally designed as part of the former USSR power system, the Baltic region has been largely isolated from the rest of the EU due to limited interconnectors, which has meant being solely dependent on the Russian interconnected power system. With Estlink 1, (a 350 MW HVDC submarine cable between Estonia and Finland, the first interconnection between the Baltic and Nordic electricity markets), the situation started to improve starting from 2007. However, efficient market integration will strongly depend on putting new cables into operation, primarily Estlink 2, a second 650 MW HVDC cable expected in 2014. The main conditions for the implementation of this cable project include market opening (Estonia, Lithuania), no exemption from the rules on third party access and a common position for electricity imports from non-EEA countries. Further projects will include NordBalt, a 700-1,000 MW HVDC cable between Lithuania and Sweden expected in 2016 and partly financed by EU funds and LitPol, a 600-1000 MW HVDC cable between Lithuania and Poland expected in 2015. However, the last project has been on the agenda for more than 10 years and sufficient progress will only be achieved if it is included in the TYNDP.

**Integration of Renewables:** new RES targets add an additional complexity to the process of electricity market liberalisation in the Baltic region and will define the direction of its overall future development

- Lack of regional approach among regulators. Energy policies continue to be nationally focused and lack consistency and coordination, especially with regard to facing the RES challenge. The main principle of current energy policies across the Baltic States remains self-sufficiency. Against the background of RES and co-generation of electricity and heat support schemes, one of the risks of uncoordinated national energy policies is related to possible generation overcapacity in the region by 2020.
- Lack of harmonisation of RES-related regulation across Baltic States and RES subsidies. In Latvia and Lithuania, RES generators can not supply the market without losing subsidies, which represents a significant obstacle to increasing liquidity in the market and will give the incumbent supplier an advantage.
- No clear plans with regard to the timing for introducing the intra-day market. Nord Pool has not been able to reach an agreement on concrete steps with regard to establishment of an integrated intra-day market across Nordic and Baltic countries. At the same time, the regional intra-day market based on the Continuous Trading model is a powerful tool for facilitating the accommodation of wind power and other renewables into the market as it provides a market-based tool to eliminate production planning errors and avoid actual imbalance.
- National feed-in based subsidy schemes for gas-fired power stations as well as heat and power co-generation plants distort the actual merit order in the regional market and may lead to excessive CO<sub>2</sub>-emissions. In order to avoid market distortions on the spot market, no feed-in based subsidy (both for electricity and heat) should be issued, at least to fossil-fired power plants. Capacity based subsidies may be used instead, if approved by the European Commission.

### 3. Priorities and solutions: outlook for the future

**Market Fundamentals and Baltic integration into the Nord Pool:** successful integration of the Baltic region into the Nordic market is very much related to the establishment of a well-functioning market mechanism in the region itself and addressing all main market fundamentals including network and market access, abolition of subsidies and other trade constraints, effective unbundling etc. All these items are being addressed in the BEMIP. The key issues relating to the integration process are listed below:

- Ensure opening of 35% of electricity market in Estonia on April 1. 2010
- Implementation of the recently reached agreement between Nord Pool and Elering (Estonian TSO) to extend the NPS day-ahead electricity market to all of Baltic States (Latvia – in 2011, Lithuania – in 2012).

- Clear separation of TSO activities and electricity trading in all Baltic Countries.
- Introduction of cross-border intraday market, based on ELBAS system is crucial to accommodate RES into the market.
- Development of a market-based Congestion Management framework and transparent market rules. Increase coordination and cooperation between Baltic TSOs with regard to capacity calculation and allocation with a perspective of their integration in the upcoming future.
- Common policy and rules of trading with non-EU countries, based on reciprocity. It is important to counter the threat of spot market manipulation before ESTLINK 2 is built.

**Priority Setting and Governance:** priorities outlined in the BEMIP are concise and should be closely followed with the involvement of all major stakeholders. Specific issues to be addressed include:

- Ensure timely and accurate implementation of the BEMIP and its close monitoring in order to address important priorities and set up the basis for interconnection projects.
- Increase coordination efforts between all the stakeholders involved, including Member States, regulators, TSOs, PXs, market parties and the European Commission.
- Allow more active involvement of market stakeholders and establishment of early and extensive consultation process.





**Transmission Capacity:** expansion of transmission capacity is at the heart of the strategy of increasing independence from Russian electricity import and intensifying trade with the European markets. The main areas to be tackled include the following:

- Turn Estlink 1 into infrastructure interconnector in a timely manner. The Estlink 1 cable is operated by AS Nordic Energy Link company, founded by Eesti Energia, Latvenergo, Lietuvos Energija, Pohjolan Voima and Helsingin Energia. Nordic Energy Link shareholders have agreed to sell the interconnector to the transmission system operators of Finland, Estonia, Latvia and Lithuania before 2013.
- Effective build-up and putting into operation of Estlink 2 by 2014. In February 2010 Elering and Fingrid signed a preliminary agreement concerning the construction of Estlink 2. The preliminary agreement will be followed by a final capital investment decision if the wholesale electricity market in Estonia opens as planned and if the European Union's co-funding of 100 million euros for the project becomes a reality. The final agreement between the parties on the project will be signed after the capital investment decision.

- Support other infrastructure projects, including Pol-Lit and NordBalt by creating a framework for stable market rules and incentives that will give clear signals to TSOs to invest in such projects. Make use of European funds to partly finance the projects. Avoid turning interconnectors into merchant projects, to which only a limited number of companies have access, as this could hamper broader regional support for these interconnections.

**Integration of Renewables:** meeting renewables targets will have a profound impact on the Baltic energy balance. It is critical to ensure that integration of renewables is implemented through market-based mechanisms. In this context, the following issues should be addressed:

- Removal of obstacles to enter the market for subsidised RES generation. It will be very important to abolish those Latvian and Lithuanian regulations, according to which companies producing renewable electricity lose subsidies when supplying to the market.
- Develop an integrated approach towards RES policy across Baltic markets in order to promote RES in the region and achieve EU 20-20-20 targets at lowest cost. Remove feed-in based subsidies for fossil-fired power and co-generation plants in order to remove large-scale distortions in producers' merit order in the regional spot market.

<u>Obstacles</u>	<u>Urgency</u>	<u>Solutions</u>
MARKET FUNDAMENTALS AND BALTIC INTEGRATION INTO THE NORD POOL		Day-Ahead market coupling in all three Baltic markets with Finland Intra-day Baltic market + Nordic Market-based CM & CA framework and common policy towards the non-EU countries
GOVERNANCE and PRIORITY SETTING		Timely and coherent implementation of BEMIP and strong political commitment
CROSS BORDER AVAILABLE CAPACITY		Timely build-up of interconnectors
INTEGRATED MARKET APPROACH TO RES		Coordination of RES policies

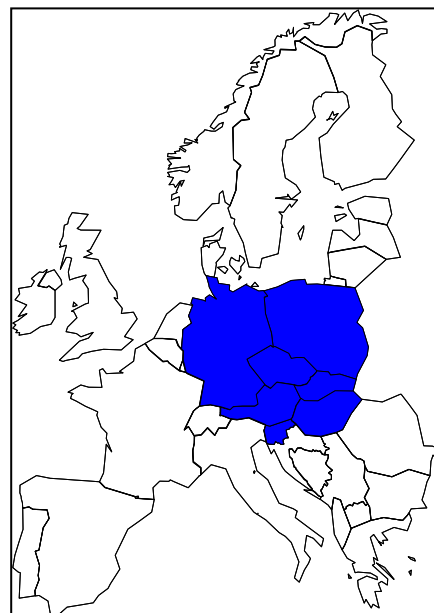
## Central-East region

### 1. Overview

The Central Eastern Europe region represents one of the cornerstones of the future pan-European market: its full integration will allow the more mature markets of western Europe to be bridged with the ones which opened less than 10 years ago and still have great potential for increased demand, supply, trade and investments.

Although some remarkable progress has been achieved in market fundamentals, the region still lacks some key pre-requisites for further integration and a clear driving force. The ERGEG ERI has contributed to the process, although most of their efforts have been dedicated to the complex flow-based capacity allocation project. Market operators initiatives, backed by political support, have proven to be (and will be) crucial for most of the achievements in market integration.

With the increasing share of RES (especially intermittent wind generation), both pressure on the already congested grids and demand for more cross-border trade are increasing: both challenges cannot be solved with a national approach but demand urgent solutions at regional level.



### Major achievements & ongoing initiatives

<u>Achievements</u>	<u>Open issues</u>
<b>Common Auction Office</b> for cross-border explicit auctions established in Freisnig (Germany) in July 2008 as a subsidiary of the 8 TSOs of the Region.	Austria, Hungary and Slovenia (?) still have bilateral auctions on their borders
<b>Corss-border Intraday</b> markets implemented on 3 CZ borders (AT, DE, SK)	
<b>Power Exchanges</b> established (or recently launched) in all markets	Limited liquidity in Poland, Slovenia, Hungary, Slovakia.
<b>Phase out of PPAs</b> (Poland), <b>export fees</b> (Slovakia + Hungary), <b>long term reservations</b> on cross-border capacity (Hungary)	
<b>Market Coupling</b> between Czech Republic and Slovakia introduced in September 2009	
<b>Transparency</b> Report (based on NordPool model) published in 2008	Slow implementation, low level of compliance



<u>On-going projects</u>	<u>Open issues</u>
<b>Flow Based cross-border capacity allocation</b>	Delays, limited market parties involvement, dry run results not satisfactory for traders
<b>Intraday market</b> in Poland and Slovakia under implementation	
<b>Memorandum of Understanding</b> to establish a ministerial level regional platform, "Central Eastern European Forum for Electricity Market Integration" signed on 7 December 2009	Will it deliver? Roadmap and action plan needed
<b>New interconnection lines</b> underway between Poland and Germany, Poland and Lithuania,	Still insufficient grid capacity. Phase shifter installed on the Polish grid will only shift congestions elsewhere

## 2. Key challenges and obstacles for market integration

In 2006, when the CEE mini forum was established, Central Eastern Europe was merely a geographical definition, with electricity markets (apart from Germany and Austria) still far from being competitive or integrated. Four years later, the situation has improved considerably in all national markets, but progress towards an integrated CEE market is experiencing severe delays. The goal of having a regional market planned by 2010 was probably overambitious; nevertheless stakeholders and policymakers should recognise that they should improve their mutual cooperation and accelerate their work to remove obstacles which hinder further integration.

EURELECTRIC has identified the key obstacles, which fall into 4 major categories: Market Fundamentals, Priority Setting and Governance, Transmission Capacity, Integration of Renewables.

**Market Fundamentals:** as a prerequisite to market integration, all CEE markets should develop a solid market infrastructure and remove any regulatory barrier to market opening. In particular, the following problems should be addressed:

- Lack of liquidity in most wholesale markets across the region. As an example of how “immature” markets fundamentals can be a bottleneck for any further regional integration, the lack of liquidity in the Polish market has so far prevented market coupling from being introduced on the SwePol link.
- Regulated end user prices in some markets distort wholesale power price and hence do not incentivise necessary investments in new capacity: recent fall of demand has been hiding the existence of the problem.

- Lack of harmonisation in market designs in the region and limited cooperation among regulators.

**Priority Setting and Governance:** we believe the integration process has been slowed down partly because of incorrect priority setting and partly because the governance process lacked political drive and clear commitment by all actors involved. More specifically:

- The flow-based market coupling project has been draining most of the Regulators' and TSOs' resources and attention from since 2006. Although we recognise the value of the project in finding solutions for an efficient congestion management, it must be said that no benefits have been delivered to the market until now. An interim NTC market coupling (like in CWE) would have been a better solution. Moreover, after the test dry run, market parties have expressed doubts about the technical features, the maximisation of the capacity and the expected date of full implementation.
- Lack of political support for full liberalisation and integration: some local governments seem more worried about the level of customer prices and would like to keep control rather than risking further price increases (climate change regulation is already driving wholesale prices up). The Memorandum of Understanding signed on 7 December 2009 by the 7 Ministries in the region is certainly a positive first step in the right direction and could prove decisive like the PLEF in CWE.

**Transmission Capacity:** available capacity is largely insufficient compared to trade needs due to both the physical infrastructure (limited cross-border interconnections, internal bottlenecks) and increasing physical flows driven by new intermittent RES generation:

- Insufficient cross-border capacity especially on Polish and Hungarian borders. Between Poland and its neighbours nowadays there is much less capacity available than 5 years ago (no annual auctions, only monthly and daily). TSOs indicate that there are often 1500MW of uncontrolled flow from wind power.
- Internal congestions especially within Poland and Germany (North-South) which create loop flows in bordering countries decreasing capacity available for cross-border trades.

**Integration of Renewables:** the increasing share of renewables in the markets, especially intermittent wind generation, is one of the biggest challenges of the region and already limiting transmission capacity and cross-border trade. The degree of market integration will decrease in the near future unless these issues are solved:

- Cross-border intraday markets are still not in place on several borders and there are no concrete projects planned. The same applies to cross border balancing

- Lack of TSO cooperation: management of wind intermittency into the grid is dealt with at control area scale and not aimed at maximising capacity or social welfare. Recently the Czech grid operator has warned of grid stability problems due to the new renewable generation being connected. As a consequence, power distribution companies have been asked to halt issuing approvals for grid connections. Rather than national remedies (such as suspension of new grid connections or installation of phase shifters), TSOs should cooperate and find common solutions to increase transmission capacity.

### 3. Priorities and solutions: outlook for the future

The CEE region presents numerous challenges which are becoming more and more urgent considering the necessity of market integration to efficiently accommodate a large share of renewable energy sources. On the basis of the obstacles mentioned in the previous section, EURELECTRIC calls for the following solutions:

**Market Fundamentals:** despite some remarkable progress in the recent years, some of the member states which joined EU in 2004 are still lacking a mature market open to further integration. Steps forward in this aspect are almost entirely a matter of political will rather than technical issues. In particular, EURELECTRIC recommends the following solutions:

- Governments should remove any form of price regulation (either at wholesale or end user level) and any other public distortion of wholesale market prices or regulatory barrier which limits new entrants, new generation investments, and liquidity in the wholesale market. A sufficient capacity margin should be reached to increase trade, flexibility and system security.
- Liquidity in power exchanges must be improved via “traders friendly” market arrangements as a precondition to the correct functioning of the Flow-based capacity allocation model.
- Regulators should cooperate more closely for the harmonisation of regulatory competencies and market design in the region (e.g. gate closure time). Moreover, authorisation procedures should be simplified.

**Priority Setting and Governance:** as mentioned above, political will by governments is a key factor to drive the integration of the CEE markets forward. In this respect, the Memorandum of Understanding signed by the 7 member states’ ministers with the explicit objective of creating “an integrated Central Eastern European Electricity Market” could give a decisive impetus to the integration process. In order to achieve its goals, this process should include agreed priorities, an implementation roadmap and clear roles and responsibilities for each party:

- The newly created Central Eastern European Forum should address the most urgent challenges (market integration, transmission capacity and issues related to the integration of renewables) and ensure that the political goals at regional level are mirrored in the national context. Member States should adjust legislative framework to facilitate market opening and integration, support politically (and financially) bottom-up initiatives to integrate markets, and incentivise active cooperation of National Regulators and TSOs in the region
- Regulators should set the right priorities in accordance with the political goals and the most urgent challenges. Given the limited amount of human and financial resources of regulators (and TSOs), it is fundamental to focus on few key priorities and define, in consultation with all relevant stakeholders, an implementation roadmap supported by a project management approach with clear deliverables and deadlines.
- Market stakeholders should be more involved in the process both when defining priorities and when implementing the projects. The work of the CEE regional initiative has so far had an insufficient level of transparency and of stakeholder consultation (e.g. no “Stakeholders Group” meeting has been held since November 2007).





**Transmission Capacity:** to overcome the structural lack of transmission capacity in the region, planned grid investments should be executed with no delay, future grid planning must follow a regional perspective and congestion management methods should deliver efficiency improvement as soon as possible. In particular:

- Governments and Regulators should facilitate licensing procedures to allow quick execution of the planned new lines and approve the necessary tariff increase to cover the costs. Customers should also be adequately informed of the necessity of these new lines and the expected benefits connected to the investment costs.
- TSOs should plan future grid investments from a regional perspective: in an integrated market, national grid planning cannot be considered an efficient solution. The need for a strategic regional approach is already visible now with the increasing frequency of loop flows and curtailments mainly caused by the intermittent and unpredictable nature of wind generation. Without urgent grid investments which take into consideration the whole region’s supply and demand pattern, these problems will become dramatic, putting at risk network security, making it impossible to integrate markets and resulting in higher costs for customers. ENTSO-E 10 year network development plan can certainly contribute to increase the geographical scale of grid planning; however, this cannot be left only to voluntary mechanisms: regulators should design regulatory models and incentives to allow a TSO (in the “benefitting market”) to contribute to the costs of a new line being built outside its territory.

- Market coupling must deliver results as soon as possible: the project for flow based allocation of transmission capacity should be re-defined in order to ensure tangible outcomes and prevent resources from being wasted. The approach followed in CWE seems to be well suited for CEE as well: implement market coupling as a first step and allocate capacity with the flow based method within the market coupling framework (if proved beneficial). Market coupling should be based on the same standards (e.g. algorithm) as in CWE, in order to allow for integration between the two regions. Within CEE, it is probably more practical to introduce market coupling in steps depending on readiness/will of individual countries rather than waiting for all countries to be ready to join a CEE wide scheme.

**Integration of Renewables:** the integration of renewables does not create new challenges “per se” but rather demands even more urgency on the solutions highlighted above, increasing market integration and transmission capacity first of all. More specifically, the increasing share of RES into the system requires at least 2 concrete solutions:

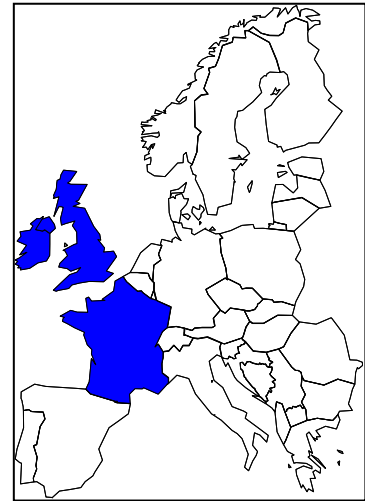
- Introduce Cross-border intraday markets based on continuous trading on all borders. These are not only a binding requirement of the Congestion Management Guidelines (and part of the infringement procedures initiated by the EC in September 2009) but also a fundamental requirement to integrate intermittent wind generation at the lowest possible cost. A stepwise implementation roadmap is needed: establishment of intraday markets where still missing (e.g. Poland), integrating platforms cross-border, develop a regional solution. The same process should be applied to cross-border balancing.
- TSO should cooperate to find common solutions: not only regional grid planning is necessary for the future, but also shorter term solutions should be found for the whole region. With the support of governments and regulators, TSOs should assess what are the most efficient tools to accommodate renewables and make best use of synergies. Issues such as forecasting, redispatching, grid connection and access should be dealt via the highest possible degree of cooperation.

<u>Obstacles</u>	<u>Urgency</u>	<u>Solutions</u>
MARKET FUNDAMENTALS		Remove regulated prices Harmonise market designs Increase liquidity
GOVERNANCE and PRIORITY SETTING		CEE Govt Forum to ensure political commitment; Regulators to set right priorities involving stakeholders
TRANSMISSION CAPACITY		Speed up licensing Regional Grid Planning Market Coupling roadmap
INTEGRATION OF RES		Cross-border Intraday Markets TSO cooperation

## **France - United-Kingdom - Ireland Region**

### **1. Overview**

The market integration process in the FUI region has been heavily affected by the geographical isolation of the UK and Ireland from Continental Europe, as well as by the development of individual electricity markets. The region is characterised by very low levels of interconnection. At present, there are two DC links between France and GB (2000 MW) and GB and Northern Ireland (500 MW), but these account for only around 3% of peak demand in the region. The market liberalisation in the FUI markets - France, UK and All-Island (Ireland/Northern Ireland SEM (Single Electricity Market)) – evolved separately at different speeds and has resulted in the establishment of various market models.



- The UK electricity market is regarded as one of the most liberalised markets in Europe, which dates back to 20 years ago. One feature of this market is that, in wholesale markets, around 90 percent of electricity is traded in the bilateral forward and futures market, while, to date only a few percent is bought and sold through the power exchange. A balancing mechanism that differs in some ways from the set-up in Continental Europe is used for trades in balancing timeframes.
- The All-Island SEM market model is based on a mandatory pool. This market design was only introduced in 2007 and arguably represents the first example of a fully-integrated cross-border market in Europe.
- Electricity trading in France as in a number of other markets in Continental Europe is done mainly through a power exchange with some OTC trading alongside this.

Progress in overall regional market integration has been quite fragmented and relatively modest, to a large extent because of the lack of interconnections. Regulators in the All-Island SEM market (the SEM Committee) have understandably been dealing primarily with the integration of their own market over the last few years and hence the focus of FUI discussions has almost entirely been on the UK-France Interconnector (IFA). Some success has been achieved, though this has taken longer than originally expected. New interconnector access rules on IFA were introduced in October 2009, new balancing arrangements have been implemented and a new Power Exchange in the UK (N2EX) was launched in the UK in January 2010. The BritNed cable will come into service in early 2011 and the East-West interconnector towards end of 2012. These are expected to bring additional dynamism into the market, which could help push the market integration process forward.

## Major achievements & ongoing initiatives

<u>Achievements</u>	<u>Open issues</u>
<b>Capacity Management System (CMS) on IFA interconnector</b> in 2007	
<b>New access rules on IFA</b> , Oct 2009: Main changes: separation between timeframes, application of UIOSI for LT and UIOLI for DA allowing netting, introduction of an intraday allocation mechanism	Firmness (Curtailment procedure, Compensation for curtailment)
<b>Trading arrangements on Moyle</b> interconnector in 2008	Flow in right direction - 25% of all trading cases Lack of alignment with SEM & BETTA Non-compliance with elements of Congestion Guideline (though as an intra-state interconnector not strictly covered)
<b>Integrated market between Ireland and Northern Ireland (SEM)</b> in 2007	East-West interconnector will further increase trade between SEM and BETTA from 2012
The <b>interim TSO-TSO solution</b> for c-b balancing between UK-France going live, March 2009	
<b>UK Power Exchange (N2EX)</b> , Jan 2010	

<u>On-going projects</u>	<u>Open issues</u>
<b>Trading arrangements (Market coupling) on Britned</b> interconnector in early 2011	Design issues under discussion with APX
<b>Trading arrangements on East-West interconnector for end 2012</b>	Revised SEM market rules for interconnector trading to be drafted by end 2010
The <b>enduring solution for cross-border balancing between UK and France is foreseen</b> in November 2010 (due to IT-related problems one year delay)	Limited transparency of pricing bid methodology.
Work on <b>transparency</b> – currently on-hold – agreement that this issue needs to be tackled at European level	

## 2. Key challenges and obstacles for market integration

EURELECTRIC has identified the key obstacles, which fall into 3 major categories: Market Fundamentals and Intra-regional integration, Transmission Capacity, Integration of Renewables.

**Market Fundamentals and Intra-regional integration:** differences in market design and market fundamentals (such as regulated prices) as well as lack of political support for change will have to be dealt with in order to make progress in integrating markets.

- Limited compatibility of market designs within the region. Differences in the market models (Bilateral trade in GB with emphasis on intra-day trading, a mandatory day-ahead pool trade system in Ireland, PX trade in continental Europe focused mainly on day-ahead) still represent a strong barrier to market integration. Significant differences in market and network access rules further complicate the process of establishing market coupling in the region. To date, regulators have not yet examined the steps needed to achieve harmonisation of market design. They appear to have concerns about the potential costs associated with market design changes while levels of interconnection remain so low.
- Lack of political will and support for market integration. Due to lack of physical interconnection, market integration has not been viewed as a priority. In general, there has been an absence of strategic long term thinking and limited initiatives to engage in the European market integration process, which is considered feasible only in the context of a 5-7 year timeframe. This is changing, however, and recent consultations of Ofgem (e.g. on Liquidity and Interconnector policy) and of SEM Committee on Regional Integration start to explore the potential benefits of better alignment of and increased interconnection between the UK market and continental markets. Furthermore, a recent tripartite Enterprise and Energy summit for business and political leaders from Ireland, Northern Ireland and Scotland recognised the benefits of wider market integration in that region. The infringement case launched by the European Commission in mid 2009 should also provide more impetus in this respect.
- Some evidence of reduced confidence in market mechanisms and their ability to deliver environmental targets. One of the worrying signals is the recent discussion document from the UK regulator (Project Discovery), which advocates increased interventions in energy markets aimed at the delivery of environmental targets. Some of the proposals would not be compatible with existing and forthcoming EU legislation and market development in Continental Europe.



- Retail price regulation in France and Ireland continues to be one of the obstacles to the development of well-functioning market mechanisms in the region. Under pressure from the European Commission, the French Government has launched a draft bill (Loi NOME) for consultation that, if adopted, will demand the removal of regulated tariffs for industrial and commercial customers as well as providing better access to alternative suppliers. If adopted, it should wipe out the TarTAM industrial and commercial preferential tariffs. However, there are still a lot of political uncertainties surrounding this draft law and the timing of the tariff liberalisation is not yet defined. In any case, any extension of regulated tariffs will constitute a severe barrier to competition and will lead to persisting inefficiencies in market functioning. While a single wholesale market (SEM) for Ireland and Northern Ireland is operational, separate retail markets in both jurisdictions exist. The Northern Ireland regulator has been progressively reducing the degree of regulated end-user tariffs and the Ireland Regulator (CER) is currently developing a roadmap for full tariff deregulation. Efforts are underway to harmonise retail market transactions and associated business processes between Ireland and Northern Ireland over the coming years.

**Transmission Capacity:** The development of new cross-border interconnections between Ireland, GB and Continental Europe would both enhance security of supply and play an enabling role in meeting the 2020 renewables targets.

- Lack of interconnection capacity within the region. The 2,000MW DC IFA interconnector and 500 MW Moyle Interconnector are so far the only links within the region. The launch of the 1000 MW HVDC BritNed interconnector, the first electricity interconnector between the Netherlands and GB will shortly change this situation. The BritNed cable will be followed by the 500 MW East-West interconnector between Ireland and Great Britain. Further efforts should be made to develop additional new projects such as a second IFA cable and the Belbrit cable (between UK and Belgium), as well as additional links to Ireland, in order to successfully meet the 2020 RES targets.

**Integration of Renewables:** very substantial development of wind power is expected in GB and Ireland and to a lesser extent in France. The scale of the challenge is such that cross-border issues may not be given sufficient priority. Among the main challenges are the following:

- Lack of coherent RES policy and guidance from the EU, as well as insufficient recognition of the role of market integration in meeting the 2020 RES targets
- Existence of different renewable support schemes in the region

- Current obstacles to cross-border intraday trade. Development of the regional intraday market is complicated by differences in market design between Ireland, GB and France.
- Lack of transparency in cross-border balancing arrangements.

### 3. Priorities and solutions: outlook for the future

**Market Fundamentals and Inter-regional integration:** in the short term, the opportunity now exists for better alignment of wholesale markets to allow for incremental changes, which will bring FUI closer to the neighbouring regions without significant cost.

Better alignment of the markets would meet many of the concerns currently being expressed by regulators about issues such as liquidity and security of supply. The new power exchange initiative (N2EX) has the potential to provide a ready-made platform for a more liquid day-ahead power exchange that should attract new market participants and provide a vehicle for greater integration. Initiatives by the SEM Committee for 2010 include those geared towards maximising the utilisation of already existing interconnection between Ireland and Great Britain, as well as preparing for greater integration following commissioning of the East-West interconnector. The more active UK intra-day market could also play a role in boosting liquidity on continental markets in this timeframe. The issues to be addressed include the following:

- Alignment of key market design elements
  - Review and align network access/charging arrangements to avoid barriers to cross-border trade and utilisation of interconnection (ex. TRIAD charges).
  - Develop a common approach to firmness of capacity, including compensation for curtailment based on the prevailing market spread at the time of the curtailment.
  - Align gate closure times day ahead as far as possible.
  - Ensure that the impact of renewables is factored into transmission system and interconnection development and examine the impact of different support schemes.
- Introduce market coupling on interconnectors in the region
  - Timely and efficient launch of market coupling on the BritNed cable, based on the CWE extension solution.
  - Sufficient liquidity should be ensured through cooperation between Britned, APX UK and N2EX.

- Promote the harmonisation of auction rules on all interconnectors within the FUI region, including the extension of market coupling, assuming the BritNed coupling is successful.
- EURELECTRIC recognises that some progress has been made in the FUI region, but calls for a clearer, longer term vision on how the region will develop from the regulators, both internally and in terms of its integration with neighbouring regional markets. A key deliverable for the FUI regional initiative should be a strategy for harmonisation of the FUI markets with the rest of Europe. In this context, the agreement reached in the Project Co-ordination Group for an overall EU target model for congestion management and capacity allocation should be taken into account with a view to establishing a roadmap with clear deadlines and milestones.
- In the context of increasing interconnection, the question of redefining the region will become more relevant. After the BritNed cable comes into operation, it may make more sense to coordinate integration processes between the UK/Ireland and CWE, rather than only France.




**Transmission Capacity: promotion of new lines and interconnections will be critical for market integration and meeting 2020 renewables targets.**

- Put clear and fair arrangements in place to encourage the construction of both merchant and regulated lines, to allow users to access interconnector capacity and to appropriately reward investors. The merchant line concept has already delivered one interconnector and is regarded as more favourable by many stakeholders.
- Incentivise both increased interconnection and national transmission reinforcement.

**Integration of Renewables: New renewable capacity in the countries of the region, primarily in the UK and Ireland will give a strong impetus to further changes in the region and should be integrated using market-based mechanisms. Market arrangements and network access will have to be addressed in a timely fashion.**

- Regulators of the region have to develop more long term strategic thinking and a stronger sense of urgency with regard to taking steps towards increasing market integration as an effective tool in meeting 2020 RES targets. The implications of large scale build-up of RES will be far-reaching and active regulatory actions are already required today.
- Development of cross-border intraday market mechanisms to facilitate accommodation of RES in the market.

- Introduce more transparency in cross-border balancing arrangements currently existing between the UK and France.

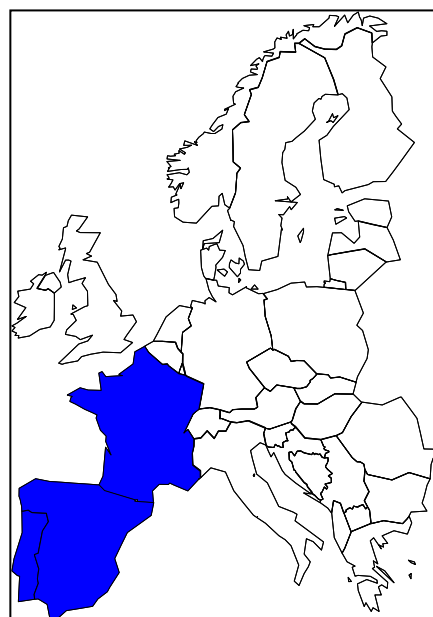
<u>Obstacles</u>	<u>Urgency</u>	<u>Solutions</u>
INTRA-REGIONAL INTEGRATION		Alignment of key market design elements Market coupling on BritNed Longer-term view on the future of the region
TRANSMISSION CAPACITY		Clear framework to incentivise more interconnectors and national transmission reinforcement
INTEGRATION OF RES		Strategy on achieving 2020 RES targets Cross-border intraday market Transparency in the cross-border balancing mechanism

## South-West region

### 1. Overview

The integration status of the South Western Europe region is mainly characterized by its geographical structure: while in the Iberian peninsula Portugal and Spain have been constantly integrating their markets, the French-Spanish border still represents the physical and political/regulatory bottleneck, which is preventing the region from becoming fully integrated and from linking with the bulk of the continental markets in CWE.

Nevertheless, important progress has been achieved in recent years. The most relevant development was probably the approval of a new interconnection between France and Spain which, even if implying a costly technical solution, will almost double the cross-border capacity. The lengthy negotiations and their final solution have proven once more that the key factor to facilitate integration is the governments' political will.



The political will of the Spanish and Portuguese governments have been the biggest force behind Iberian integration. Certainly, the ERGEG regional initiative has also contributed to the region's integration by bringing Regulators and TSOs closer together; however the various initiatives have so far only delivered final results in transparency and new rules on the French-Spanish interconnector (financial firmness and UIOSI).

### Major achievements & ongoing initiatives

<u>Achievements</u>	<u>Open issues</u>
<b>Intraday</b> 6 daily implicit auctions introduced in MIBEL for Spanish and Portuguese market. 2 intraday explicit auctions of the interconnection capacity between Spain and France	Market parties call for introduction of Continuous trading in MIBEL and on the FR-ES interconnection.
<b>Establishment of unique market platform (MIBEL) for Spain and Portugal since July 2007.</b>	Bids in OMEL are not possible by portfolio but refer only to physical generation units <sup>5</sup> .

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<sup>5</sup> Portfolio bids have been approved by Law, but this has not been implemented.

<b>Progressive phase out of regulated tariffs</b> in Spain <sup>6</sup> .	In France regulated energy tariffs (including <i>Tartam</i> ) are still available and are set to last until 2015. The recent proposal of market reform (Loi NOME) could put at risk the correct functioning of the retail and the wholesale market. In Spain, planned coal subsidies may impact market efficiency.
<b>Transparency</b> Report (based on CWE and NordPool model) published in Sept 2008	Level of compliance in France to be further improved.
<b>Increased interconnection capacity between Portugal and Spain</b>	The increase in capacity is not always reflected on the commercially available capacity.
<b>Creation of a Futures Market in Iberia – OMIP:</b> market platform that serves Portugal and Spain	Liquidity should be improved <sup>7</sup> .
<b>New rules for IFE Interconnection: since June 2009:</b> introduction of UIOSI and compensation for curtailment	Compensation at market spread is capped.

<u><b>On-going projects</b></u>	<u><b>Open issues</b></u>
<b>New France-Spain interconnection</b> of 1200MW approved in 2008 and under construction	Still insufficient grid capacity FR-ES, still antitrust import ban on some Iberian companies not justified by the level of competition in the wholesale market
<b>Market coupling:</b> initiative by Power Exchanges to couple SWE with CWE and NE	Timetable unclear, possible overlaps with other initiatives, no clear political commitment
<b>Cross-Border capacity calculation:</b> bilateral agreements by REE-RTE and REN-REE presented to regulators	Asymmetric capacity values on FR-ES border, coordination between TSOs but no transparency on calculation process (also applies to ES-PT border)
<b>Central Auction Office</b> project	There are no harmonized auctions between Spain and Portugal <sup>8</sup> . CAO is not a priority at the moment.
<b>TSOs proposal for cross-border Balancing</b> presented in 2009 based on TSO-TSO model	Integration of balancing markets Implementation plan missing, unclear timetable

<sup>6</sup> Currently, the tariff of last resort in Spain is an excellent example of how to build a tariff fully based on the market price for energy and all regulated costs (transmission, distribution, etc.). This tariff is only for domestic consumers under 10 kW

<sup>7</sup> Regulatory uncertainty reduces long and mid term liquidity. Harmonization process should continue to provide a stable framework.

<sup>8</sup> There are auctions of FTRs organized by OMEL, but only the Spanish TSO sells part of its rights in advance. The products available are swaps but not options.

## 2. Key challenges and obstacles for market integration

EURELECTRIC has identified 2 key obstacles and 1 major challenge: Integration of Iberia with CWE, Interconnection Capacity, and Integration of Renewables.

**Integration of Iberia with CWE:** since the Spanish and Portuguese markets are almost entirely integrated, the next natural step for the region is integrating the Iberian peninsula with the French market and consequently with the CWE. To achieve this, the following issues need to be solved:

- Structural differences in market design between Iberian market and France in regulatory framework and in market rules (different products and procedures between OMEL and Powernext)
- Lack of coordination and project management: while the “Price Coupling of Regions” initiative by Power Exchanges has recently given new impetus to the debate, an implementation roadmap agreed by policymakers and stakeholders is still missing. Moreover, political commitment of governments seems focused merely on interconnection upgrades, while Regulators and TSOs are engaging at the same time in other parallel initiatives (e.g. CWE market coupling). This results in a lack of leadership, coordination and project management.

**Interconnection Capacity:** although the recently approved new line between France and Spain will eventually improve the situation, interconnection capacity will still be insufficient. At the same time, existing capacity is neither maximised nor used efficiently:

- Lack of transparency on capacity calculation: especially on the French-Spanish border (this issue applies also to the PT-ES border). Calculation methods applied by TSOs are still obscure and non accessible to market parties. This also causes the perception that security margins of TSOs are too conservative. In particular, market parties would like to understand why the available capacity on the two sides of the border often presents differences of around 1000MW.
- Inefficient use of existing capacity: despite the important improvements introduced by the new IFE rules in July 2009 inefficiencies still persist. First of all, import bans for some Iberian companies (with market share above 10% for the French border, and 20% on the Portuguese border) unfairly prevent many operators from cross-border trading and, as a result of this limitation, there are substantial economic costs in terms of lost efficiency. Secondly, the lack of a unique definition of force majeure and the caps on market spreads compensation limit the effectiveness of financial firmness.

- Limited interconnection capacity on the French-Spanish border. Given the geographical constraints of the region, a crucial factor of market integration is represented by the trading possibilities between Iberia and the rest of the continent. By the time the new line is built trading needs will have increased (mainly due to new intermittent RES generation) and interconnection capacity will probably be still insufficient. The 20 years that have been needed to find a compromise for the FR-ES interconnector are a clear signal of the difficulty of the challenge. However, we cannot ignore the technical risk and the significant cost of the solution that has been chosen (an underground cable under the Pyrenees that will cost 0.8-1 billion €)<sup>9</sup>.

**Integration of Renewables:** the increasing share of renewables in the markets, especially intermittent wind generation in Spain and Portugal, represents one of the biggest challenges for the SWE market, further increasing the need for market integration. The following issues need to be addressed:

- Cross-border intraday markets based on continuous trading are missing. As indicated by all market participants in the region, the MIBEL intra-day auctions represent a sub-optimal solution.
- Balancing markets are still inefficient and need to be improved in view of the increasing needs to balance intermittent wind generation with the hydro power available in Iberia and resources from CWE. The need for a joint Spain-Portuguese balancing market is becoming urgent but TSOs do not have direct incentives to speed up the project implementation.

In the Iberian peninsula, as a consequence of the very limited interconnection capacity and the large share of (existing and planned) intermittent generation, the context in which existing (and future) conventional power plants operate is becoming increasingly challenging. There is a consensus among all Iberian electricity operators on the necessity of analysing how those thermal plants that are being displaced by RES, but at the same time are necessary as back up generation, are going to recover their fixed costs. In order to guarantee sufficient back-up and flexible generation capacity it should be assessed if some kind of capacity remuneration mechanism could be an appropriate solution or if it could result in limiting market integration.

Besides the key obstacles and challenges identified, it is also worthwhile to mention that the operating conditions of related markets may also cause some problems to market integration. In particular, the fact that the **Gas Market** (that supplies CCGT) is mainly based on long term exclusivity contracts with Take or Pay clauses and the lack of gas interconnection capacity between Iberia and France market, significantly hinders the needed flexibility of generation plants (as there is a large number of CCGT in Iberia).

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<sup>9</sup> It may be difficult to ensure large scale development of interconnection in Europe with such technical and economical constraints. The next solutions for increasing the interconnection capacity to be implemented should be less costly in order to be developed.



The development of gas interconnection capacity between Iberia and France market could help to create an Iberian “hub” thus increasing the flexibility needed by operators.+

### 3. Priorities and solutions: outlook for the future

On the basis of the obstacles mentioned in the previous section, EURELECTRIC calls for the following solutions:

**Integration of Iberia with CWE:** to make this possible, not only the necessary preconditions need to be put in place, but a detailed roadmap needs to be agreed. There are no structural obstacles to market coupling with CWE: it’s more about getting all relevant actors to agree, plan, commit, and implement:

- Regulators, TSOs and Power Exchanges should agree minimum harmonisation requirements especially regarding the different regulatory framework and market rules in Spain and France. Governments should support this process by facilitating a quick agreement and by easing the implementation process (especially if not only regulatory but also legislative changes are needed at national level).
- A clear roadmap with deadlines and intermediate steps must be defined by policymakers and agreed in consultation with stakeholders. While at the Florence Forum a generic roadmap has already been presented in the framework of the PCG work (EuroPEX and ENTSO agreed that coupling with CWE is in principle possible by end of 2010), this roadmap should be further articulated. Once the SWE mini-forum has agreed a more detailed action plan with concrete deliverables and a timetable, all stakeholders should commit to make the best efforts to implement such a plan. National Governments should give full political support to the process and facilitate coordination (a Ministerial agreement like the Pentalateral Energy Forum (PLEF) or the recently created CEEF could help to serve this purpose). Last but not least, guidance and monitoring at EU level (from the Commission or the AHAG) could be necessary to ensure that the different EU market coupling initiatives converge rather than clash or overlap.

**Interconnection Capacity:** market coupling itself will not be sufficient to integrate SWE with CWE unless sufficient interconnection capacity will be available between France and Spain. While new physical capacity should be planned and constructed, existing lines must be used as efficiently as possible.




- TSOs should improve transparency in capacity calculation and maximise the amount offered to the market. First of all calculation methods must be transparent not only for Regulators but for market parties too. By doing so TSOs would be incentivised not to overestimate the security margin and offer the maximum amount of capacity to the market. On top of this regulators should introduce TSO incentives (currently under development) to maximise capacity further.

- Existing rules must be improved: any import ban which is not justified on competition grounds should be removed to allow maximum competition in cross-border trade. RTE and REE, together with regulators, should agree a unique definition of force majeure and remove caps on market spreads compensation for transmission rights curtailment.
- Additional capacity on the French-Spanish border is needed: the new line under construction should be delivered as soon as possible (Governments should facilitate the process by ensuring no obstacles come up “on the ground”). Moreover, additional interconnection capacity should be planned in line with the future generation scenarios (especially wind generation increase) and expected trade demands. TSOs should cooperate together and with regulators to develop a regional grid planning for 2020 and beyond.

**Integration of Renewables:** the integration of renewables creates new challenges, as well as demanding even more urgency on increasing market integration and transmission capacity. More specifically, the increasing share of intermittent RES into the SWE region requires at least 3 concrete solutions:

- Cross-border intraday markets based on continuous trading must be introduced. In line with the demands of market operators, a regional cross-border intraday platform must be developed in line with the target models of the PCG and following a concrete implementation roadmap. The necessary adjustments by MIBEL must be implemented to ensure compatibility with a regional and EU wide solution.
- Integration of balancing markets must start as soon as possible following a stepwise implementation roadmap. First of all, a joint Spanish-Portuguese balancing market balance is needed to balance the increasing share of intermittent wind generation with the flexible hydro power available efficiently. In the meantime TSOs should present an action plan for delivering a TSO-TSO balancing model for the region. TSO incentives could also serve to accelerate integration of balancing markets. A better integration of the secondary and tertiary reserve markets would be a great step forward.

- Improvement of national balancing markets: the Spanish balancing market, despite being efficient in ensuring level playing field among generators<sup>10</sup>, can be improved further by removing the prohibitions of portfolio balancing between renewable and not renewable producers and the representation of special regime producers (most of them renewables) by major players can help to integrate RES efficiently into the market.

<u>Obstacles</u>	<u>Urgency</u>	<u>Solutions</u>
INTEGRATION OF IBERIA WITH CWE		Harmonise regulatory frameworks and market rules Agree a detailed roadmap with political support and stakeholders commitment to implementation
INTERCONNECTION CAPACITY		Transparency in calculation and maximisation of capacity, based on coordination between TSOs Remove import limits in ES Improvement of IFE rules Additional FR-ES interconnection
INTEGRATION OF RES		Cross-border Intraday Market based on Continuous Trading Integration of Balancing Markets Adequate remuneration for back-up services

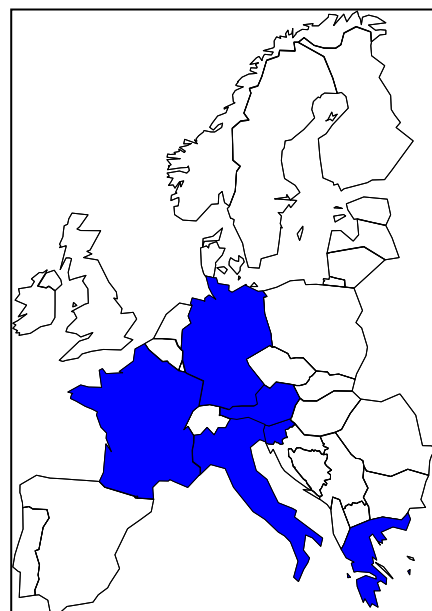
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<sup>10</sup> Under current regulation in Spain, renewable producers have the same obligations and rights in terms of balancing: they must provide their schedule to the TSO in advance, they have to pay for the balancing costs which they incur and they must be connected to a generation control centre that will provide the interface with the TSO. RES generators enjoy great flexibility in the balancing mechanism to net their deviations irrespective of their location in the grid. The Spanish experience proves that these obligations are the way to introduce adequate signals to make renewables a manageable energy source and integrate them in the market.

## Central-South region

### 1. Overview

The Central South region, similar to the South West region, consists of 2 parts: one relatively integrated with the rest of continental Europe (France, Germany, Austria) and another one more peripheral (Italy and Greece). From a geographical point of view, the Italian borders represent the biggest obstacle to a full integration of the region. At present, the Italian market, despite being fairly mature and liquid, remains isolated from the rest of the continent due to lack of efficient use of interconnection and lack of cross-border integration in all market timeframes: forward, day-ahead, intraday and balancing. Linking the Italian market to CWE (and CEE the eastern borders) would bring great benefits to all regional markets involved: however, the integration process has been particularly slow especially because of limited political support and of overlapping priorities among TSOs and Regulators operating at the same time in different ERI regions. A positive step forward is currently under way thanks to the development of market coupling between Italy and Slovenia. Such development can represent a stimulus for further integration of markets in the CS Region.



The particular situation of Switzerland – a pivotal electricity market for CSE and CWE, but practically non integrated due to its status of non-EU MS – adds further complexities and challenges.

### Major achievements & ongoing initiatives

<u>Achievements</u>	<u>Open issues</u>
<b>Power Exchanges</b> established in all markets	Limited liquidity in Slovenia and Greece
<b>Bilateral coordinated explicit auctions</b> in place on all borders with UIOSI since 2009	Firmness missing
<b>Harmonisation of LT auction rules</b> on all Italian borders in 2009	
<b>Transparency Report</b> (based on CWE model) published in February 2009	

<u>On-going projects</u>	<u>Open issues</u>
<b>Single Auction Office</b> project started in January 2008 but suspended in 2009 for divergences among TSOs	Delays, TSOs divergences on location and priorities project, unclear implementation roadmap
<b>Negotiations EC – Switzerland</b> for Swiss implementation of EU acquis	Timetable missing, lack of transparency, perimeter of EU acquis to be incorporated unclear
<b>Market Coupling Italy-Slovenia</b> to be launched in Q1 2010	Tight Volume coupling, to be realigned with target model
<b>Firmness of capacity rights</b> and compensation scheme: study presented by Regulators	Timetable unclear

## 2. Key challenges and obstacles for market integration

EURELECTRIC has identified the key obstacles in 4 major categories: Regional Market Coupling, Transmission Capacity, and Integration of Renewables.

**Regional Market Coupling:** while the northern countries of the region (Germany, France Austria) are already fairly integrated with CWE and CEE, Italy has remained so far isolated in the integration process, as well as Switzerland. The creation of a regional CSE market fundamentally depends on the integration of these 2 countries via the establishment of a day-ahead market coupling. To achieve this, the following obstacles need to be removed:

- National mindset and lack of political will: a major obstacle to concrete progress seems to be the lack of a true regional mindset by politicians whose priorities are only national driven. Unless governments stand behind integration of markets and encourage their national TSOs and Regulators to work on this, very little will move.
- Uncertainty about integration of Switzerland: because of its geographic centrality and its generation mix (large availability of hydro power useful for balancing purposes) Switzerland represents an essential element of the future CSE regional market. Moreover, as transit country, Switzerland should be part of more than one region: apart from CSE, at least of CWE too. We believe that the unilateral assignment to the CSE regional market only has so far complicated rather than simplified the process of wholesale market integration.  
While all stakeholders in the region agree on the need of speeding up the integration process, there is uncertainty (and limited transparency) on when and how this could happen. The negotiations between the EC and the Swiss government represent the political “bottleneck” holding back further progress. The issues at stake are numerous and complex (regulatory framework, unbundling, price regulation, etc.) and need a quick political agreement between the two sovereign entities EU and Switzerland.

- Lack of priorities, planning, and commitment: the market coupling project has progressed very little so far. Despite good intentions from all stakeholders, little is happening on the ground if we exclude bilateral initiatives (i.e. Italy-Slovenia). One of the main reasons is probably the lack of EU wide priorities for Regulators and TSOs: with countries such as France and Germany involved in several regions and engaged in parallel projects it is understandable that not everything can be done at once. Moreover, the lack of a realistic plan and of firm commitment by stakeholders has slowed down progress even further.

**Transmission Capacity:** apart from the political and governance obstacles to further integration, the CSE road to a fully integrated market is hindered by inefficient allocation of existing capacity: in fact, despite the introduction of bilateral agreements and of the UIOSI principle, interconnection capacity is still used inefficiently as it's often not maximised. The Single Auction Office project has been suspended and will be replaced for the moment by a less ideal solution with Terna coordinating auctions on the Italian borders via a "TSO Auction Office" model. Moreover, the lack of a unique definition of force majeure and of a compensation scheme for financial firmness limits effectiveness of cross-border trade.

**Integration of Renewables:** the increasing share of renewables in the markets, especially intermittent wind generation and solar power in the Mediterranean countries, will amplify the lack of market integration and of interconnection capacity in the region:

- Cross-border intraday and balancing markets are missing. Considering the amount of available pump storage in Switzerland and Austria this shortcoming will render integration of renewables less efficient and more costly.
- National regulatory distortions: the Member States differences (including Switzerland) in regulatory framework, support schemes, and authorisation procedures create distortions and impede the creation of a efficient regional approach to Renewables.

**Market Fundamentals:** In the CSE Region there are still some barriers to establishing a mature regional market open to further integration. In particular, the following obstacles are hindering further regional integration:

- Permanence of artificially low regulated prices (e.g. France and Greece) which distort wholesale market prices and competition.
- Lack of liquidity in power exchanges (e.g. Slovenia and Greece)
- Limited cooperation among regulators to harmonise regulatory competencies and market design in the region.

- Complexity of authorisation procedures for both power plants and transmission lines slows down enhancement of generation and transmission capacity.

### 3. Priorities and solutions: outlook for the future

On the basis of the obstacles mentioned in the previous section, EURELECTRIC calls for the following solutions:

**Regional Market Coupling:** we consider this as the top priority for the region. Regulatory and technical challenges are numerous but need to be tackled as soon as possible in the most pragmatic way, to avoid that the region (especially Italy and Greece) becomes progressively isolated while the rest of Europe integrates. The main solutions can be described as follows:

- National Governments should give full political support to the regional integration and facilitate coordination (a Ministerial agreement like the PLEF or the recently created CEEF could help to serve this purpose). In case this is not sufficient, guidance and monitoring at EU level (from the Commission or the AHAG) could be necessary to ensure that the CSE market coupling initiative converges rather than clash or overlap with others.
- Integration of Switzerland must be quick and transparent: as mentioned before, Switzerland can play a major role (especially for its hydro potential) in the region if integrated efficiently. Negotiations with EU must be transparent and market parties in the region should be able to contribute to the process. A clear timetable for a progressive integration must be set by the Commission in accordance with all relevant parties. While it may be difficult to transpose fully the EU Energy legislation, it could be advisable to proceed to a progressive implementation which would allow to improve market integration with the rest of the region, instead of holding everything back until the issue is solved completely.
- A clear roadmap with deadlines and intermediate steps must be defined by policymakers and agreed in close consultation with stakeholders. A stakeholder meeting for CSE Region, after almost 2 years should be organised in order to set such roadmap. While at the Florence Forum a generic roadmap has been already presented in the framework of the PCG work, this roadmap should be further articulated. Once the CSE mini-forum has agreed a more detailed action plan with concrete deliverables and a timetable, all stakeholders (especially TSOs and PXs) should commit to make the best efforts to cooperate and implement such plan.

**Transmission Capacity:** enhancing cross-border capacity and removing internal bottlenecks must go hand in hand with the market coupling process:

- Plan new grid investments with a regional perspective: interconnection capacities (both institutional and merchant) on Italian borders need to be increased over the next years to cope with the trading demands and allow a more efficient integration of renewables. TSOs should take a regional approach to grid planning, identifying which investments to prioritise based on regional social welfare. In this context, Swiss TSO and stakeholders must be fully involved in the ENTSO-E 10 year network development planning. Governments, EC and regulators should use its best effort in order to accelerate authorisation procedures.
- Establish a Single Auction Office and introduce firmness: the Single Auction Office project must be re-launched as quickly as possible, overcoming divergences and national interests of TSOs. As a pragmatic step forward we see two alternative solutions: a CAO, first established for Italian-French border and later expanded to all borders; or the use of the existing CASC as CAO for the CSE region too. Moreover, a unique definition of force majeure and a compensation scheme for financial firmness must be designed by regulators in accordance with market parties and swiftly implemented.

**Market Fundamentals:** an essential precondition to further market integration within CSE and eventually with the other regions is the creation of truly competitive and mature wholesale markets. In particular, two basic conditions need to be ensured as soon as possible:





- Governments should remove regulated prices and any other public regulatory barrier which limits wholesale markets competition and liquidity
- Regulators and governments should harmonise regulatory frameworks and simplify authorisation procedures for new generation and transmission investments.

**Integration of Renewables:** to efficiently integrate renewables in the system, minimizing the burden of ancillary services costs on customers and limiting risks for system security, the following measures have to be introduced:

- Cross-border intraday and balancing markets are missing. Considering the amount of available pump storage in Switzerland and Austria this shortcoming will render integration of renewables more costly.



- Member States and Regulators should support harmonisation and cooperate closer: minimum harmonisation requirements (regulatory framework, support schemes, and authorisation procedures) should be agreed in order to avoid distortions and inefficiencies in RES development and integration. Moreover, a new regional approach (including regional grid planning) is needed to take full advantages of the resources available in the region in the most economic way.

<u>Obstacles</u>	<u>Urgency</u>	<u>Solutions</u>
MARKET COUPLING		Clear political support with EU guidance Quick finalisation of CH negotiations Concrete roadmap and stakeholders commitment to implementation
TRANSMISSION CAPACITY		New cross-border grid investments Single Auction Office (or CASC) and Financial Firmness
MARKET FUNDAMENTALS		Removing regulated prices Improve regulatory framework harmonisation and simplification
INTEGRATION OF RES		Cross-border Intraday Market and Balancing Markets Regional Approach to RES



## CHAPTER II: Moving towards a comprehensive EU market integration strategy

### Section 1 - Regional markets outlook: what are the lessons learnt?

The preceding Chapter provided a varied picture about regional markets but also revealed a surprisingly high number of similarities between regions, particularly with respect to the proposed solutions to improve markets functioning. To complete this first industry outlook on regional markets, we felt it would be useful to summarise some of the lessons learnt and try to identify best practices wherever possible.

- In almost all the regions, the market stakeholders highlighted the need to enlarge spot markets through **day-ahead market coupling** and to allow closer to real time trading via **a continuous cross-border intra-day trading platform**. This was seen as an absolute priority in order to trigger genuine regional and inter-regional integration (Nordic, CWE, SW, FUI, Baltic, CEE). Feedback from these regional meetings also suggests that this can be done through the creation of an embryonic European market, which begins with the interlinkage of the Nordic and the CWE markets, and then expands as neighbouring regions gradually link up to it (i.e. oil-spread model)
- **Member State involvement** was regarded as essential to initiate and successfully lead market integration projects (Ministerial meetings in the Nordic, PLEF in the CWE). Political commitment is crucial in order to launch projects such as day-ahead market coupling and cross-border intra-day trading platforms, therefore contributing to the effective implementation of the congestion management guidelines across the EU. Greater awareness should also be raised about the positive contribution that integrated wholesale markets make to the deployment of a large capacity of new intermittent generation. This will promote a more trusting attitude and better understanding amongst Member States of the merits of market integration. This may prevent them from taking measures that might hinder this process (regulating electricity prices below market prices, moving from marginal pricing to a pay-as-bid system, introducing export fees, etc).
- The introduction of **an auction office in every region** is seen as a positive step to streamline and facilitate trading procedures, reduce transaction costs and enhance cross-border trade. To make this measure most effective, it is crucial that auction offices are set up in a consistent manner and are able to follow the same rules and procedures. In this respect, the CASC operation on the French-Italian border is regarded to be a valuable experience which should be extended. This will be all the more important as regional auction offices are likely to take on more responsibilities in the future, with the prospect of developing common mechanisms for system operation at regional level (see Article 6 of the Directive).

- Theories on **flow-based allocation mechanisms** suggest that this is the most efficient way to maximise cross-border available capacity, in particular in cases of frequently congested systems where there are limited grid expansion prospects in the short term/medium term. Whilst this is a sound theory, several simulations running in parallel in the CWE and CEE markets revealed substantial flaws in their functioning, (high volatility, advance flows, decrease of capacity). Much more work is needed therefore to demonstrate that flow-based allocation can deliver accrued and proven benefits in practice. Tying-in flow-based allocation with market coupling has resulted in a severe delay in implementing market coupling solution projects (CWE, CEE) and loss of social welfare.
- EURELECTRIC regional meetings also demonstrated that **cooperation amongst regulators** is a key enabler for the smooth development of a region and that where they can work together and speak with one voice, quicker progress is achieved. Likewise, it was felt that greater synergy could be built between Members States' projects and regulators' initiatives since in the cases where both of these exist, they are currently insufficiently linked. Equally important is the need to envisage a remedy mechanism in the cases where regulators fail to agree and the regional process stalls.
- Development in the regions also showed the importance of bottom-up initiatives and the role played by **TSOs** and **Power Exchanges (PX)** in forging good **cooperation** and driving forward integration projects. In a number of cases, the difficulties TSOs and PXs have encountered in coming to an agreement both amongst themselves and with each other have caused delays. As already raised above in relation to regulators, this stresses the need to develop mediation solutions involving relevant TSOs and PXs in order to prevent the whole regional market integration process from stalling.
- Experience in the regions also suggests that participation of **market stakeholders** in most cases was limited to ex-post information meetings which offered little opportunity to contribute effectively. It is essential that progress towards building an integrated pan-European market is driven by market needs and that greater attention is paid to extensively involving market stakeholders early in the process. Arrangements developed by regulators, TSOs and PXs alone are not likely to provide efficient market-based solutions unless they allow active market stakeholder participation at an early stage. Consultation with market parties should –preferably but not exclusively - take place in an open dialogue stakeholder platform. Overall, a genuine culture of dialogue allowing frequent interaction between TSOs, regulators and PXs still needs to be developed. This is to be prioritised over excessive web-based consultations, which place heavy administrative burdens on market stakeholders as well as being far less interactive and therefore unlikely to contribute to building mutual understanding.

- The **foreseeable large scale introduction of RES** into the region raises new challenges, which can be seen equally as opportunities or risks. Regions are in a diverse position to cope with this new challenge as some have sufficient flexible generation –in particular hydro or gas-fired plants- to balance intermittent power whilst others do not. Progress in integrating wholesale markets and expanding the grid will pay a great contribution to the successful introduction of RES. Therefore, RES can be seen as a renewed opportunity for speeding up the development of regional wholesale market. However, it can also be regarded as a risk if no strategy both at European level and regional level is foreseen.

## Section 2 - The basics of a comprehensive EU market integration strategy

Chapter I pointed to the rather heterogeneous nature of the regional markets (ie. priorities, lead parties, progress made, engagement with market parties, etc) and the uneven levels of development. Although initiatives relating to regional markets have been needed and helpful, they have also had the unintended effect of widening the gap between less advanced and most advanced regions.

Therefore, this section will investigate the need for **greater coordination** and seek to outline elements of a leading **comprehensive EU market integration strategy**. To do so, specific attention will be paid to:

- forming a comprehensive and integrated strategy aimed at embracing all European countries<sup>11</sup> whilst paying due consideration to markets' diversity;
- focussing on a limited number of priorities conducive to market integration
- building on governments' commitments, market forces and best practices developed in the regions
- developing appropriate coordination tools and processes to drive market convergence
- adopting a pragmatic approach with respect to the regions by revisiting, where necessary, their boundaries and overlapping nature.

### 2.1 An EU market integration strategy: an inclusive process

Developments in the regions today (as acknowledged by the EURELECTRIC regional meetings) signal the importance of adopting a consistent overall supervisory process, rather than dictating solutions, which will help regions to develop in a coordinated manner on the basis of well-defined target models. Such a process will derive from a comprehensive EU strategy which embraces all regions (Baltic, Central-East Europe, Central-South, Central-West, Northern, South West and France-UK-Ireland) -irrespective of their size and state of advancement- and is based on the Third Energy Package's key provision on regional cooperation. The elaboration of such a strategy will therefore contribute to reducing the gap between fast moving and less advanced regions and outline the steps for a coherent market integration process.

Target models and regional roadmaps have an important role to play in ensuring overall convergence in regional market development but their practical implementation is foreseeable first of all in the regions where large and liquid wholesale markets already exist. We believe that a comprehensive EU market integration strategy should be an inclusive process which not only creates momentum in coupling day-ahead and intra-day markets but also pays specific attention to more recently liberalised markets.

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<sup>11</sup> This strategy should reflect the reality of electricity systems across Europe and thus embrace not only EU Member States but also essential non EU countries such as Norway and Switzerland.

Such a strategy should thus identify the steps and requirements needed to build a more liquid wholesale market underpinned by trustworthy reference prices, which will in turn facilitate application of the target models. In the first part of this report, we referred to these prerequisites for market integration as ‘**market fundamentals**’, which are summarised below<sup>12</sup>:

1. Legal framework
  - a. TSO independence – primarily separation of TSO as natural monopoly, is a regulated business) and generation/sales business
  - b. Independent regulator – no political short term influence
  - c. Formal and real market opening – to be in line with the 3<sup>rd</sup> Directive
  - d. Removal of subsidies to national companies, export/import limitations and any barrier to new entrants or restriction to trade
  - e. Legal obligation to cooperate and integrate markets at least at regional level
2. Regulatory framework
  - a. Removal of wholesale and retail price regulation
  - b. Removal of long term supply and capacity contracts
  - c. Transparent & non-discriminatory access to the network, regulated and fair network tariffs, participation to EU inter-TSO compensation mechanism
  - d. Same licensing procedures for all market participants (no discrimination)
  - e. Coordinated and market-based allocation of cross-border capacity (Congestion Management GGP)
3. Wholesale Market functioning
  - a. Different market places in place: bilateral/PX/OTC
  - b. Possibility to trade in various timeframes
    - i. Forward, Day-Ahead, Intra-day, Balancing
  - c. Harmonisation of market procedures
    - i. Gate closure
    - ii. Balancing horizon
    - iii. Price caps and floors (if any) at harmonised levels
  - d. Liquidity: possible to get it and out of the market. Drivers
    - i. Non-discriminatory market access
    - ii. Large number of participants,
    - iii. Low transaction costs and user friendly harmonised platforms
  - e. Variety of products allowing to hedge positions
  - f. Market transparency and market monitoring: EU standards
4. Retail Markets:
  - a. Free choice of supplier:
    - i. Supplier products transparent and easy to compare
    - ii. Simple and free of charge procedures to switch supplier
  - b. Retail prices result of supply/demand dynamics

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<sup>12</sup> Whilst this list is by no means exhaustive, it does incorporate the basic requirements for the development of well-functioning markets.

An EU market integration strategy should result in a fair balance being struck between the ‘top down’ and ‘bottom up’ approach and initiate a process where regions develop in a compatible and consistent manner. This process should not be over-prescriptive, nor should it result in the same market design being applied across the whole of Europe. Nevertheless, a comprehensive strategy should be drawn up, aiming to identify the features of a leading target model for all trade timeframes and sketching out the most essential harmonisation requirements. These should drive genuine convergence within and across regions. In light of this, the target model should still allow different trading arrangements and market design to co-exist across the EU, thereby preserving market diversity. The implementation of the target models through the roadmaps will progressively drive convergence within and across the regions so that ultimately, market designs will become closer to each other, whilst nevertheless retaining their individual characteristics.

There are however a number of requirements which need to be identical, especially in order to facilitate inter-regional integration. This is the case today for instance for the day-ahead price coupling governance model - namely the sharing of responsibilities between TSO and PX, - which caused delay and increased complexities in bringing regions together. Finding a solution for a price coupling model, based on a unique algorithm is of paramount importance to allow new regions to join in an easy and straightforward process. A similar approach may also be envisaged for intra-day market to streamline and accelerate regional and inter-regional developments in the EU.

## 2.2 Focusing on the right priorities

Whilst it is clear that well established structures are needed to ensure greater coordination between the regions, it is also essential that the process is driven by well defined objectives. The EURELECTRIC regional meetings demonstrated that in a number of cases, regions failed to make progress as a result of priorities being insufficiently market-focused. For this reason we believe that an EU-wide market integration strategy needs to take stock of the level of development in the regions and prompt further progress with a set of well-balanced measures (2010-2015)<sup>13</sup>:

- introduction of market coupling within and between the regions for all physical cross-border capacity on the basis of the above-mentioned governance model and following an implementation roadmap;
- introduction of implicit continuous allocation of intra-day capacity via the implementation of a continuous European cross-border intra-day platform;
- development of a ‘TSO-TSO with common merit order’ model to integrate cross-border balancing markets.

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<sup>13</sup> By and large, these goals have been taken up by the recently created Ad Hoc Advisory Group (AHAG). Particular care must now be taken to ensure that the momentum gained within Project Coordination Group (PCG) is not lost and that the AHAG **implementation projects**, (day-ahead, intra-day and capacity calculation) do actually materialise. In the meantime, although balancing markets were not retained as a priority project, progress on balancing markets through the implementation of the pilot projects, in line with the balancing target model, should be encouraged.



## 2.3 Regional markets

Market integration should first take place at the regional level as this is where market issues can be best handled and steered. We believe that Member States should play a leading role in building integrated regional markets and system operation. This cooperation should be sealed via detailed and pragmatic MoUs and involve regular Ministerial meetings.

Article 6 of the Electricity Directive<sup>14</sup> (Third Energy Package) mandates Member States to *'cooperate with each other for the purpose of integrating their national markets at one or more regional levels, as a first step towards the creation of a fully liberalised internal market'*. Furthermore, the region is also the place where talent, expertise and skills are gathered, which will contribute to the development of innovative or iterative solutions through pilot projects. Likewise, these projects may also lead to building best practices (eg. intraday continuous trading platform in the Nordic) and also yielding discussions on an inter-regional level through a trial-and-error process (eg. volume market coupling between CWE and Nordic). This will allow regions to develop following the oil-spread model; that is to say, through the step-by-step expansion or replication of successful pilot projects, starting with a core market and expanding to a pan-European scale.

The regional cooperation as laid down in Article 6 should, in our view, be an open process involving all stakeholders, where Member States set the market integration agenda, regulators facilitate and coordinate the process, TSOs and PXs implement adequate solutions and market parties give advice and are kept regularly informed. In such a case, it is important that regulators, TSOs and PXs are able to put in place appropriate regional internal structures to facilitate discussions and ultimately take coordinated action at regional level.

As pointed out in the first Chapter of this report, the entire strategy cannot be left to the regions alone, otherwise regions may run the risk of developing in different directions and speeds, thus endangering the ultimate goal of achieving a pan-European market. Experience of the Nordic and CWE regions also suggest that even if they are well equipped, there are still limits to regions' ability to handle inter-regional aspects. This topic, raised in the ETSO-EUROPEX Report and further developed throughout 2009 within the Project Coordination Group (PCG), has helped to identify tools which can enhance inter-regional coordination.

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<sup>14</sup> Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the Internal Market in Electricity, OJEU L 211 on 14/08/2009.

## 2.4 Coordination

EURELECTRIC is of the view that a top-down strategy is needed to ensure that regional markets eventually converge. We believe that there should not only be a high-level vision of how to achieve a single energy market, but also a concrete roadmap implementing the target models in order to give the regions direction.

### 2.4.1 Coordination tools: target models and roadmaps

These target models should encompass all trade timeframes (forward, day-ahead, intra-day, balancing) and capacity calculations, since the two issues are closely related.

They should be derived from an assessment of regional market design best practices. When a consensus view has been reached, **target models** should be used without delay to foster convergence across the EU. As progress is achieved on the ground, the target models may have to be updated accordingly to reflect the experience of the regions. Also, it could be possible to adapt the target model to the specific needs of a region, provided that an adequate level of harmonisation is ensured. The **roadmap** should be based on a realistic view reflecting a possible path towards each target model, in which the most advanced regions are the first to join together and are joined by less developed regions in a later phase.

What coordination should be:

- a vehicle to foster convergence and consistency across regions
- a tool to find innovative solutions to interregional bottlenecks
- a way to enhance bottom-up initiatives and facilitate their progressive integration
- an inclusive stakeholder process to accelerate and facilitate market integration

What coordination should not be:

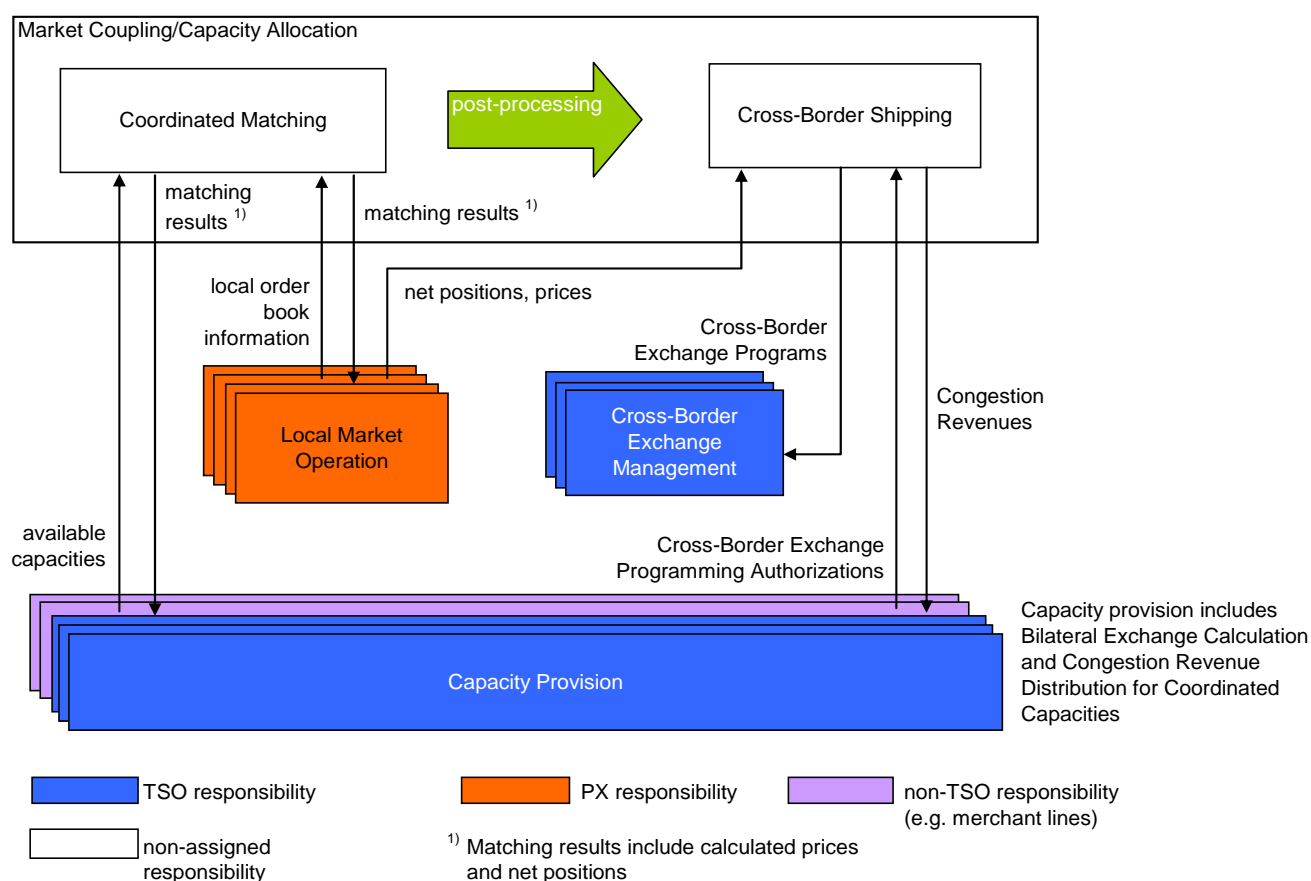
- a straight jacket leading to implementation of a one-size-fits-all model across the EU
- a delaying factor slowing down ongoing initiatives and complicating the integration process

A significant amount of work has been done in 2009 to reach a consensus amongst all PCG stakeholders on a target model for forward, day-ahead, intra-day, balancing markets and the development of a grid model. The PCG work has been broadly acknowledged at the 17<sup>th</sup> Florence Forum and its continuation through the establishment of the Ad Hoc Advisory Group (AHAG) should be regarded as an integral part of an EU-wide market integration strategy. The baselines of these target models are set out in the pages that follow.

## Target Model for a Day-Ahead Market

- The target model for the day-ahead capacity allocation and congestion management by 2015 is single price coupling
- The requirements for single price coupling include
  - Use of a single pricing algorithm
  - Harmonized gate closure times
  - Sharing of all bid data between PEXs
  - Compatible bids/products
- The day-ahead market establishes a reference price for transmission rights with financial settlement and financial contracts

Further work is now carried out in AHAG in order to reach an agreement on a governance model that will clearly elaborate on the functions and responsibilities of PXs and TSOs, in particular with respect to the coordinated matching function (see below table). In order to facilitate the involvement of market parties, EURELECTRIC takes the view that a permanent function via an advisory board or similar should be envisaged.

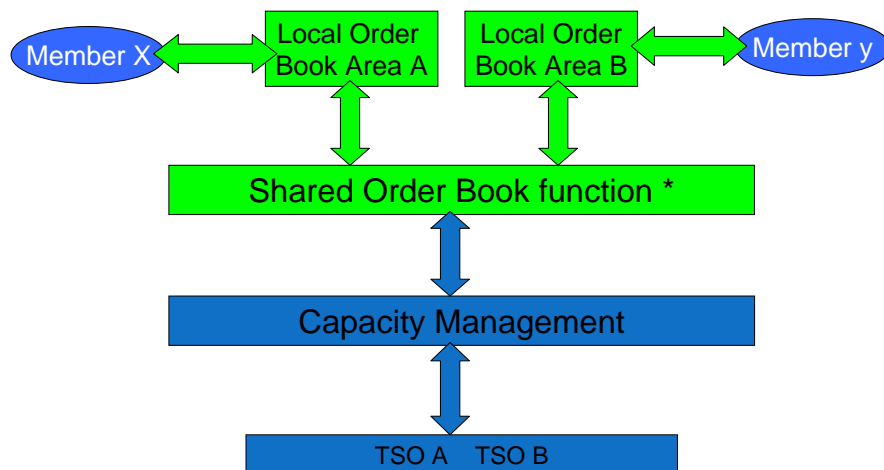


**Source:** PCG Slide (17<sup>th</sup> Florence Forum, 10 & 11 December 2009)

## Target Model for an Intraday market

- The target model for Inter-Regional Cross-Border capacity allocation in the intraday (ID) timeframe is **implicit continuous allocation (continuous trading)**
- Where appropriate, specific National/Regional ID trading solutions may be developed
- A specific National/Regional ID trading solution is not obligatory. An Inter-Regional Target Model mechanism can be used as the National/Regional solution
- Any specific National/Regional ID trading solution must be compatible with the Inter-Regional Target Model

## Target Model for Inter-Regional XB Intraday capacity allocation



\* Role of the shared Order Book function is to make Bids in Local order book A available in Local order book B, subject to the availability of cross-border capacity

## Roadmap

	Description	2010	2011	2012	2013	2014	2015
Stage 1	Common principles + compatibility Requirements for ID trading						
Stage 2	Centralized capacity management and shared order book function						
Stage 3	ID National/Regional development*						
Stage 4	Stepwise implementation of TM						
End	EU wide trade (target model)						

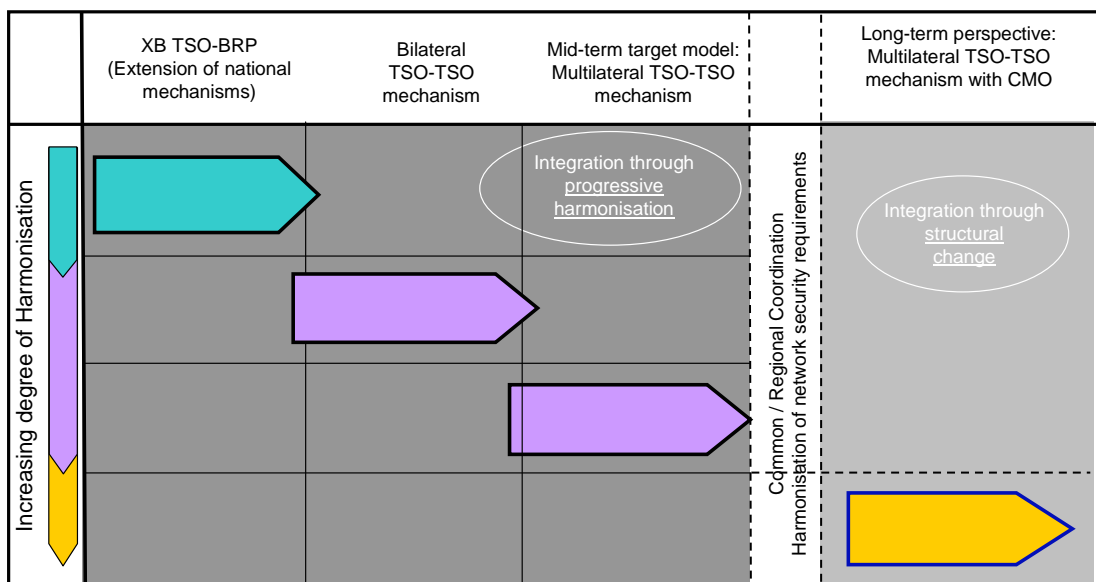
\*new development or copy/paste

**Source:** PCG Slide (17<sup>th</sup> Florence Forum, 10 & 11 December 2009)

## Target Model for a Balancing market

- Focus is manually activated reserves
- Full harmonisation of balancing markets is not a prerequisite for cross-border balancing
- Pragmatic approach is important
- Major steps:
  - Pilot projects
  - Harmonisation of gate closures and technical characteristics (+ roles and responsibilities of all major parties)
  - Introduction of cross-border intraday gives support
  - Case by case (in a feasible “area”) development of multiple TSO cooperation (ending in coordinated system operation)

## Proposed Roadmap for the Cross-Border Integration of Electricity Balancing Markets



Legend: XB = cross-border  
BRP = Balance Responsible Party  
CMO = Common Merit Order

Source: PCG Slide (17<sup>th</sup> Florence Forum, 10 & 11 December 2009)

## **Target Model for a Forward market**

- TSOs shall sell 100% of forecast available capacity forward in line with forward energy market horizons
- TSOs shall sell transmission as **Financial Transmission Rights (FTRs)** or as **Physical Transmission Rights (PTRs)** with **Use-it-or-Sell It (UIOSI)** provisions
- TSOs can sell rights between bidding areas or between a reference system area and a bidding area
- TSOs should sell PTRs options and FTRs either as options or obligations (eg, CfDs)
  
- **Financial firmness** of capacity rights is essential for efficient secondary markets
- Compensation for capacity curtailment needs to be market-linked, predictable and standardized
- A standardized European definition of force majeure is required
- The costs of guaranteeing firmness should be met from TSOs revenues (with appropriate incentives)
  
- **Implementation across Europe as soon as possible and by 2015 at the latest**
  - Implementation of UIOSI principle where PTRs are in place
  - Implementation of FTRs issued by the TSOs
  
- Key criteria for successful implementation
  - Forward sale of all capacity
  - Reliable and robust day ahead spot market prices

## **Target Model for a Capacity Calculation market**

### **Objectives:**

- Developing harmonised coordinated capacity calculation methodologies amongst European TSOs.
- Establishing harmonised standards for necessary information and information exchange amongst TSOs, generators and traders.

Providing the maximum possible capacities to the market for each time horizon by respecting TSOs security standards

### **Target Model:**

- Target Model is aimed at elaborating a common grid model moving towards day-ahead and intraday flow based capacity determination, subject to proven benefits

### **Establishment of a European-wide common grid model (EU-CGM), consisting of the same level of information, implies:**

- Coordinated RM (reliability assessment) based on the EU-CGM
- Coordinated security analysis (capacity assessment) based on the EU-CGM
- Coordinated curative redispatch measures based on a EU-CGM to ensure firmness
- Transparent calculation methodologies and results to be made public

### **Design:**

- Design of a Common Grid Model (CGM)
- Coordinated capacity assessment and/or flow-based allocation
- Regional application of coordinated capacity assessment and/or flow-based allocation
- Interregional application of coordinated capacity assessment and/or flow-based allocation

### **A project to be led by ENTSO-E is needed to undertake the design and the ensuing implementation**

- Transparency needed for the capacity calculation process
- To ensure transparency towards market stakeholders in the project and to guarantee that regulatory and market requirements are adequately considered under the condition of safeguarding security of supply

## **2.4.2 Coordination: the role of a supervisory and advisory body**

It is essential that an appropriate body is put in place with the task of overseeing and supervising the different implementation steps and advising on the appropriateness of each step. Where necessary, this body may have to review or update the roadmap if developments are faster or slower than initially planned. However, coordination should not be seen as a one-directional process but rather as an interactive interplay between the regions and a more central supervisory function. Regions should be invited to submit an action plan based on target models and test their ideas through a continued dialogue with this supervisory body which should advise the regions rather than setting their priorities on their behalf. PCG discussions in Q4 of 2009 showed the benefits of engaging in a constructive dialogue with the regions and building closer ties.

Under the current structure put in place by the 17<sup>th</sup> Florence Forum, coordination is mostly performed by the ERGEG Ad Hoc Advisory Group, an open stakeholders' platform bringing together representatives from the European Commission, the regulators, TSOs, power exchanges, traders, large industrial customers and electricity companies. The broad work scope of AHAG focuses on the implementation of the 3 concrete projects (day-ahead, intra-day and capacity calculation) in parallel with the elaboration of framework guidelines and network codes. We believe that such a structure should be maintained and further developed when ACER becomes operational.

The implementation projects are designed as a tool to drive concrete developments in the regions. However, a genuine process of coordination requires not only practical tools but also frequent interactions and reporting between the regions and AHAG/ACER. The involvement of the European Commission in AHAG and its leading role on specific concrete projects is to be welcomed but a more extensive coordination process should also accord a stronger role to the European Commission.

## **2.5 Definition of a region: the need for a pragmatic approach**

Whilst some regions have natural boundaries and can therefore be easily defined (Nordic, Iberia, UK-Ireland), it might be more difficult for other countries located in continental Europe to cut out distinctive regions. The need to come up with a proper delineation of regions prompted controversy in the first discussions held on the Commission's strategy paper back in 2002-2003 and also after this, when the ERGEG regional electricity initiatives were launched.

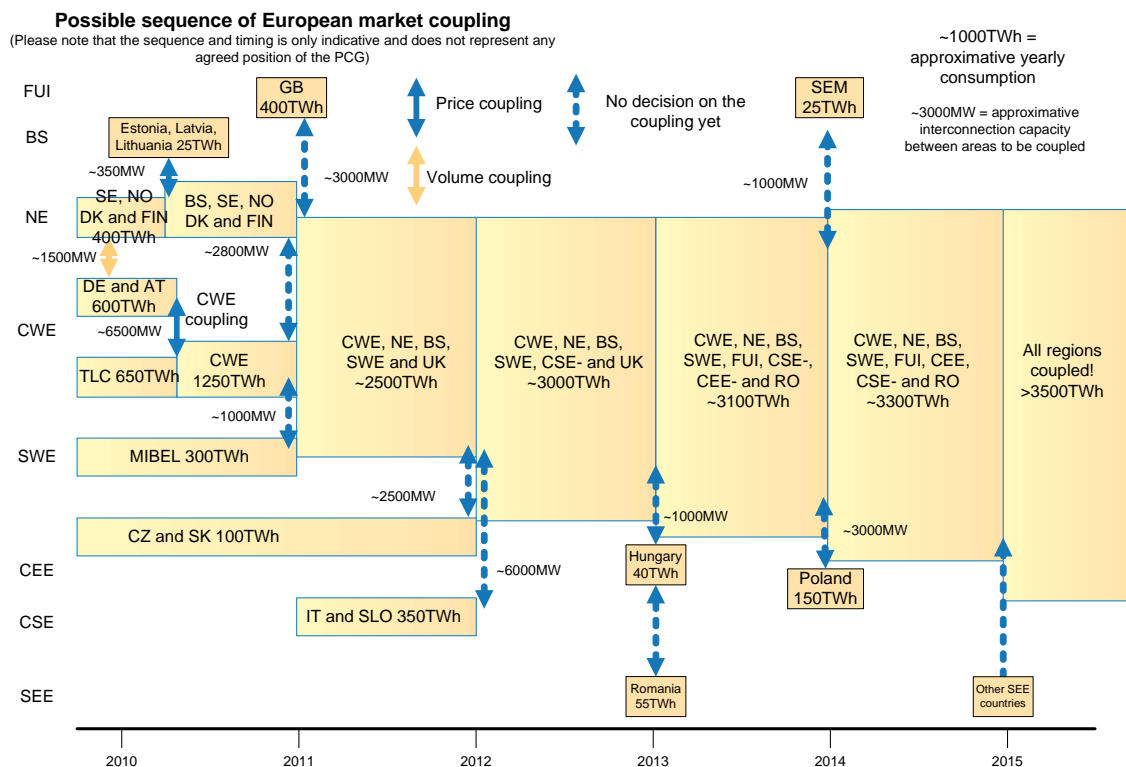
Initially, the decision to choose overlapping regions could be seen as good compromise as it allowed neighbouring countries to be fully involved in regional processes. Experience over the years, however, shows that because of it, disproportionate quantities of resources have been consumed. This has created difficulties for countries simultaneously engaged in several regions when prioritising a project in one region over one in another (as often occurs for overlapping market coupling projects in CWE, SWE, FUI, CSE).



Generally, a fundamental flaw of the regional concept could be seen as the failure to differentiate between a core group of countries and a second range of peripheral countries linking to other regions. Experience to date demonstrates that it might be better to define regions in the narrow sense as a core group of countries where there is no overlap with other regions. This is based on the assumption that even if countries are relevant to other regions, they have a primary link to a specific region which they 'naturally' belong to (according to their history, technical and political cooperation and trade patterns). However, coordination needs to be properly tackled and in instances where it is both necessary and useful, neighbouring countries should be closely associated.

However PCG discussions on the day-ahead market coupling roadmap also raised the need to take a pragmatic and realistic approach to regions and be able to depart from traditional definitions, where this could facilitate the process.

### PCG day-ahead market coupling roadmap



Source: PCG Slide (17<sup>th</sup> Florence Forum, 10 & 11 December 2009)



## **CHAPTER III: Concluding remarks: sowing the seeds of regional cooperation**

Whilst Article 6 of the Electricity Directive enshrines regional markets as the cornerstone of an EU strategy towards a pan-European market, this key provision also stresses the need to establish genuine cooperation between the institutions and stakeholders in the region. Governments, regulators, TSOs, PXs and market stakeholders, with the assistance of the European Commission are expected to work hand in hand towards regional integration. This concluding section will examine the role and responsibilities of these actors and outline how they interrelate.

### **3.1 Role of Member States**

As raised in different parts of this report, in order to reinvigorate regional integration and live up to the challenges of large scale RES introduction, it is essential that Member States take a more active role. They need to define the basis of a regional cooperation and set priorities with the primary aim of fostering wholesale markets. Experience in the regions has shown that there are two main vehicles for such cooperation: a detailed and well-focused Memorandum of Understanding and regular Ministerial meetings. The report also stresses that once this is in place, greater attention must be paid to regions developing in a compatible manner by progressing towards target models. This can be achieved through a continued dialogue with AHAG and ERGEG/ACER. Furthermore, Member States' participation in the AHAG is to be welcomed and could be facilitated through the participation of the EU Presidency.

### **3.2 Role of the European Commission**

The Third Energy Package has entrusted the European Commission with the task of leading market integration strategy (defining priorities, initiating actions and processes, binding guidelines pursuant to Article 18 of the cross-border Regulation, sending Network Codes to comitology, etc). To do so, the European Commission is extensively but not exclusively assisted by ERGEG/ACER, ENTSO-E and market parties through the AHAG. In the run-up to the implementation of the Package, it is important that the European Commission defines a more comprehensive market integration strategy. By improving contact with the Member States it can promote greater awareness of and political support for the objective of Article 6. To this end, it would be advisable that the Commission allocates sufficient resources to regional markets, maintains a strong presence and lead in the AHAG and provides a regular report to the EU Council of Ministers on regional market strategy and state of progress.

### **3.3 Role of the regulators (ERGEG/ACER)**

The involvement and commitment of regulators is key to the successful development of consistent regional markets. Cooperation through the ERI regional structures (and as of 2011 through ACER) should be strengthened in order to develop a common regulatory policy within the region. It is also vital that the ERI engages more closely with Member States' initiatives and further facilitates the regional market integration process.

Regulators also have a vital role in ensuring consistency between the regions, in line with the roadmaps and the target models. Interactive dialogue between ERGEG and AHAG is also indispensable in this process.

### **3.4 Role of the TSOs (ENTSO-E)**

The Third Energy Package has attributed greater responsibilities to TSOs, acknowledging their pivotal role in facilitating the market and in implementing concrete projects in the region. TSOs' lead in AHAG concrete implementation projects also signals their commitment to drive forward market integration. Cooperation between TSOs within – and in particular across the regions – should be reinforced and wherever needed, facilitated by the European Commission through AHAG. Likewise, cooperation between TSOs and PXs also needs to be strengthened in order to implement models which facilitate cross-regional integration. The clarification of the role and responsibilities of TSOs and PXs with respect to the central matching function for the day-ahead governance model should help implement price coupling across the CWE-Nordic region and allow neighbouring countries and regions to join in a later stage.

### **3.5 Role of PXs**

PXs have demonstrated that they can be key players in developing suitable market coupling models. To help foster greater integration, it is important that PXs put in place solutions which comply with the market's needs and establish a robust and reliable cooperation with the TSOs. Even greater cooperation is needed between PXs so as to prevent competing initiatives from emerging and commercial strategies from prevailing over market facilitation and social welfare. Transparency regarding core projects (such as PCR) and engagement with market stakeholders also needs to be improved.

### **3.6 Role of Market stakeholders**

The Third Energy Package has established the principle of early and extensive consultation with market stakeholders, which has helped to raise awareness of the role of market stakeholders in market design issues. The creation of the PCG (recently taken over by AHAG) is a significant step forward, with the establishment of a platform where market stakeholders can fully participate in the discussion on regional/European market integration. It is now important that a similar culture of dialogue is replicated in the regions themselves, where the potential benefits of involving market stakeholders are far from being fully exploited. Equally important is the establishment under ENTSO-E of grid users' groups, (as is already the case in most TSOs). Moreover, any day-ahead governance model should also ensure continual follow-up with market stakeholders through an advisory board (as is the case today in a number of PXs).