

From Regional Markets to a Single European Market

Final Report

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Executive Summary

everis and Mercados Energy Markets International (Mercados EMI) have been retained by the European Commission – Directorate-General Transport and Energy (DG-TREN) to conduct a “Peer Review” of the Regional Initiatives (RIs) and to assess the way in which they can contribute to the establishment of a single EU gas and electricity market.

The RIs were set up in 2006 as an interim step in moving from national electricity and gas markets to a single internal market. The RIs process was designed to work as a bottom-up approach that could identify regulatory gaps and practical solutions in the different Regions. At the same time the underlying EU-wide industry legislation and the coordinating role of European Regulators' Group for Electricity and Gas (ERGEG) was expected to provide appropriate high-level guidance to the RIs, which would ensure the Regions would progress in a consistent manner. Seven Regions for the Electricity Regional Initiative (ERI) and three Regions for the Gas Regional Initiative (GRI) were set up.

Strengths and Weaknesses of the RIs

Our analysis has identified various strengths of the RIs process.

The RIs process has been beneficial in creating a forum for participants in neighbouring countries to discuss common issues. It has also encouraged a culture of cooperation and dialogue amongst different parties that have traditionally not been used to working together by providing a common face-to-face forum. Moreover, the smaller size of the groups has enabled extensive interaction between stakeholders and not just European-wide organisations.

A regional approach reflects the reality of energy market integration as in many cases it is clear that the most appropriate geographical scope of an issue is neither bilateral in nature, nor European wide. Moreover, allowing Regions to move at different speeds has provided them with more room to set their own agenda, bearing in mind the different starting points, and current regional needs.

Another fundamental advantage of the RIs approach is that it allows pilot testing, whereby solutions can be tested in one Region before being implemented elsewhere with results compared between Regions. For a range of issues there has been and there still is no “blueprint” and the experience of learning by doing is fundamental for subsequent market development. For example, problems in the volume coupling between the Danish and German electricity markets may have helped in creating consensus towards the benefits.

However, various governance and administrative factors have restricted the ability of the RIs to perform the intended “Bottom-up” role most effectively.

Policy guidance is particularly important at the start of any process. However, in practice, little policy guidance has been given to the RIs over and above the overall goal

of establishing effective regional markets. The lack of clear terms of reference provided to the RIs has been compounded by other factors including a lack of specificity in some of the legislation and the limited progress of ERGEG in pushing through secondary measures that could have provided clear policy guidance in the absence of a strong legislative framework.

An additional problem is that the role of National Governments is largely undefined in the RIs process. The only role envisaged for Governments has been as a participant in the Stakeholder Group meetings. However, it is unlikely that participation in Stakeholder Group meetings is the most efficient format for Government input. In general, the role of Governments is to set policy and, at the implementation stage, to change primary legislation.

As the RIs have been voluntary bodies, strong reliance has been placed on national legislation to facilitate progress. However, progress has also been restricted by National Regulatory Authorities (NRAs) having varying powers. The lack of regulatory tools with which to facilitate or require progress, even at a national level has several implications. First, NRAs may be reluctant to participate in discussions on issues where they have no power to act. Second, regional implementation of a policy decision may be less efficient where all NRAs within a Region are expected to implement a similar approach to an issue but limited regulatory powers impede the introduction of that approach in one or more Member States. Third, and as a consequence of the other two implications, the overall progress of different Regions may become a function of the respective regulatory powers within the Regions. However, a lack of cross-border powers does not necessarily preclude a group of regulators acting together to implement a common approach to an issue. For example, the Trilateral Market Coupling (TLC) was ultimately implemented following agreement by the Dutch, Belgian and French regulators to introduce common regulatory arrangements affecting cross-border trade.

A further problem has been the geographical structure of the regions. The electricity regional boundaries were developed with the aim of incorporating one key congested border in each Region. While the work of the Regions has concentrated on issues within their defined regional borders, the most relevant cross-border issues do not necessarily correspond to these boundaries: some Regions focus largely on issues that are bilateral in nature, for example, between Britain-France or Spain-France; and some important regional developments are not covered by a single Region, as currently defined, for example, the development of gas transport capacity between Britain and the Netherlands.

Various administrative and project management problems are also evident. First, for the Regions as a whole, the number of meetings appears to have dropped off during 2009 suggesting a possible lack of interest in the RIs vehicle and/or participants waiting for the implementation of the 3rd Energy Package. Second, many stakeholders argue that they are consulted too late for their input to be taken into account. Third, Regional Action Plans are often not met, and finally not all RIs have strong leadership.

Opportunities arising through the 3rd Legislative Package on Energy

The 3rd Package will create some new institutions and regulatory instruments that can provide greater overall guidance to the development of a European-wide energy market, namely: the creation of ACER as a body promoting regional cooperation among NRAs, and the development of European-wide network codes. Moreover, the 3rd Package also requires a more uniform approach to the powers of NRAs, including strengthening their powers on interconnection issues.

There is a growing general perception that many of the governance problems facing the RIs may be alleviated through the various mechanisms introduced through the 3rd Package. Potentially ACER can provide an institutional layer between the legislation and the Regions, while the development of network codes can act as the necessary policy guidance that has been lacking to date. However, there may be limits as to what ACER can achieve, particularly in the short to medium-term. On one hand ACER will be an advisory body that cannot set policy, while on the other hand, ACER will only become operational in March 2011 and it may not be until 2014 when all the Network Codes are adopted. This timeframe creates a serious risk of a policy vacuum opening in the intervening period. The potential for little, if any, progress over the forthcoming four or five years is a serious problem that itself can delay market integration by a similar length of time. Moreover, parallel developments occurring in this period, especially in the electricity sector, may not benefit from the guidance of a reference model and may proceed in ways which could hamper EU-wide integration at a later stage.

While the 3rd Package provides the possibility, if not the certainty, that specific policy guidance can be provided to the Regions, it does not fully address all other weaknesses of the RIs process. The 3rd Package provides for some harmonisation of regulatory powers and increased powers for NRAs. However, the incentives for NRAs to take relevant coordinated cross-border decisions may be restricted without an appropriate political support and a greater involvement of national governments in the market development process. In this regard, the role of National Governments is largely unchanged under the 3rd Package. Their key role is providing input to the Codes at the Comitology stage, which may be too late to make any real impact.

Recommendations

1. Convening of a Regional Governmental Committee of the relevant Member States

The most appropriate format for the involvement of Government is at a higher level than the current RIs institutional structures. Although good examples of high level involvement can be identified in some Regions, like the S GRI where Ministries and DG-TREN representatives have participated in high level meetings, RCC, IG and SG without a need of complex arrangements, this has not been the case for the majority of Regions. To achieve the desired aims, a devoted forum for policy discussion should be established to complement the RCC, IG and SG. The successful examples of some existing initiatives, like the Ministerial Meetings of the NW GRI and the PLEF have been structured along these lines. Therefore, we recommend that this model is extended

across all the RIs and that a Governmental Committee of the relevant Member States of each Region is established. This Committee will meet in advance of the RCC to discuss the broader strategic and political issues, including political issues associated with RIs agenda topics, and provide recommendations to the RCC.

The European Commission is best placed to coordinate the work of the Governmental Committee, in various respects, including: coordinating the broader policy dimension of Government decisions; promoting active participation and commitment of Member State representatives in the Governmental Committee; endorsing regional action plans; and following-up on progress within the Regions.

2. Providing Greater Policy Guidance to the RIs

Issues of European wide concern, and for which a harmonised approach across regions is required should be subject to greater Top-down guidance. Congestion management, transparency and balancing in electricity are examples of topics that require Top-down guidance. However, there are many other issues for which a Bottom-up approach may still be justified, including the promotion of investment in cross-border infrastructure, balancing in the gas sector and off-shore wind generation.

The form of policy guidance on issues requiring a European-wide approach will depend on how advanced debate is on an issue.

For issues, in which a common vision exists, for example, Congestion Management in electricity, a sufficiently detailed reference model needs to be urgently endorsed. The Regions should focus in implementing and adapting the reference model to their regional specificities. Both ERGEG and NRAs (even before the establishment of ACER), with the European Commission supervision, should ensure that no project proceeds in ways that is incompatible with this model.

For issues where there is at present no consensus, a vision needs to be developed. Developing a vision requires the identification of the main issues to be addressed and providing minimum requirements according to the best solution identified. This task could be performed by Governments under the coordinating leadership of the European Commission, supported by NRAs and the RIs. For these issues the Regions will work in pilot testing projects and, subsequently, in implementing the defined model.

Where a Bottom-up approach is appropriate, policy guidance will be required. However, due to the importance of local specificities the development of policy guidance can be left to the relevant Governmental Committee.

3. Redefinition of the Regions

If the geographical structure of the ERI were to be defined anew, it would probably be sensible to have non-overlapping zones and reflect the areas where market integration is more advanced. The Regions would in this case promote deeper market integration within their borders and then cooperate towards inter-regional integration, at which point the ERI regions could merge.

However, we do not think that fundamentally restructuring the geography of the regions at this stage will necessarily deliver benefits. Instead, we propose that parallel structures are established for different issues:

- For issues where a Bottom-up approach is recommended (for example, incentives for efficient investment in cross-border transport infrastructure, balancing in the gas sector and wind integration) the current structure could be maintained; while
- For issues where a Top-down approach is recommended, the different regions should merge as soon as their respective regional markets integrate. For example, if the “price coupling of regions” between MIBEL, TLC and NordPool proceeds, it may be sensible to couple the SW, CW and N ERI Regions.

4. Project Management and Stakeholder Involvement

ERGEG should develop Good Practice Guidelines for the enhanced consultation of stakeholders and project management. The Guidelines would build on Best Practices in particular Regions and include various aspects that can be introduced in a common manner across all RIs. The Guidelines should include key features of the Regional Action Plan and systems of reporting against these Action Plans; actions to improve the effectiveness of meetings, and actions to be taken to facilitate the supervising role of Governmental Committee.

All these tasks could be developed by the Lead Regulator of each Region if the foreseen burden is small. For the bigger Regions, a Programme Office to deal with the daily project management could be established, as developed by the NW GRI Region. In that case one person acts as Programme Manager. This option involves agreeing some form of budget for the cost of running the Programme Office in order to share the costs fairly among NRAs.

Implementation Roadmap

The key recommendations should all be implemented as soon as is practical. However, the time required to implement these changes depends on various factors, including: the lead time necessary to take the necessary decisions and implement the agreed outcomes, the risk of backtracking and the priority of the issue, whereby the necessity for urgent progress in some issues is extremely critical, while others either have to be undertaken sequentially or have a lower priority.

1. Roadmap for Governance issues

The most critical component of the Governance recommendations is the formation of a Governmental Committee. Given the pivotal role that the Governmental Committees will have in providing policy guidance to the RIs we recommend that the European Commission takes the necessary steps to convene these groups as soon as is practically possible. Each Governmental Committee should be based on a Memorandum of

Understanding between Ministers, the draft of which can be developed by the European Commission.

Changes to the geographical structures of the RIs should wait until the formation of the Governmental Committees for two key reasons. First, the input of Governments will be important in any review of regional structures. Second, changes to the regional structure of the RIs will be most needed as progress is made towards a single market, which may require that other more pressing aspects are introduced first.

The proposed changes to Project Management processes are largely independent of the formation of a Governmental Committee. Therefore, we recommend that ERGEG starts work on developing Best Practice Guidelines at the earliest possible opportunity. However, the publication of these Guidelines may have to wait until the Governmental Committee is formed as the working relationships between the Governmental Committee and the RCC may have flow-on impacts on how the RCC interacts with the IG and the SG.

2. Roadmap for Electricity

The most urgent issues in the electricity sector are the development of reference models for Congestion Management, Transparency and Balancing.

Due to the risk of diverging developments, the definition of a reference model for Congestion Management, and in particular the development of a Model for long term, day-ahead and intra-day capacity allocation, cannot wait until the formation of ACER. Our recommendation on the urgent development of a reference model is consistent with the conclusions of the Florence Forum of December 2009, including the decision to establish an Ad Hoc Advisory Group (AHAG) of Stakeholders to continue the work of the PCG in the areas of capacity calculation, intra-day trade, and the governance framework for day-ahead market coupling.

Ensuring the full implementation of transparency requirements is also critical to provide market credibility and confidence. The development of legally binding guidelines on transparency being prepared by ERGEG can act as a reference model, with these guidelines expected to obtain legal force during 2011 after they are passed through Comitology. A process to ensure compliance with the requirements of the guidelines, once approved, should be developed by ERGEG, which can be introduced in each of the ERIs.

Balancing would largely benefit from the development of congestion management solutions. In fact volumes activated on balancing markets could be a residual feature of volumes in intra-day markets, if the latter work correctly. Hence, this issue could be dealt at a later stage, once significant progress has been achieved in other areas of congestion management. Investment in trans-European infrastructure is also an urgent issue, but in this case a vision still needs to be developed.

For other areas, including ITC and Tarification, the need to develop a reference model, while important, has less urgency.

3. Roadmap for Gas

The most urgent issue in gas is Congestion Management, and in particular the efficient use of existing capacity (including the release of unused capacity). This issue should be tackled through Capacity Allocation Mechanisms and Congestion Management Procedures, which have to be, where possible, harmonised at a European level and be market based. The current work of ERGEG in developing proposals for modifying the annexed guidelines to the Regulation 1775/2005 will provide important Top-down guidance for the Regions. However, given the different level of congestion at the various interconnection points (IPs), there will be an ongoing need for flexible or ad-hoc approaches that can be developed by the Regions.

As in the case of electricity, issuing and implementing legally binding rules for transparency is critical to provide market credibility and confidence. This work is being progressed through the transparency guidelines being developed by ERGEG that the Commission intends to pass through Comitology in late 2010.

At a second level of priority are the issues of investment in trans-European infrastructure and tariffs including the ITC mechanism. ENTSO-G has already started work on investment in trans-European infrastructure by publishing the first Ten Year Network Development Plan (TYNDP) for gas transmission systems. The TYNDP provides the first pan European view of supply, demand and capacity development from the perspective of European TSOs and aims to establish a long term vision of the European gas transmission networks. The adoption of a Top-down approach for transmission tariffs (including ITC) over the European transport networks requires further study before a consensus is reached and an agreed model can be implemented.

The timing for progress on hubs development is to a large extent dependent on progress achieved on the above mentioned issues. However, some development can be promoted by the introduction of standard trading contracts and standard traded products, which could be harmonised in accordance to the guidelines being developed by the European Federation of Energy Traders (EFET).

1. Introduction

1.1. Background and Objective of the Study

everis and Mercados Energy Markets International (Mercados EMI) have been retained by the European Commission – Directorate-General Transport and Energy (DG-TREN) to conduct a “Peer Review” of the Regional Initiatives (RIs) and to assess the way in which they can contribute to the establishment of a single EU gas and electricity market.

Below we detail the objectives of the study¹. The table also indicates the section of the Report where the corresponding results are presented.

Figure 1. Objectives of the Study and structure of the Report

	Objective/Output	Section of the report
1	Identify on which issues the Regional Initiatives are working on or plan to work on in the near future.	Section 3
2	Identify whether under the issues that came up there are already different approaches emerging or implemented (differences not only from one Region to another, but also within various member of one Region).	Section 3
3	Analyse whether any differences encountered or identified under (2) can interfere with the establishment of the internal energy market.	Section 3/Section 4
4	Analyse the issues where an identical, if not similar, approach between Member States or Regions is necessary in order to create in competitive EU gas and electricity market. Also analyse and put forward the issues where a bottom-up approach can be valuable.	Section 3/Section 4
5	Put forward a roadmap with precise methodology, structure, timetable, decision making criteria and responsibilities of stakeholders involved in order to guarantee that the Bottom-up approach of the Regional Initiatives perfectly matches the more Top down approach of some crucial elements of the 3rd Package.	Section 8
6	Establish best practices for the Regional Initiatives so as to help the European National Regulatory Authorities (NRAs) to improve efficiency of work and introduce effective incentives to ensure motivation by the required stakeholders.	Section 5
7	Put forward a practical set of recommendations, clearly determining the role and responsibilities of all stakeholders involved, guaranteeing that the Regional Initiatives will be able to meet current and future challenges. These recommendations should include suggestions for structural and organisational improvements to the RIs.	Section 7

Source: everis and Mercados EMI

¹ Request for services in the context of the multiple framework SERVICE contract with re-opened competition for economic assistance, TREN/R1/350-2008 lot 2, Subject: “From regional markets to a single European energy market”, Terms of Reference.

In undertaking the Study, everis and Mercados EMI have reviewed existing documentation and canvassed the views of NRAs, stakeholders, and other experts involved in the RIs process. In particular, we have:

- Accessed the publicly available information from the RIs, ERGEG and DG-TREN websites;
- Developed a questionnaire on issues regarding the RIs process, which was sent to the lead NRA of each Region of the Electricity Regional Initiative (ERI) and of the Gas Regional Initiative (GRI); and
- Interviewed a number of stakeholders involved in the RIs with the aim of collecting their opinion on problems, best practices and potential improvements.

1.2. Structure of the Report

Apart from this introduction, this Report is structured in the following seven Sections:

- i) **The Regional Initiatives:** This Section provides background on the RIs process as well as the initial objectives, scope, and the common organisational framework established by ERGEG.
- ii) **Electricity Regional Initiative and Gas Regional Initiative:** This Section contains a review of the issues that have been considered by the ERI and GRI as of December 2009. The structure of the two parts is broadly similar and includes:
 - a) **Analysis by issue:** a factual overview of progress and results on the main issues across the Regions.
 - b) **Analysis by Region:** an overview of activity in each Region, assessing the progress achieved and the specific structural organisation adopted.
- iii) **Assessment of the approach provided by the Regional Initiatives:** An evaluation of the RIs is undertaken, considering various governance and organisational issues. This Section also considers changes to the governance of the European energy sector introduced under the 3rd Legislative Package on Energy (from now on, the 3rd Package)², and assesses the extent to which these changes will affect the functioning of the RIs process.
- iv) **Identification of Best Practices:** This Section highlights some aspects of best practice that have been identified in the various Regions.

² Regulation No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators; 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 and repealing Directive 2003/54/EC; Regulation No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation No 1228/2003; Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC; Regulation No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation No 1775/2005.

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- v) **Development of Reference Models in the electricity and gas EU markets:** This Section develops a reference model for market integration, against which harmonisation requirements and the developments within each Region can be assessed.
 - vi) **Recommendations:** In this Section we provide our recommendations to improve the effectiveness of the RIs.
 - vii) **Roadmap:** This Section outlines a roadmap for implementing the key recommendations in the previous section. A proposed implementation timeframe is outlined, with recommended actions categorised by their urgency.

2. The Regional Initiatives

2.1. An overview on European Energy Markets

First steps towards integration

The first substantial steps towards the integration of the electricity and gas markets in Europe were taken more than ten years ago. Directives 96/92/EC³ and 98/30/EC⁴ introduced common rules for the internal markets in electricity and gas, respectively. It was, however, soon evident that common rules by themselves, while necessary, were not sufficient to create single European markets. Therefore, to monitor the implementation of the above Directives, and to start addressing some critical issues for the integration of national markets into single internal ones, the European Electricity Regulatory (Florence) Forum – which first met in 1998 - and the European Gas Regulatory (Madrid) Forum – which first met in 1999 - were established for electricity and gas respectively. These Fora have met regularly ever since (annually or bi-annually).

In 2003, the second Electricity and Gas Directives – 2003/54/EC⁵ and 2003/55/EC⁶ - were adopted. Again the focus was on common rules, with some progress towards harmonisation of national regulatory frameworks. However, this time, the Directives were complemented by Regulations - 1228/2003⁷ and 1775/2005⁸ for electricity and gas respectively - which, reflecting the work of the Florence and Madrid Fora, addressed aspects more directly related to the integration of national markets, namely cross-border exchanges in electricity and natural gas transmission networks. Nevertheless, the Regulations were not sufficiently specific in many respects and limited progress was achieved.

In fact, the experience of the Florence Forum made evident that some of the issues to be addressed for the creation of the internal electricity market were too complex to be approached directly on a EU-wide basis. For example, the two main issues that were eventually addressed in Regulation 1228/2003 – cross-border tariffs (including inter-TSO⁹ compensation) and cross-border congestion management – were first discussed in the 2nd and 3rd Florence Forum meetings of October 1998 and May 1999, and remained in the agenda of the Florence Forum for the next six years. The lack of specificity of Regulation 1228/2003 is evident in that a range of different solutions for congestion

³ Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity.

⁴ Directive 98/30/EC of the European Parliament and of the Council of 22 June 1998 concerning common rules for the internal market in natural gas.

⁵ Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC.

⁶ Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC.

⁷ Regulation (EC) No 1228/2003 of the European Parliament and of the Council of 26 June 2003 on conditions for access to the network for cross-border exchanges in electricity.

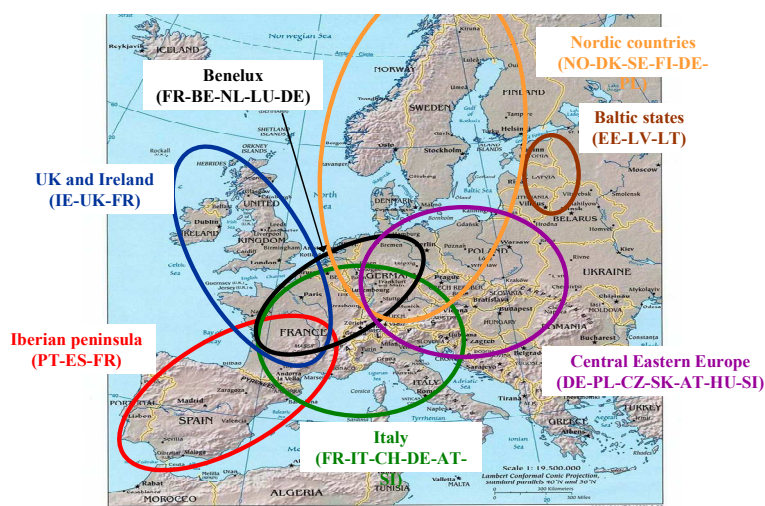
⁸ Regulation (EC) No 1775/2005 of the European Parliament and of the Council of 28 September 2005 on conditions for access to the natural gas transmission networks.

⁹ Transmission System Operator.

management over different borders were permitted, without envisaging how these different solutions could be made part of a single EU-wide framework.

To overcome the difficulties of a direct EU-wide approach, the 11th Florence Forum meeting in September 2004 decided to establish seven electricity “mini-fora” to develop plans and detailed timetables for the introduction of (at least) day-ahead coordinated market-based congestion management mechanisms. The geographical structure of the mini-fora reflected the focus on congestion management by being centred around interconnections between different Member States. Figure 2 presents the geographical coverage of the mini-fora.

Figure 2. Geographical scope of the electricity mini-fora.



Source: everis and Mercados EMI

From the beginning, it was clear to all stakeholders involved that the mini-fora approach had advantages and disadvantages. The main advantage was the possibility of addressing the complex issues related to congestion management within a reduced group of institutions and stakeholders, where an agreement was more likely to be reached. The main disadvantage was the danger that different mini-fora adopted solutions that were not mutually consistent, resulting in greater subsequent difficulties in the move from regional solutions to an EU-wide one.

There was no guarantee that the mini-fora would succeed where the Regulation failed: that is, deliver a seamless internal market. It was hoped that the fact that some Member States were included in several mini-fora (both France and Germany participated in four of them) would have ensured a sufficient degree of coordination. In any case, at the time, no “vision” or “target model” was defined for the internal electricity market. Moreover there was no “roadmap” that indicated which aspects should have been harmonised within each region and what level of harmonisation was required between the different regions. In addition, it was not explicitly stated that Member States

participating in several mini-fora were expected to promote consistency in outcomes and process across the various regions.

The mini-fora met between November 2004 and February 2005. In March 2005 ERGEG issued a discussion paper on progress achieved¹⁰ and in May 2005 started a consultation process on potential changes to the Congestion Management Guidelines¹¹. New draft Congestion Management Guidelines were discussed in the 12th and 13th meetings of the Florence Forum in 2005 and 2006 respectively. Finally, these Guidelines were adopted in November 2006¹².

The new Congestion Management Guidelines were however broad enough to allow diverging paths. At the same time, a number of parallel regional integration projects were developed, promoted by political initiatives and the interests of the stakeholders involved. These initiatives included the Trilateral Market Coupling (TLC) between France, Belgium and the Netherlands, the creation of the Irish Single Electricity Market (SEM) and the process which eventually led to the establishment of an Iberian market (MIBEL). Work on all these initiatives predates the mini-fora process¹³.

The launch of the Regional Initiatives

In spring 2006 ERGEG, with the support of the European Commission, launched its Regional Initiatives. They were intended to be a natural interim step towards a single European market, consisting in the formation and development of Regional Energy Markets (REMs). For the electricity sector an ERI, comprising seven Regions, was established, reflecting the geographical structure of the mini-fora. Figure 3 presents the geographical scope of the seven Regions.

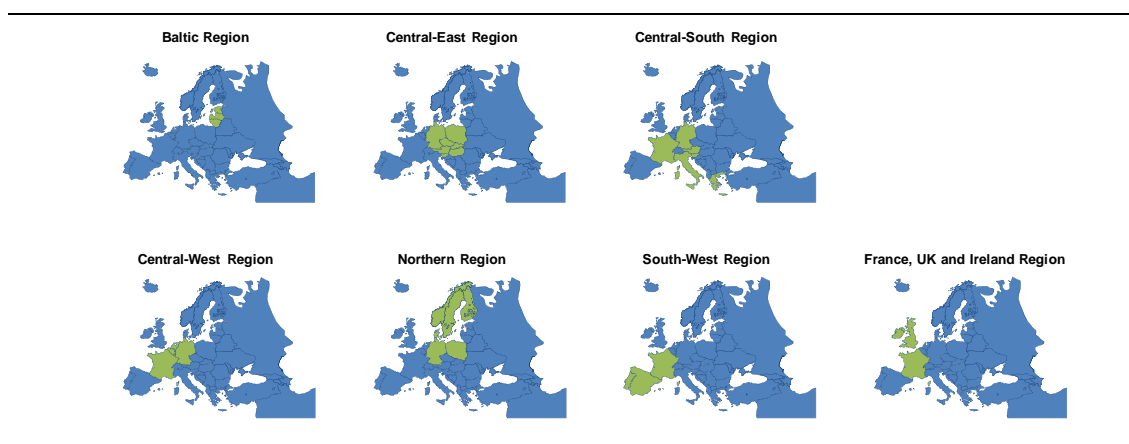
¹⁰ ERGEG, "Global Assessment of the Results of the 1st Series of Mini Fora on Congestion Management and Potential Impacts on the Draft Guidelines: Working Paper Approved 02-03-2005".

¹¹ ERGEG, "ERGEG Public Consultation on Congestion Management Guidelines", May 2005.

¹² Commission Decision of 9 November 2006 amending the Annex to Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity.

¹³ It is also worth noting that the most advanced regional market in Europe, the one in the Nordic countries, dates back to the mid 1990's, well ahead of the mini-fora.

Figure 3. The seven Regions of the Electricity Regional Initiative.



Source: ERGEG

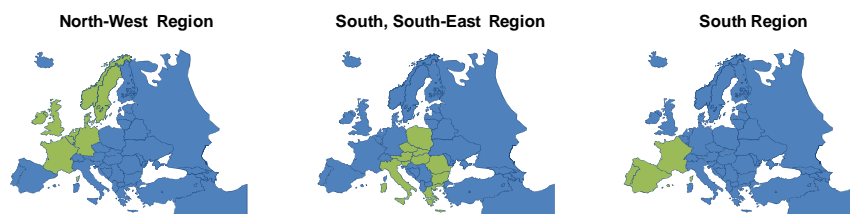
The Madrid Gas Forum did not produce any mini-fora initiative. However, consistent with the decision in the electricity sector, a GRI, comprising three Regions, was established. It was however recognised that the regional markets in the two sectors would be defined on different bases.

In line with the priorities identified in the Consultation Paper that defined the GRI¹⁴ and stakeholders response, the proposed Regions were initially defined based on the location of existing gas hubs, or locations where progress in the establishment of a gas hub was most advanced. ERGEG also considered whether a "special factor" was to be used in certain circumstances, for example where there were proposals for infrastructure development capable of enhancing market integration between two areas.

As a consequence, in March 2006 the ERGEG Conclusions Paper proposed four gas Regions, a number greater than originally proposed in the Consultation Paper. Subsequently, before the formal launching of the GRI, the Regions were reduced to three: the North and North West Regions were merged into a single one, reflecting the high degree of interconnection between these Regions and the importance to both Regions of important hubs. Figure 4 shows the geographical scope of the GRI.

¹⁴ "Roadmap for a Competitive Single Gas Market in Europe – An ERGEG Conclusions Paper", Ref: E06-GMI-02-03, 28 March 2006.

Figure 4. The three Regions of the Gas Regional Initiative.



Source: ERGEG

After 1st January 2007, the new EU Member States, Romania and Bulgaria joined the South-South-East Region.

2.2. The role of the Regional Initiatives

2.2.1 Objectives

The creation of the RIs was considered a natural interim step in moving from national electricity and gas markets to a single internal market¹⁵. The RIs have aimed to pursue the development of REMs by removing barriers to trade, promoting cooperation among key stakeholders (NRAs, the European Commission, market and network operators, market participants and Member States) to find practical solutions that help overcome obstacles to competition within the Regions. More specifically, the main objectives of the RIs process have been to¹⁶:

- Identify barriers to further progress towards competitive electricity and gas markets, and develop options for overcoming these barriers;
- Bring together all relevant parties and identify the party or parties best equipped to act in each case;
- Focus on practical issues, for example, cross-border congestion and the allocation of cross-border capacity;
- Build on work in other fora and existing regional projects; and
- Report on progress to the Florence/Madrid Fora¹⁷.

Figure 5 presents the initial priorities identified by the different Regions in the ERI and GRI.

¹⁵ According to the ERGEG Regional Initiatives Annual Report (March 2007), “the overall objective of the ERI and GRI is to promote real and practicable improvements in the operation of the EU gas and electricity markets through the involvement of key stakeholders and enablers of change”.

¹⁶ For example, see “The Electricity Regional Initiative – Fact Sheet”, Ref: E05-ERF-03-06b, February 2006.

¹⁷ See section 2.2.3. of this report.

Figure 5. Initial priority issues of the Electricity and Gas Regional Initiatives.

Electricity REM	Congestion Management	Interconnections	Transparency	Balancing	Others
Baltic		<ul style="list-style-type: none"> Cooperation between network operators (including cross-border issues and availability of transmission capacity) 	<ul style="list-style-type: none"> Availability and control of information 	<ul style="list-style-type: none"> Consideration of access to grids, balancing rules and national legislation 	<ul style="list-style-type: none"> Market developments and compatibility with national legislation Market design and fair transmission tariffication
Central East (CE)	<ul style="list-style-type: none"> Improvement of efficiency and monitoring of cross-border Congestion Management methods Implementation of Congestion Management Guidelines requirements Load flow based capacity calculation 		<ul style="list-style-type: none"> Implementation of ERGEG Guidelines for Good Practice for Information Management and Transparency 	<ul style="list-style-type: none"> Balancing markets 	<ul style="list-style-type: none"> Consideration of regulatory gap and responsibilities of regulators for cross-border issues Consideration of barriers to entry (traders and generators) and proposals to resolve these barriers
Central South (CS)	<ul style="list-style-type: none"> Improvement and harmonization of cross-border Congestion Management methods 	<ul style="list-style-type: none"> Development of new interconnector infrastructure 	<ul style="list-style-type: none"> Transparency and wholesale market data publication 	<ul style="list-style-type: none"> Implementation of cross border intraday and balancing trade 	<ul style="list-style-type: none"> Assessment of compatibility of national legal frameworks and regulatory competences Harmonisation of operational and security standards Assessment of market arrangements
Central West (CW)	<ul style="list-style-type: none"> Harmonisation and improvement of long-term explicit auctions Implement day-ahead flow-based market coupling Implement cross-border intra-day and balancing trade 	<ul style="list-style-type: none"> Common calculation method for cross-border capacities Maximization of the amount and of the utilisation of cross-border capacities Regional capacity investment plan 	<ul style="list-style-type: none"> Increased transparency in entire region Harmonization and improvement of data exchange 		<ul style="list-style-type: none"> Regional market regulation monitoring
South West (SW)	<ul style="list-style-type: none"> Improvement of cross-border Congestion Management methods 	<ul style="list-style-type: none"> Availability of transmission capacity 	<ul style="list-style-type: none"> Convergence of Transparency issues 	<ul style="list-style-type: none"> Cross-border balancing 	<ul style="list-style-type: none"> Compatibility of market rules Analysis of measures adopted in region to improve security of supply
Northern (N)	<ul style="list-style-type: none"> Optimizing use of interconnectors 	<ul style="list-style-type: none"> Cooperation on investment in new interconnectors 	<ul style="list-style-type: none"> Transparency in wholesale market 	<ul style="list-style-type: none"> Consider need for joint intra-day and balancing markets 	<ul style="list-style-type: none"> Cooperation on integration of major shares of wind energy
France-UK-Ireland (FUI)	<ul style="list-style-type: none"> Implement Congestion Management Guidelines Facilitate intra-day trade 	<ul style="list-style-type: none"> Coordinate auctions Investment in new interconnectors 	<ul style="list-style-type: none"> Implementation of ERGEG Guidelines for Good Practice for Information Management and Transparency 	<ul style="list-style-type: none"> Introduce reciprocal access to balancing markets 	<ul style="list-style-type: none"> Consider coherent transmission tariff charging

Gas REM	Interconnection	Interoperability	Hubs	Transparency	Others
North-West (NW)	<ul style="list-style-type: none"> Primary and secondary capacity markets Investment issues 	<ul style="list-style-type: none"> Gas balancing Gas quality 	<ul style="list-style-type: none"> Analysis through questionnaire and workshops to identify specific improvements 	<ul style="list-style-type: none"> Focus on transmission and storage 	<ul style="list-style-type: none"> Regulatory coordination
South-South East (SSE)	<ul style="list-style-type: none"> Development of operational Balancing Agreement Assessment of transportation routes viability 	<ul style="list-style-type: none"> Gas quality and interoperability issues 	<ul style="list-style-type: none"> Practical transportation case studies along five different transportation routes to identify actual obstacles to liquid trading and reasons for hub effectiveness 	<ul style="list-style-type: none"> Transparency requirements for access to storage and hub services 	<ul style="list-style-type: none"> Monitoring of regulatory involvement in the Gas Regulation (1775/2005)
South (S)	<ul style="list-style-type: none"> Further developments Congestion management procedures Capacity allocation mechanisms 	<ul style="list-style-type: none"> Study of practical transit cases Balancing rules Gas quality (to be dealt with DG TREN) 	<ul style="list-style-type: none"> Hubs development and operation 	<ul style="list-style-type: none"> Transparency general 	<ul style="list-style-type: none"> Implementation of Directive 55/2003 Market opening TSO's coordination

Source: Priority issues defined in pages 31-34 of “ERGEG Regional Initiatives Annual Report”, March 2007

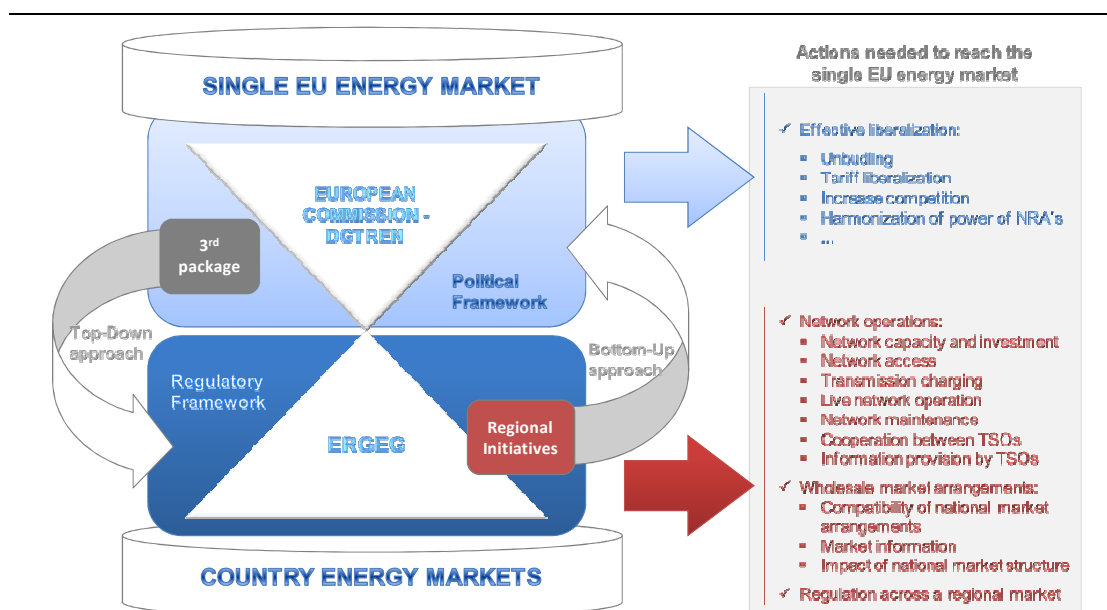
2.2.2 Scope

An essential element of the RIs is that it is a voluntary process and, therefore, lacks the legal basis to deal with specific issues. Thus, the challenge of achieving results should not be underestimated since integrating national energy markets may imply jurisdictional, regulatory and legislative changes. A key issue for the success of the process is the commitment of stakeholders to participate in the work and to take responsibility for implementing the agreed solutions. If this is not the case or if stakeholders have conflicting interests, the process of regional integration might be endangered. Political willingness is also important.

The RIs process is designed to work as a Bottom-up approach that can identify regulatory gaps and practical solutions in the different Regions. The ultimate goal of the RIs process may be seen as one of establishing common principles within the Regions rather than developing specific market designs or common rules.

However, there are issues affecting trade and competition that must be addressed from a Top-down perspective. The intended interrelationships between the Top-down and Bottom-up approaches is summarised in Figure 6.

Figure 6. Bottom-up vs. Top-down approach.

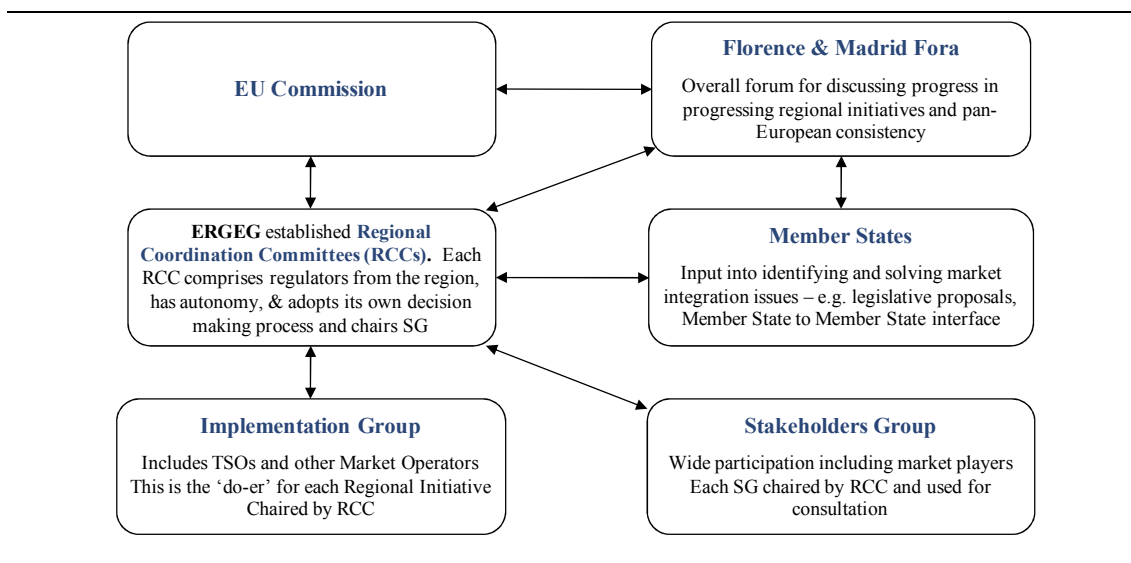


Source: "The creation of Regional Electricity Markets-An ERGEG discussion paper for Public Consultation", June 2006. Elaboration: everis and Mercados EMI

2.2.3 Organisational Framework

The overall organisational model for the RIs was designed by ERGEG¹⁸ with the aim of clearly defining crucial aspects for the success of the process, namely governance, decision-making and conflict resolution within each Region. Figure 7 illustrates this common organisational framework.

Figure 7. Organisational framework of the Regional Initiatives.



Source: “ERGEG Regional Initiatives Annual Report”, March 2007

Regional Coordination Committee

At the core of the organisation of each Region is a Regional Coordination Committee (RCC), comprising the NRAs in the Region, with one of them designated as a lead regulator for the Region. The main functions of the RCC are:

- Define working practices: specifying detailed roadmaps¹⁹, setting up priorities, milestones and deliverables;
- Ensure compliance with the relevant EU legislation; and
- Report on progress through ERGEG to the European Commission and the Florence/Madrid Fora.

Due to the different specificities of the different Regions, the RCC is provided with autonomy and flexibility regarding the governance procedures.

¹⁸ “The Creation of Regional Electricity Markets – An ERGEG Conclusions Paper”, Ref: E05-ERF-03-06a, 8 February 2006; “Roadmap for a Competitive Single Gas Market in Europe – An ERGEG Conclusions Paper”, Ref: E06-GMI-02-03, 28 March 2006.

¹⁹ According to “The Creation of Regional Electricity Markets – An ERGEG Conclusions Paper”, Ref: E05-ERF-03-06a, 8 February 2006; and “Roadmap for a Competitive Single Gas Market in Europe – An ERGEG Conclusions Paper”, Ref: E06-GMI-02-03, 28 March 2006, “these roadmaps shall cover key milestones for 2-3 years, with a detailed project plan for the first year and a general plan for successive years”.

Implementation Group

The second key body in the RIs is the Implementation Group (IG), which comprises market operators, TSOs, power exchanges, gas hubs operators, gas storage operators, interconnector operators and LNG operators, with the mix of operators varying between electricity and gas. In addition, RCC representatives can participate in the IG. The main task of the IG is to propose actions to best address the priority issues identified by the RCC. The IG should consult market participants on its proposals, ensuring that practical solutions are identified. The IG reports to the RCC.

Stakeholders Group

To ensure that market participants' views are considered, ERGEG established a Stakeholders Group (SG) in each Region. Market participants include shippers, traders, suppliers, customers and their representatives, gas producers and electricity generators. In addition, representatives from the Commission, RCC and/or IG can participate in SG meetings. The SG is primarily a consultation group. It participates in workshops or public hearings, or responds to consultation papers regarding a specific issue considered as priority for the Region. In the SG meetings, representatives from the RCC and/or IG typically make presentations on relevant topics.

Florence and Madrid Fora

The RCC of each Region reports to the Florence Forum (for electricity) or Madrid Forum (for gas) on progress made within the RIs process. These Fora meet regularly – annually or bi-annually – and discuss the main issues in each electricity and gas Region.

European Commission and Member States

Along with the RCC, IG and SG, the RIs process requires the full commitment of the European Commission and Member States. The RIs are voluntary initiatives and thus lack the legal power to directly address and implement specific issues: therefore actions by NRAs and Member States are often required. In many cases actions at national level should be coordinated across the Region. Moreover, political action may be needed to overcome cross-border differences. In this regard, ERGEG included the European Commission and Member States in the organisational framework of the RIs.

Within this general structure there has been scope for each Region to tailor its organisational framework to its own needs depending on local conditions.

Other ERGEG parties related to the RIs process

Other structures exist within ERGEG devoted to the RIs process. In 2007 ERGEG created two Task Forces, the ERI Task Force and the GRI Task Force, each with monitoring functions allowing them to assess the overall coherence and convergence of

the work undertaken within each Region. In fact, these Task Forces have published two Coherence and Convergence reports for the ERI process²⁰ and one for the GRI²¹.

In addition, ERGEG has published three annual reports on the RIs,²² which set out progress achieved by region and/or topic.

In 2009 ERGEG also created the Regional Initiatives Group (RIG), as a coordination entity of the aforementioned Task Forces. The RIG intends to identify synergies and promote best practices among the Regions. Additionally, the RIG will assess “differences of regional approaches and coherence at European level”²³.

²⁰ “ERI Coherence and Convergence Report – An ERGEG Conclusions Paper”, Ref: E08-ERI-12-04, 15 February 2008; and “Second ERI Coherence and Convergence Report – An ERGEG Conclusions Paper”, Ref: E08-ERI-19-04”, 11 March 2009.

²¹ “Gas Regional Initiative Coherence and Convergence – An ERGEG Conclusions Paper”, Ref: E07-GRI-01-05b, 15 July 2008.

²² Published in March 2007, February 2008 and November 2009.

²³ “The RIG will ensure that regional approaches are compatible with the European framework and to this end will closely cooperate with the Electricity and Gas Working Groups”. European Energy Regulators’ Work Programme 2009. C08-WPDC-16-03.

3. State of the Regional Initiatives: Issues and Regions

3.1. Electricity Regional Initiatives

3.1.1 Introduction

The seven Regions were set up during 2006. Unlike the gas Regions, most of the electricity Regions are overlapping, with five countries (Austria, France, Germany, Poland and Slovenia) included in more than one region. In fact, France and Germany are each in four different electricity Regions. Each Region has a lead NRA. Austria is the only one of the five countries involved in more than one Region playing the role of lead NRA in one electricity Region²⁴.

Figure 8. Overview of members of each electricity Region.

Region	Country of Lead Regulator	Members solely represented in the ERI	ERI Members with membership in other ERIs
Baltic	Latvia	Estonia Latvia Lithuania	
Central East (CE)	Austria	Czech Republic Hungary Slovakia	Austria Germany Poland Slovenia
Central South (CS)	Italy	Greece Italy	Austria France Germany Slovenia
Central West (CW)	Belgium	Belgium Luxembourg Netherlands	France Germany
Northern (N)	Denmark	Denmark Finland Norway Sweden	Germany Poland
South West (SW)	Spain	Portugal Spain	France
France-UK-Ireland (FUI)	United Kingdom	Ireland United Kingdom	France

Source: ERGEG

²⁴ However, note that the French regulator, CRE is chair of the ERI Task Force and co chair of the GRI Task Force.

Each Region has had significant independence in operations. Reflecting this independence, each Region has identified its own priority issues and defined its internal working arrangements under the broad structure proposed by ERGEG. The following Sections consider the issues covered by the ERI and progress achieved as of December 2009, and the ways in which each Region has structured its working arrangements.

3.1.2 Analysis by Issues: Progress to date

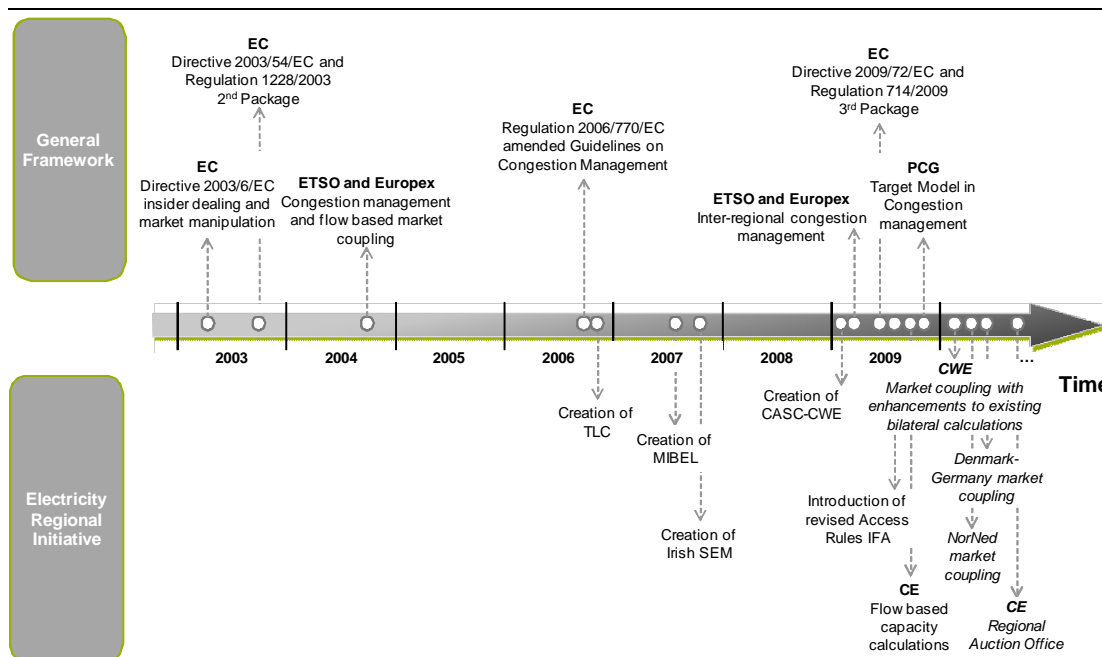
Although each Region has had freedom to choose its priority issues, in practice the topics considered by the Regions over the past three years can be grouped under a few headings representing the key issues associated with developing cross-border trade. These include:

- Congestion Management, incorporating capacity calculation, long-term, day-ahead and intra-day allocation;
- Balancing;
- Transparency; and
- Others.

3.1.2.1 Congestion Management

Congestion management is considered critical to the development of a single market. The creation of a single market requires the development and availability, of interconnection capacity and its most efficient use. Therefore, as cross-border trading increases, there is an increasing need to allocate the available cross-border capacity in an efficient manner and to develop congestion management methods.

Figure 9. Congestion Management Timeline – Electricity.



Milestones written in italics are envisaged for the future. Source: everis and Mercados EMI

European NRAs and market participants have long considered congestion management to be a critical issue. The Minutes of the 5th Florence Forum meeting of March 2000 set out an agreement towards market-based approaches to congestion management²⁵:

As discussed and agreed at the Florence Forum of November 1999, congestion management should be based on market solutions that give proper and justified incentives to both market parties and TSOs to act in a rational and economic way. Where appropriate, the development of suitable market organisation structures should be encouraged.

The development of explicit Congestion Management Guidelines commenced with the 6th Florence Forum of November 2000 that set out agreed preferred methods for congestion management and guidelines for explicit auctions. Within 3 years Regulation 1228/2003 of June 2003 was adopted, which set out conditions for access to the network for cross-border exchanges in electricity. The Annex contained Congestion Management Guidelines. This Regulation entered into force on 1 July 2004.

The Congestion Management Guidelines were amended in November 2006²⁶ and Regulation 1228/2003 was subsequently superseded in July 2009 by Regulation 714/2009²⁷. However, the relevant provisions on capacity measurement and allocation

²⁵ Conclusions, Fifth Meeting of the European Electricity Regulatory Forum, Florence 30-31 March 2000.

²⁶ Commission Decision of 9 November 2006 amending the Annex to Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity.

²⁷ Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003.

that were included in the November 2006 amendment of Regulation 1228/2003 remain unchanged.

Progress on congestion management has not been confined to the Florence Forum and the development of explicit regulations. For example, ETSO and Europex developed influential papers on congestion management and flow based market coupling (September 2004)²⁸ and a coordinated model for inter-regional congestion management (January 2009)²⁹. Moreover, European NRAs are now taking a more pro-active approach to monitoring actual interconnection activity, with some NRAs issuing annual reports on achieved progress³⁰.

Currently five Regions (FUI, CE, CS, CW and SW) have plans to develop regional reports on the use and management of interconnectors. The publication of regional reports should assist NRAs to reach a common understanding about congestion management methods, and facilitate their functioning.

The following aspects of congestion management have been covered by the various Regions³¹:

- Capacity calculation;
- Long term capacity allocation;
- Day-ahead capacity allocation; and
- Intra-day capacity allocation.

3.1.2.1.1. Capacity Calculation

Section 3 of the Guidelines³² contained in the Annex to Regulation 1228/2003 and now in Annex I to Regulation 714/2009 requires coordination between TSOs within each of the Regions in the areas of capacity calculation and optimisation of allocation. The guidelines require that this coordination includes the use of a common transmission model to deal efficiently with interdependent physical loop-flows and has regard to discrepancies between physical and commercial flows.

The approach taken to capacity calculation is ultimately critical for market integration. Where local markets or different regional markets are interdependent, there is a need for a coordination role to ensure that calculations adopted in different areas are consistent, or at least are not in conflict. To enhance market credibility and facilitate trade, transparency of capacity calculations is critical. Moreover, information should be

²⁸ ETSO and EuroPEX, "Flow-based Market Coupling: A Joint ETSO-EuroPEX Proposal for Cross-Border Congestion Management and Integration of Electricity Markets in Europe", September 2004.

²⁹ ETSO and Europex, "Development and Implementation of a Coordinated Model for Regional and Inter-Regional Congestion Management", January 2009.

³⁰ For example, see Commission De Régulation De L'Energie: Management and Use of Electric Interconnections in 2008", July 2009.

³¹ Note that in what follows, progress is analysed with respect to six Regions excluding the Baltic Region, as congestion does not occur between the Member States in this Region and therefore congestion management has not been considered in the Baltic Region.

³² Guidelines on the management and allocation of available transfer capacity of interconnections between national systems.

released in a sufficiently timely manner to allow traders to respond to changes in available capacity.

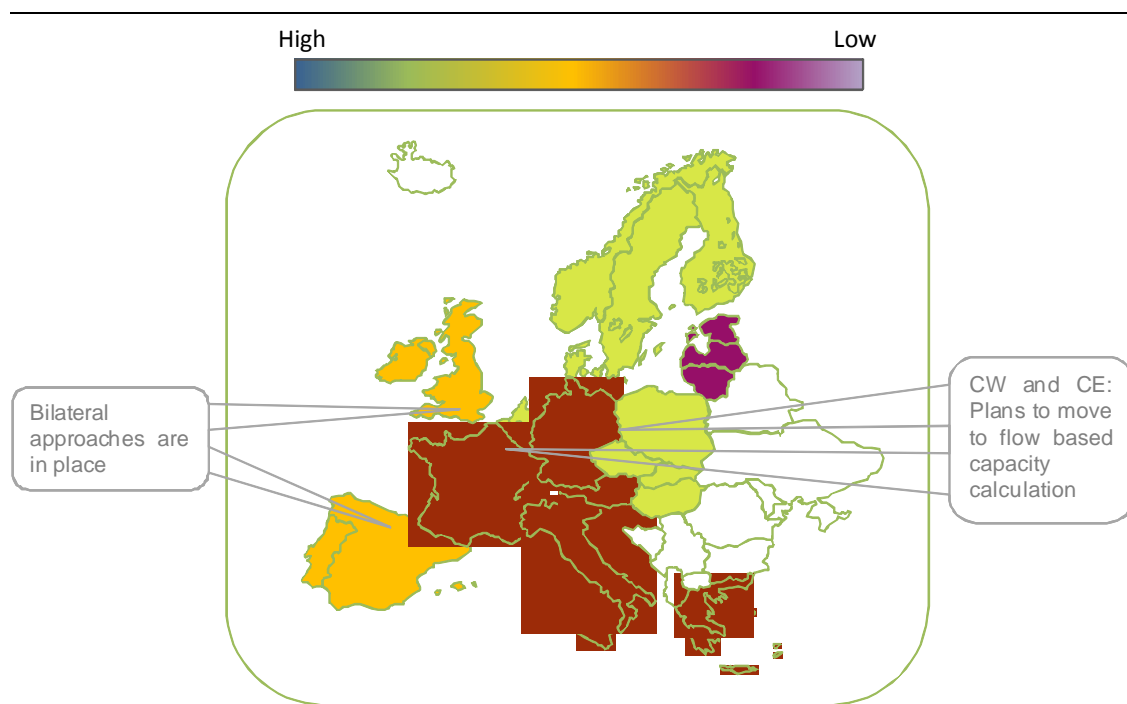
The priority given to, and approach taken to, capacity calculation in the Regions has typically varied in proportion to the extent to which the regional network is meshed and subject to loop flows, factors which both complicate the calculation of available capacity and potentially provide greater benefits to flow-based calculation approaches.

- A key stated priority of the **CW Region**, and consistent with the ETSO-Europex paper of 2004, has been to move towards a flow-based approach to calculating day-ahead interconnection capacities in the context of a common transmission model. However, progress towards the objective of flow-based calculations has been delayed. For the coming CW market coupling the Region has decided to start with an improved version of the existing bilateral approach (coordinated ATC). The flow-based method should be launched at a later stage. The NRAs and TSOs in the Region have attributed the delay in implementing a flow-based solution to modelling complexities and the need for more experience from simulations before launching;
- The **CE Region**, a meshed network Region, has also committed to move towards a flow-based approach to capacity calculation. Similar to the CW Region, the CE Region has reported significant modelling difficulties in developing a flow-based approach. Although TSOs have been criticised by the NRAs in the past for slow progress in this area, since receiving a report on the potential welfare benefits of a flow-based approach, all parties have now committed to put in place a flow-based calculation system.
- In the northern part of the **CS Region**, the network is meshed. On these borders (Northern Italian borders) target capacities are calculated once a year using a Net Transfer Capacity (NTC) methodology based on load flow scenarios. In other borders capacity is calculated on a bilateral basis.

Flow-based approaches have not been proposed in other Regions.

- The **N, FUI and SW Regions** typically have fewer problems of loop flows and therefore a lower priority has been placed on capacity calculation. In the SW Region ATC-based approaches are adopted. Further information on capacity computation and on limiting constraints has been asked to the concerned TSOs. In the N Region, capacity calculations for the relevant boundaries within Nordpool are undertaken by the TSOs on a day-ahead basis, with capacity subsequently allocated by Nordpool. In the FUI Region, capacity calculation is not a major issue given that there is only one DC-link between France and the UK with fixed capacity of 2000 MW.

Figure 10. Current level of development on capacity calculation – Electricity.



The N, FUI, CS and SW ERIs typically have fewer problems of loop flows and therefore a lower priority has been placed on capacity calculation

Source: everis and Mercados EMI

Regulators and participants appear to have reached a consensus that, for meshed networks, flow-based capacity calculation is efficient and most consistent with Regulation 714/2009. In the Regions with the greatest problems of loop flows progress has been made towards developing flow-based calculations, albeit at a slower pace than anticipated. However, it appears that an important factor in slowing down progress (for example in the CW Region) has been the technical complexities involved in developing flow-based calculations.

Capacity calculation is an issue in which a Top down approach establishing a common methodology would be beneficial. This methodology may recognise that different approaches may be adopted in different situations. Thus, where there are no problems of loop-flows, a bilateral approach to the calculation of available capacity may be appropriate, and may work in parallel with more complex approaches where loop-flows are significant, providing there is a strong coordination role at the European level. A key factor for success is ensuring that there is sufficient transparency in the calculations to promote market confidence, liquidity, trading and investment.

3.1.2.1.2. Long term capacity allocation

Regulation 1228/2003, and now Regulation 714/2009, requires that capacity is allocated within each Region on at least an annual, monthly and day-ahead basis.

The availability of appropriate inter-connection capacity is critical to developing a single European electricity market. Reflecting its importance, annual and monthly capacity allocation has been a priority work area for many of the Regions. However, a number of different approaches to the allocation of long-term capacity are being adopted by the Regions, ranging from primary reliance on an efficient Day-Ahead Market and financial hedging instruments to the development of Regional Auction Offices.

The **N Region** includes Nordpool, which does not provide a year-ahead auction product. The approach taken by Nordpool is to focus on ensuring sufficient liquidity in the Day-Ahead Market, thereby reducing the need for monthly or yearly auctions. At the same time Nordpool provides a trading platform for long-term financial hedging products.

Several Regions have looked at creating a Regional Auction Office that will be tasked in the first instance with long-term capacity allocation at the regional level. However, meaningful progress has only been achieved in two Regions:

- In the **CW Region**, the Capacity Allocating Service Company for Central West Europe (CASC-CWE), a joint office of the 7 Grid Owners in the Region, has been set up following the receipt of clearance under the EU Merger laws and since 2009 has been responsible for longer-term capacity auctions in the Region. A key rule in the new system is the “Use It Or Sell It” principle, which requires traders to sell any unused capacity. Furthermore, the Dutch NRA, NMa introduced changes to its Grid Code to allow for the auction of interconnection capacity for 2010 to take place under the “Use It Or Sell It” (UIOSI) rules. Recently, the management of long-term capacity auctions on the Northern Italian borders (CS Region) by CASC-CWE has been considered; and
- The **CE Region** has set up a Regional Auction Office and has received clearance under the EU Merger laws. The CE Region is currently consulting on the Auction Rules, where it envisages introducing a flow-based auction during 2010.

NRAs in the SW Region support the development of a single auction platform. Rules for the auction of capacity over the France-Spanish border are set out in the Capacity Allocation Rules for the France-Spain Interconnection (“IFE Rules”)³³. However, delay in the approval of the rules for the Spain-Portugal interconnection, which has been pending with the Spanish ministry since 2008, has delayed the coordination process. Recently the Spanish ministry raised the issue of financial products across the Spanish-Portuguese interconnection, which risks further delay in the potential harmonisation of

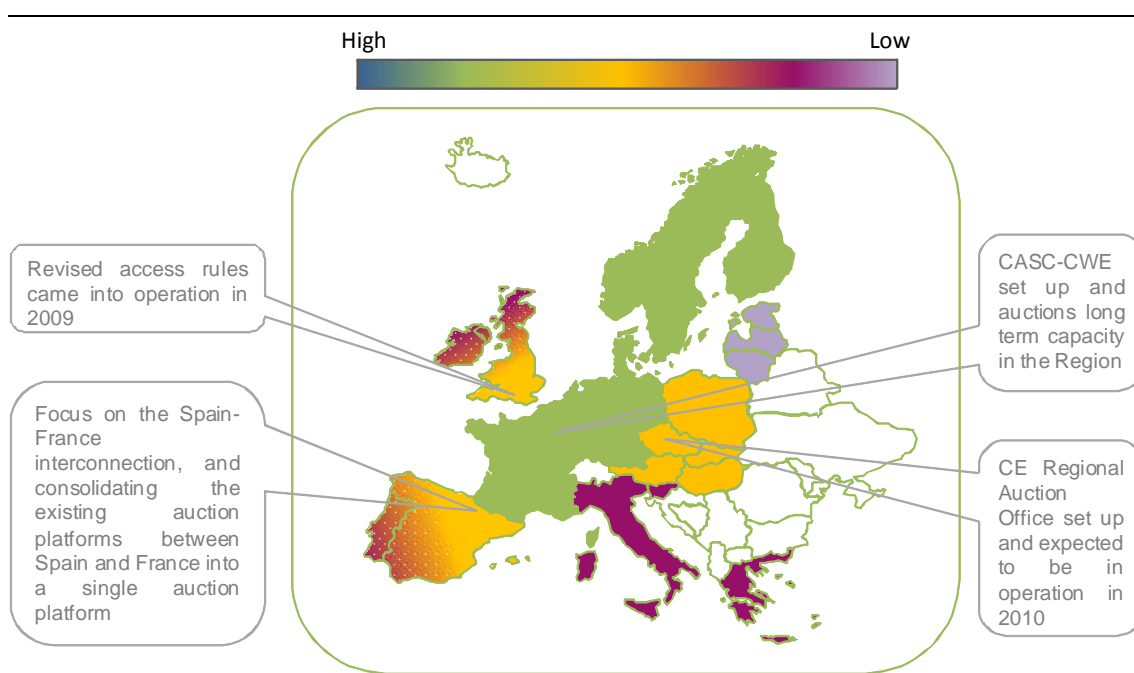
³³ See “Capacity allocation rules for the France-Spain interconnection (IFE Rules). Version 3.0. Published on the 28th May 2009. Applicable for PTRs covering periods starting on the 1st June 2009.

the long- and medium-term explicit auction mechanisms necessary to develop a single auction platform.

In the other Regions the approach varies across different interconnections within the same Region.

- In the **N Region**, long-term auction products (annual and monthly) are offered by the German and Danish TSOs across the Germany-Denmark interconnector. By 2011 the TSOs propose to adopt the UIOSI principle for annual and monthly auctions. In the Region there is a mix of physical and, due to Nordpool, financial long term products available; while
- Focus in the **FUI Region** has been on enhancing existing access rules and developing an auction platform for the IFA interconnection between France and the UK. RTE and National Grid have developed access rules that specify capacity auction rules. The revised Access Rules came into operation in October 2009³⁴. No regional auction office is planned in this Region because IFA is the only link in the Region subject to European law³⁵.

Figure 11. Current level of development on long term – Electricity.



Source: everis and Mercados EMI

³⁴ The revisions in the Rules introduced in October 2009 include a firm nomination stage of long term capacity based on UIOSI provisions and the "netting" of capacity used in both directions.

³⁵ The MOYLE inter-connector between Northern Ireland and Great Britain is within the same Member State (UK).

The two-tier approach to allocating long-term capacity, with use of Regional Auction Offices on the one hand, and interconnector-specific approaches on the other, reflects the different status in the various markets in developing liquid forward markets. However, the relationship is not straightforward. For example, the need for a Regional Auction Office and indeed longer-term auctions is not considered necessary in the N Region due to the available liquidity in the Day-Ahead Market at Nordpool.

However, other developments may not be consistent with moving towards a single electricity market, or may not be the most efficient means of doing so. For example, a concern of the SW Region is that the approaches to capacity allocation across the borders between Spain and Portugal and between Spain and France are not consistent. Furthermore, the development of Regional Auction Offices based on the administrative boundaries drawn up for the Regions and included in Regulation 714/2009 may not serve the best interest of market participants and may ultimately become stranded depending on whether a reference model for market development, which envisages a single EU-wide Auction Office, can be agreed upon and implemented across Europe. Therefore, this is an issue in which a Top-down approach provided by a reference model would be greatly beneficial.

3.1.2.1.3. Day ahead capacity allocation

Under section 3.2 of the Guidelines contained in the Annex to Regulation 1228/2003 and now of Annex I to Regulation 714/2009, countries within each electricity Region are required to have had in place, by 1 January 2007, a common coordinated congestion management method and procedure for the allocation of capacity to the market at least yearly, monthly and day-ahead.

Significant progress has been achieved in allocating capacity on a day-ahead basis independently of the ERI process and many developments predate this process. Nordpool, the European regional market with the longest experience, has been operational since the early 1990's and in 2000 reached its current extension. Other regional market initiatives, including TLC, the Irish SEM and MIBEL were all launched prior to, and independently of, the formation of the ERI. Furthermore, the Norway-Netherlands and Denmark-Germany inter-connectors were commissioned prior to the start of the ERI process.

The development of day-ahead capacity allocation mechanisms has been a priority issue for many Regions. However, progress achieved, and the way in which the issue has evolved, has varied by Region.

Market coupling and/or market splitting is already in place within parts of the CW Region through TLC, and in the N Region through Nordpool. Various developments are in place within these Regions:

- A stated aim of the **CW Region** has been to introduce market coupling across the whole Region by 2008 based on flow-based capacity calculation. Extending market coupling within the Region has subsequently been deferred until May 2010, with, as a first step, capacity to be calculated (as noted above) based on a

coordinated process with adjustment made, where necessary, to the bilaterally calculated capacities. The flow-based approach is not foreseen before 2011. The CW Region notes the following reasons for delay: too optimistic roadmap; technical problems with the flow-based approach; problems of compatibility notably of bilateral projects (EMCC, NorNed); and the number of involved parties (CW market coupling project involves 7 TSOs, 3 PX and 5 NRAs);

- In the **N Region**, the NorNed inter-connector between Norway and the Netherlands has commenced operation, though capacity is currently allocated on the basis of explicit auctions (as opposed to the intended implicit auction), while market coupling between Denmark and Germany was initially launched in September 2008 on the basis of volume-based coupling and had to be suspended within the first ten days due to technical problems. The re-launch of volume-based market coupling between Denmark and Germany in November 2009 was again affected by technical problems, but is still operational.

In some cases, even within the two Regions with the most advanced approaches to day-ahead markets, the approach to market coupling has diverged, notably in the problematic introduction of volume-based coupling between Germany and Denmark.

During October 2009 Power Exchanges in the N, CW and SW Region announced the launch of preliminary studies on the feasibility of price coupling across all three Regions³⁶, which, to be successful, will need to address fundamental issues of market design and coupling. In addition, the TSOs of the N and the CW Regions have issued a declaration of common principles that will form the basis of future market coupling projects between countries in the two regions.³⁷

Market splitting is already present in the **SW Region** through MIBEL. As already noted, the Region has looked at the possibility of market coupling with the CW Regions. Progress to date has been subject to problems due to differing agreements between TSOs and Power Exchanges (PXs).

In other Regions progress on developing day-ahead markets has been slower:

- In the **CS Region** the lack of compatibility of neighbouring markets (including Switzerland) has been considered a major obstacle to introducing market splitting or coupling, with the Region now only at the state of identifying potential market coupling projects or implementing the first pilot project³⁸. Moreover, the Region has claimed that future progress on market coupling is highly dependent on progress in adjoining Regions;
- In the **FUI Region**, access arrangements have been developed for allocating longer-term and day-ahead capacity between Britain and France, while a form of

³⁶ OMEL, Nordpool Spot and EPEX Spot Press Release, "Cooperation of Power Exchanges on European Price Coupling Concept", 5 October 2009.

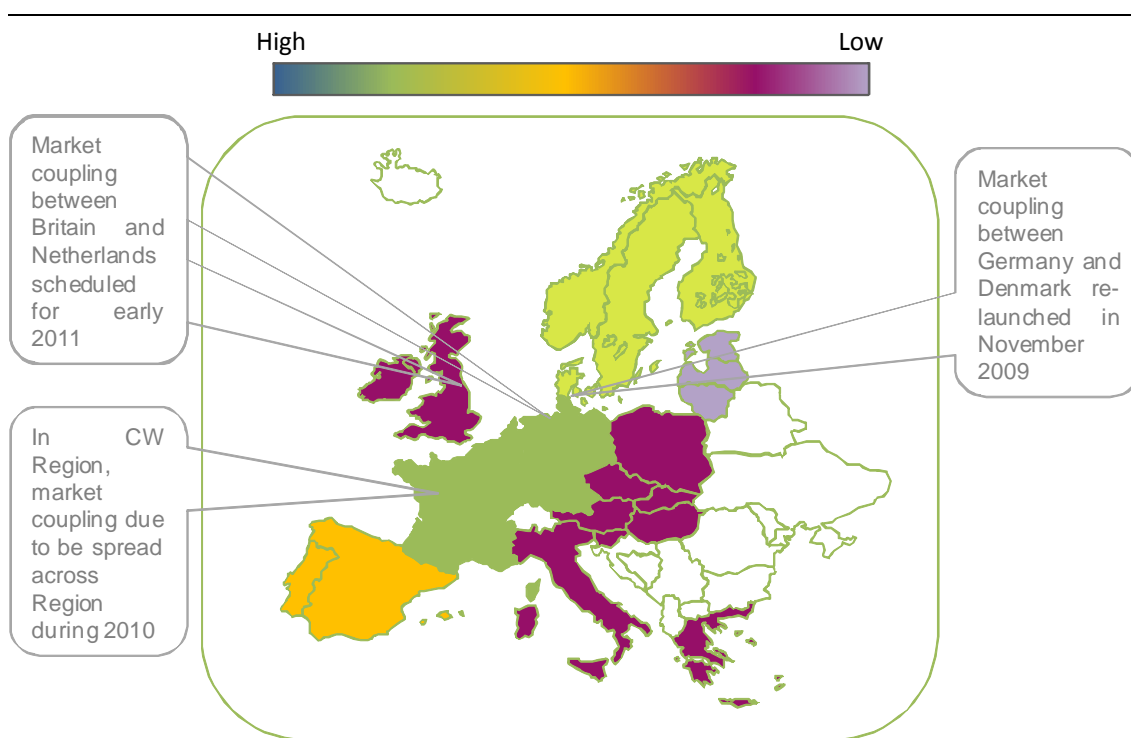
³⁷ ENTSOE, Joint Declaration on Main Market Coupling Principles by the TSOs of the CWE and Nordic Regions, 8 October 2009.

³⁸ Lead regulator has reported that a first pilot market coupling project will be implemented on the Italy-Slovenia border within year 2010.

price coupling is proposed for the British-Netherlands link that is scheduled for early 2011; and

- Limited progress has occurred in the **CE Region**, where consideration of day-ahead markets has been deferred partly due to a perceived lack of liquidity in the national markets and until the development of a Regional Auction Office³⁹.

Figure 12. Current level of development on day ahead – Electricity.



Source: everis and Mercados EMI

³⁹ However, market coupling between the Czech and the Slovak markets was introduced in September 2009. At the same time, an organised electricity market was introduced in Slovakia, managed by the TSO.

Market coupling is an area where progress has been made in Europe over the past decade, but only in specific geographical areas, namely those covered by the N, CW and SW Regions. The extent to which the approaches to day-ahead markets can converge is considered in greater detail in Section 6. However, some consensus as to the desirability of price-based market coupling (or market splitting) has emerged, partly prompted by the problematic experiment of volume-based market coupling between Denmark and Germany.

The limited progress on developing day-ahead markets in the other Regions has various implications. On one hand, the potential for approaches to diverge in 4 of the 7 Regions is limited when progress is negligible; but the situation may change in the future if the process finally gains momentum. On the other hand, as progress in these Regions has been less than expected, the question emerges as to the extent to which the RIs process is facilitating progress. The reasons for delay vary, from difficulties in identifying the appropriate reference transmission model to regulatory and governance issues.

However, the important results obtained before the launch of the RIs process and in parallel to it show that significant progress can be achieved. Where progress has been achieved, Government has played a strong role, for example in the development of Nordpool and the Iberian market. In all cases, the strong leadership role has provided high-level guidance for the development of the necessary market and technical infrastructure.

Progress on this issue can be tackled through a Top-down approach. Now that an agreement on a reference model seems to be at hand, development at a regional level can be guided towards this common goal.

3.1.2.1.4. Intra-day capacity allocation

Section 1.9 of the Guidelines contained in the Annex to Regulation 1228/2003 and now in Annex I to Regulation 714/2009 states that, "by 1 January 2008, mechanisms for the intra-day congestion management of inter-connector capacity shall be established in a coordinated way and under secure operational conditions, in order to maximise opportunities for trade and to provide for cross-border balancing".

Systems of intra-day capacity allocation are most advanced within existing power markets (for example, Nordpool and MIBEL). Means to promote intra-day allocation have been action items for all Regions.

However, progress has generally been slow in all Regions. Limited progress has occurred in the Regions with the most developed forward trading systems. However, the increasing interest on penetration of wind generation may require a greater focus on intra-day trading:

- In the **N Region**, an intra-day trading platform was introduced, albeit briefly, at the same time as market coupling was first launched on the German-Denmark

inter-connector in 2008. However, since March 2009 the ELBAS market has been providing intra-day trade within the Nordpool area;

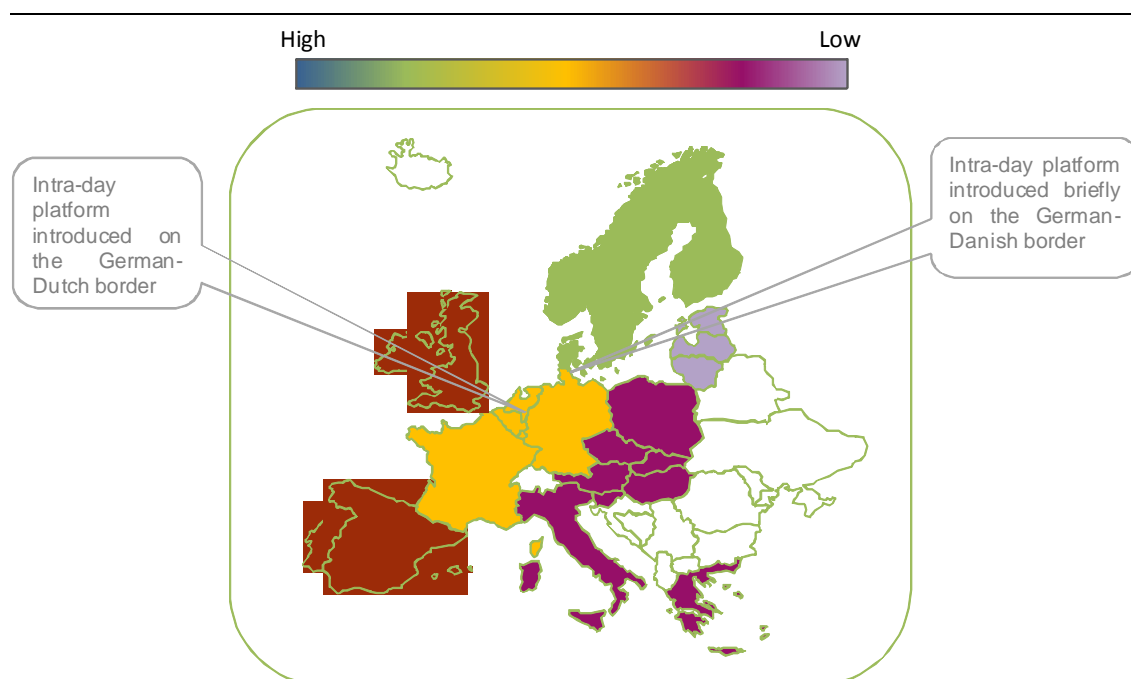
- In the **CW Region** an intra-day capacity platform was introduced on the Dutch-German border and in May 2009 the TSOs modified the pro-rata mechanism on the Dutch-Belgian border. Consultation was recently concluded on the appropriate form of intra-day trading, with the choice between an implicit auction model or a continuous trading approach. NRAs are currently working on their position. However, intra-day capacity allocation is not a high priority issue for the Region;
- In the **SW Region**, Spain and France discussed options for improving the current intra-day allocation mechanism but no clear direction emerged from the public consultation; and
- In the **FUI Region** an intra-day allocation mechanism was implemented in October 2009 as part of the revised Access Rules.

In other Regions progress on intra-day trade has also been slow and in some cases has been held up, largely due to the follow on impacts of slow progress on day-ahead markets or long-term congestion management. For example:

- Although there are some bilateral cross-border intra-day agreements in the **CE Region**, further progress is being deferred until the Regional Auction Office becomes operational; and
- In the **CS Region** progress is being held up due to differences in market design as no internal intra-day market exists in Italy⁴⁰.

⁴⁰ In 2009, two so-called “Intra-day” market sessions were introduced in Italy, but they both operate in day before the delivery day.

Figure 13. Current level of development on intra-day – Electricity.



Source: everis and Mercados EMI

In general, slow progress with respect to intra-day trading should not necessarily be a major problem, or a barrier to future European market integration, as most of the benefits from the integration of different national markets come from efficient capacity allocation on a day-ahead and longer terms and from ensuring that efficient balancing mechanisms are in place. However, the growing share of intermittent generation sources increases the need to have a well functioning intra-day market in place. In many cases slow development in intra-day trading is occurring in parallel with slow progress in day-ahead and longer-term trading, which indicates potential failings of governance.

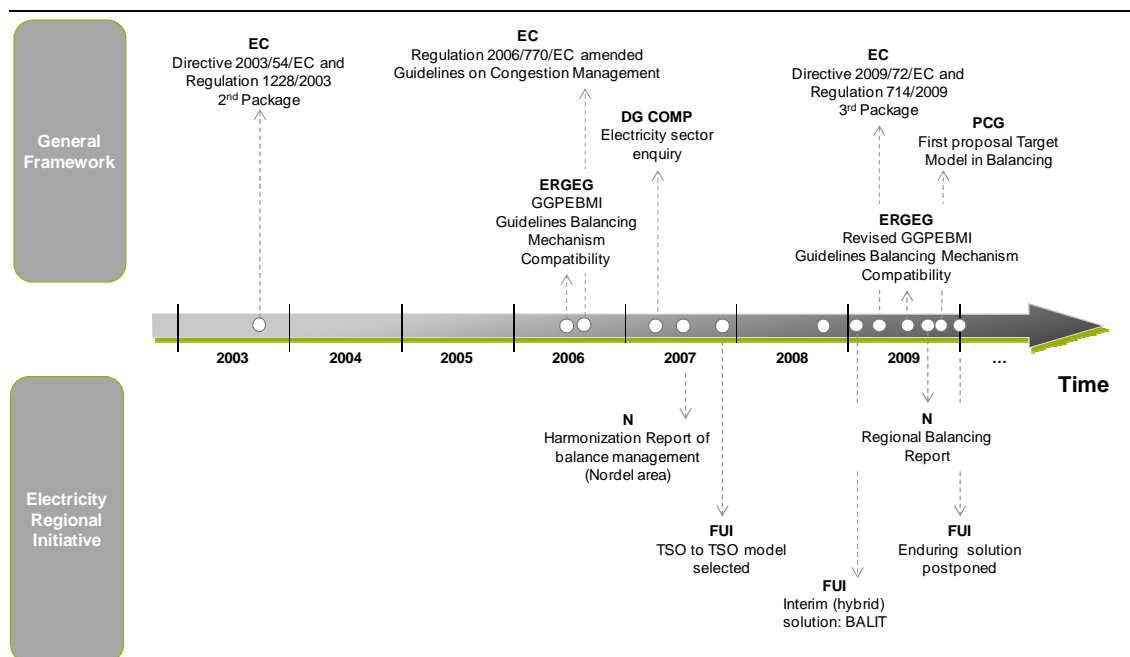
As with the rest of the issues related with congestion management, a Top-down approach, in the form of a reference model, would be the best option to manage future progress on this issue.

3.1.2.2. Balancing

Connecting balancing markets is a key factor in the efficient functioning of regional trade. However, only a few countries allow cross-border participation in their national

balancing market. Moreover, balancing and reserve markets are highly concentrated across the EU⁴¹.

Figure 14. Balancing Timeline – Electricity.



Source: everis and Mercados EMI

The Second Electricity Directive established an initial regulatory framework for balancing market integration⁴², which was developed by Regulation 1228/2003 and the Congestion Management Guidelines⁴³. Moreover, ERGEG developed two specific guidelines on balancing, which were issued in December 2006⁴⁴ in September 2009⁴⁵ respectively.

In order to harmonise balancing markets a common understanding of the concept of balancing and the role of the TSOs is required. Despite the liberalisation of the electricity markets, the basic role of TSOs – that of transmitting electric power on the High Voltage network in a safe and efficient manner - has not changed in principle. What has radically changed in recent years is the way in which TSOs acquire the resources they need to fulfil their basic responsibility of operating the transmission system. For

⁴¹ "Concentration in balancing markets could be reduced if the geographical size of control areas was enlarged. Harmonisation of balancing markets regime would be an important step to increase the size of control areas, improve market integration and simplify trade". "Inquiry into competition in gas and electricity markets". COM (2006) 851 final. January 2007.

⁴² Articles 11.7, 14.6 and 26.2. Directive 2003/54/EC.

⁴³ Articles 1.8, 1.9 and 5.7 of the Congestion Management Guidelines adopted in accordance with Article 8 of Regulation (EC) No 1228/2003.

⁴⁴ ERGEG, "ERGEG Guidelines of Good Practice for Electricity Balancing Markets Integration (GGP-EBMI)", December 2006.

⁴⁵ ERGEG, "Revised ERGEG Guidelines of Good Practice for Electricity Balancing Markets Integration (GGP-EBMI)", September 2009.

example, Directive 2003/54/EC requires that TSOs should not directly own generators, which forces them to procure balancing services through market mechanisms. Due to the differences in market arrangement in Europe, there are a variety of models through which TSOs procure the different system services. Full harmonisation of balancing markets is not necessarily a prerequisite for cross-border balancing. However, to achieve the full benefits of a common balancing market, the balancing services that the TSOs deliver should meet minimum levels of harmonisation⁴⁶. Failure to pursue a minimum level of harmonisation creates risks in term of market distortion and inefficiency⁴⁷.

Differences in national balancing markets complicate the convergence towards a single cross-border balancing model. This heterogeneity in national markets has been identified by stakeholders as the major factor hindering harmonisation. A possible roadmap for balancing was developed in a Study commissioned by DG-TREN and published in February 2009⁴⁸ and which was further developed by the Project Coordination Group of experts commissioned by ERGEG (PCG). It is accepted by most stakeholders that some common standards should be implemented across all balancing mechanisms (for example, harmonisation of gate closures and technical characteristics). In this context, the ERI could help to promote implementation of these minimum prerequisites on a case-by-case basis.

Balancing issues were identified among the priorities in almost all electricity Regions. However, with the exception of the FUI Region, little progress has been achieved:

- The **N Region** can be divided into the synchronous part of the former Nordel area and Western Denmark, Germany and Poland which belong to the former UCTE area⁴⁹. Within the former Nordel area, and despite differences in market design, reciprocal access to national balancing markets already existed prior to the RIs. In 2006 the Nordic energy regulators issued a report describing the main obstacles to reaching a common balance management system⁵⁰, while in February 2007 a first proposal to harmonise specific technical characteristics of balancing services was presented. However, with different market features still in place, Nordic countries faced potential market distortion, including asymmetric market opportunities and different imbalance exposure between neighbouring countries. Therefore, in November 2007 a new report was issued

⁴⁶ The services to be harmonised include: “*technical requirements, types of allowed participants, timescales, format and contents of the notice to delivery, product characteristics, bidding process and platform, payment procedure, data exchange and information publication, etc*”. “GGP on Electricity Balancing Markets Integration”, Ref: E05-ESO-06-08, ERGEG.

⁴⁷ These risks could be summarised into two main categories: Distortions in cross-border wholesale (day-ahead and intra-day) trading and Inefficiencies in grid security management. “Study of the interactions and dependencies of Balancing Markets, Intraday Trade and Automatically Activated Reserves”, Ref: TREN /C2/84/2007, 2009. Leuven & Tractebel Engineering.

⁴⁸ “Study of the interactions and dependencies of Balancing Markets, Intraday Trade and Automatically Activated Reserves”, Ref: TREN /C2/84/2007, 2009. Leuven & Tractebel Engineering. According to the study, these issues can be summarised into Distortions in cross-border wholesale (day-ahead and intra-day) trade and Inefficiencies in grid security management.

⁴⁹ Union for the Coordination of the Transmission of Electricity.

⁵⁰ Nordic Energy Regulators (NordREG) “Development of a common Nordic balance settlement”, Report 3/2006.

that was designed to promote greater harmonisation of balance management⁵¹. The planned harmonisation measures were implemented in Finland, Sweden and Denmark at the beginning of 2009 and in Norway by March 2009.

In spite of the progress achieved in the Nordel area, the integration of the balancing markets with those in Germany and Poland has been slow. Much of the progress has involved the harmonisation of published information. A draft report on Cross border balancing for the whole Region, mapping the different systems, was presented by the TSOs of the Region in October 2009⁵².

- In the **FUI Region** a balancing market across the England-France interconnector is to be gradually developed on the basis of a TSO-to-TSO model. An interim solution, called BALIT, which was developed by both TSOs, was introduced in March 2009. BALIT is a manual arrangement based on the current balancing contract in which TSOs can exchange six prices a day on a day-ahead basis⁵³. An enhanced and more enduring approach to balancing is to be introduced in 2010.

The approach to balancing within the FUI Region is practical in nature and is designed to enhance exchanges of balancing services between France and Britain without harmonisation of national arrangements. The project has been designed to retain a fundamental level of compatibility with the evolving harmonisation of balancing markets in the mainland European synchronous markets, especially regarding timeframes for TSOs to exchange bids and offers. Except for the levying of charges for the use of interconnectors, the solution is in line with the Guidelines of Good Practice for Electricity Balancing Market Integration⁵⁴.

Nevertheless, concerns have been raised about the feasibility of the proposed enduring solution and the extent to which the balancing markets can be fully integrated⁵⁵. The differences in market design between Britain (island system) and France (part of large continental system) have been cited as a contributory factor hindering the integration⁵⁶.

- Within the **SW Region**, the Spanish TSO has presented a feasibility study for the creation of balancing perimeters in Spain⁵⁷, to be explored as a possible way to ease participation of agents in neighbouring countries in balancing markets. In

⁵¹ Including common principles for cost allocation and settlement, common fee structure, establishment of two balances (one for production and one for consumption) and common gate closure.

⁵² 1st meeting in the IG meeting on cross border balancing, August 2009.

⁵³ The price windows correspond to the current intra-day gate closures in the French market (subject to availability of interconnection capacity).

⁵⁴ ERGEG, "Revised ERGEG Guidelines of Good Practice for Electricity Balancing Markets Integration (GGP-EBMI)", September 2009.

⁵⁵ According to ETSO, paying for the use of interconnector infrastructure in the FUI Region is a potential obstacle. In addition, the SEM day-ahead market design (single gate closure) may restrict market participants' access to cross-border balancing services. Second ERI Coherence and Convergence Report ERGEG. 11 March 2009

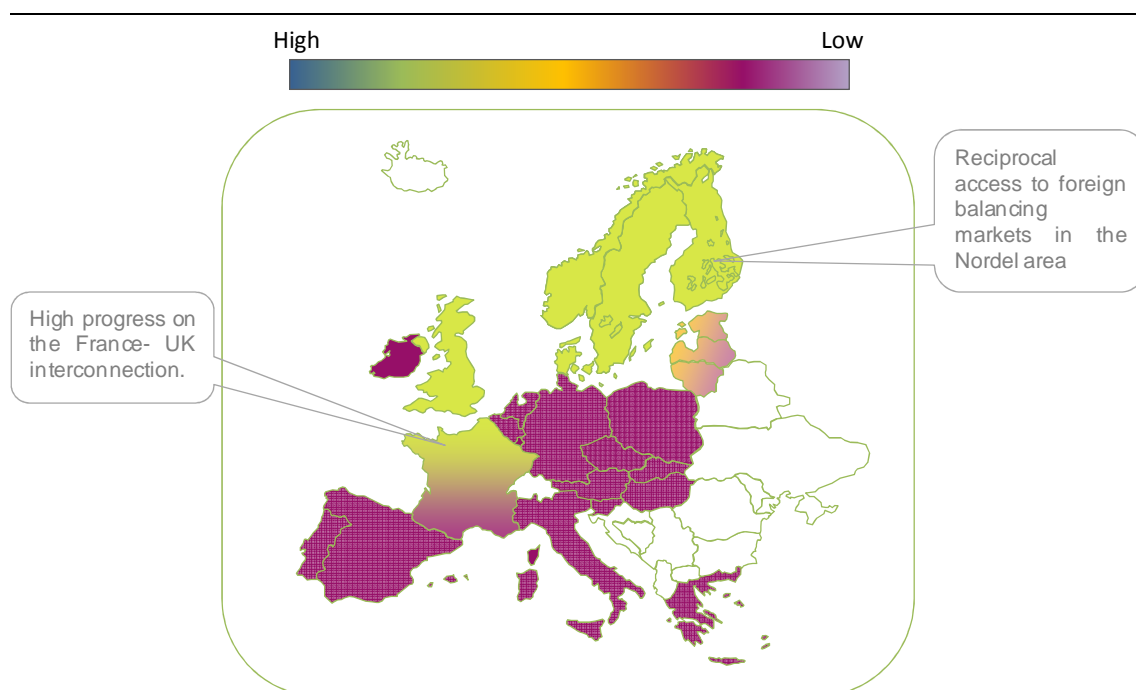
⁵⁶ For example, Britain has a smaller and tighter system and may need higher certainty on balancing power.

⁵⁷ 5th IG meeting. The final design of balancing perimeters in Spain has not been decided yet.

parallel, TSOs within the SW Region are considering developing a model on cross-border balancing exchange that would be compatible with BALIT.

- The **Baltic Region** established balancing as a priority issue⁵⁸. To date the Region has issued various papers on balancing. Although limited progress has been achieved to date, the development of explicit balancing markets is unlikely to be viable until spot markets are created under the Baltic Energy Market Implementation Plan (for example, the Estlink price area in Nordpool and in Lithuania).
- The **CW, CE and CS Regions** have not given balancing a high priority. Currently, some German and Swiss generators bid into the French Balancing Mechanism. Additionally, projects currently planned or in discussion include: Germany-Austria Hybrid (TSO-Market Participants and TSO-TSO); Belgium-Netherlands (currently under consideration) and German TSO-TSO (inside Germany started in December 2008, in progress) models.

Figure 15. Current level of development on Balancing across Regions – Electricity.



Source: everis and Mercados EMI

⁵⁸ The harmonisation of balance management has been highlighted as a pre-condition for a future Nordic retail market, as it would benefit market participants with a Nordic-wide focus.

Cross-border balancing exhibits regional specificities, which means that the transition to a coordinated cross-border balancing market will not happen “overnight”. In the short run, there is a consensus among stakeholders that implementation of cross-border balancing could focus on fulfilling minimum harmonisation requirements, seeking compatibility of balancing mechanisms on a regional basis (see Section 6). Minimum regional harmonisation could be supported with the introduction of cross-border intra-day markets.

In the long run, most stakeholders support the implementation of harmonised cross-border day-ahead and intra-day trading before a cross-border balancing solution is developed⁵⁹. In fact, intra-day markets could provide market participants with more tools for balancing, especially if gate closure is close to delivery time, and will leave TSOs with smaller imbalances to manage. As a result, volumes activated on balancing markets could be a residual feature of intra-day markets volumes.

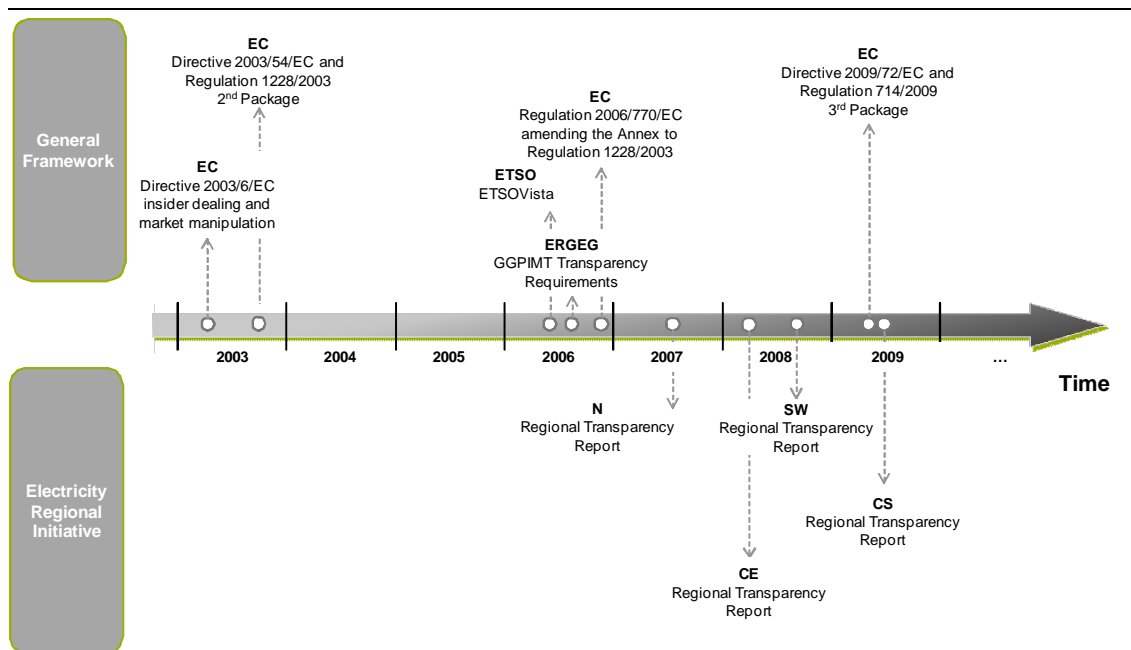
In any case, a European reference model derived from the progress and experience already achieved in different Regions can be identified. Hence, a Top-down approach is most appropriate, with future development at a regional level guided towards this common goal.

3.1.2.3. Transparency

Transparency of information is considered essential for the effective functioning of an electricity market, providing a “level playing field” for all market participants, including smaller traders without access to information.

⁵⁹“Second ERI Coherence and Convergence Report-An ERGEG Conclusions Paper”, Ref: E08-ERI-19-04. 11 March 2009.

Figure 16. Transparency Timeline – Electricity.



Source: everis and Mercados EMI

Some transparency requirements were established by Directive 2003/54/EC and Regulation 1228/2003, and now Directive 2009/72/EC and Regulation 714/2009, with the accompanying Guidelines on Congestion Management. For example, Regulations 1228/2003 and 714/2009 define ex-ante and ex-post demand information, production and balancing adjustment information that the TSOs must publish as well as information on the availability and use of the networks and interconnections. In addition, some other requirements on financial markets transparency were specified in Directive 2003/6/EC⁶⁰ on Insider Dealing and Market Manipulation. However, the various requirements, particularly in the earlier regulations, were not particularly specific as:

- They did not clearly establish the details on the format of information disclosure (for example, the medium, language or publication time);
- There were additional ambiguities related to the nature of the information requested; and
- There were areas, such as generation, in which no specific transparency requirements were defined.

Therefore, the interpretation and the subsequent arrangements for providing market participants with information on electricity markets varied a great deal across countries.

⁶⁰ Directive 2003/6/EC of the European Parliament and of the Council of 28 January 2003 on insider dealing and market manipulation (market abuse).

To provide greater clarity ERGEG decided to develop a framework of common minimum transparency requirements. This framework was meant to help the coordinated implementation of a set of actions towards relieving information “asymmetry” through disclosing necessary data and information on all components of the electric power supply value chain. The Guidelines for Good Practice on Information Management and Transparency in Electricity Markets (GGPIMT) developed by ERGEG in August 2006, established a consistent approach to the provision of market related information. The GGPIMT introduced a minimum set of rules/level of transparency as well as principles governing information release to be applied across European electricity markets⁶¹. Later in the same year, the European Commission adopted its amended Guidelines on Congestion Management, which included specific transparency requirement on generation⁶².

Different monitoring reports by the European Commission and some NRAs have shown that current requirements and rules on access to infrastructure are insufficient to effectively promote market integration. Therefore, Regulation 714/2009 specifies the need for more precise information on: electricity generation, supply and demand, including forecasts; network and interconnection capacity, flows and maintenance; balancing and reserve capacity⁶³.

ERGEG’s GGPIMT became an important reference for the development of specific regional Transparency rules throughout the Regions.

- The **N Region** was the first to produce a Regional Report based on the GGPIMT and the amended Congestion Management Guidelines. Implementation in a two-step approach was agreed by stakeholders in the Region. A full range of issues are considered in the Report including system load, transmission and access to interconnections, generation, balancing and wholesale market.
- The pivotal role of Germany, a member of the N Region, has been considered as a key success factor to push the development of similar Regional Reports in the other Regions in which it is involved: **CE, CW and CS Regions**. A common approach to transparency was possible thanks to an agreement of the Regulators involved under which Regulators that were part of more than one Region would implement an approach that was consistent with the approach agreed for the N Region⁶⁴. Although, these other Regional Reports postulate the same requirements in principle as in the N Region, the differences in the regional electricity markets have been reflected in variants for the different Regional Reports. For example, the requirements for generation availability in the CW Region differ from those in other regions.

⁶¹ The transparency requirements identified were classified into five areas: a) System load; b) Transmission and access to interconnections; c) Generation (units of 10 MW and above); d) Balancing and; e) Wholesale market information. In addition, the GGPIMT also defined the required information, timing of publication, time frame, key benefits, information provider and information source for all the areas covered.

⁶² Article 5.5 (i) of the guidelines. Commission Decision of 9 November 2006 amending the Annex to Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity.

⁶³ Section 5 of the Congestion Management Guidelines contained in Annex I of Regulation 714/2009 provides more detail about the information to be provided.

⁶⁴ “Electricity Regional Initiative Northern Europe Region”. Implementation Group Transparency. Matthias Kurth. President of Bundesnetzagentur. Florence Forum 24/25 September 2007.

- The final version of the Regional Transparency Report for the **SW Region**⁶⁵ is more advanced than many other regional reports as it requires information to be provided on the limiting constraints of interconnections. The Report also identifies areas where improvement is required, which has been considered to provide important incentives for TSOs to improve their level of compliance.

Reports on transparency have not been issued in the Baltic and FUI Regions.

- The **Baltic Region** has yet to issue a Regional Transparency Report, though it still has plans to do so⁶⁶.
- The **FUI Region** has considered the development of a Regional Transparency Report a low priority. Most of the TSOs in the Region produced formal written consultation papers that set out their target levels of transparency according to GGPIMT in their own market. A work stream for this topic was established at the end of 2006. Although the work on a formal Regional report is currently on hold, transparency is being addressed by other developments. At present transparency in France is being addressed through its membership in other Regions⁶⁷, while the level of transparency in UK is already relatively high and the Single Electricity Market (SEM) in Ireland and Northern Ireland imposes transparency requirements on participants.

As described above, five out of the seven Regions have developed coherent Regional Transparency Reports. Although not all transparency reports have come into force yet⁶⁸ and their provisions are not binding, they provide a firm basis for harmonising and implementing transparency rules. Currently, monitoring of the compliance with the requirements established in the Regional Reports is ongoing in some of these Regions.

In the 2008 ERI Coherence and Convergence Report⁶⁹, many respondents “welcomed the regional approach established by the Transparency Reports” which are harmonised to a high degree. Many comments were directed towards the need to “harmonise definitions, uniform formats, common language and internet based publication requirements”. In other words, it was stated that information should be “published in an equal and timely manner and on standardised basis”, since there are still some differences between Regions in the level of implementation/requirements (especially

⁶⁵ The transparency report was published in September 2008. Full compliance by TSOs was expected by the end of 2008. TSOs informed in the 5th IG meeting about the new publications presented to fully comply with Regulation 1228/2003.

⁶⁶ The report on transparency in Baltic States is reported to be close to completion. Apart from NRAs, TSOs and other (producers, traders) are actively involved in the IGs work.

⁶⁷ In France, the publication of transparency reports in the three other regions fostered improvements concerning load forecast and forecast of transmission capacity. However, there have been complaints about generation transparency and availability of network and other data. Concerning generation data, RTE started publishing the installed capacity per production unit. However, RTE does not publish unavailability per unit yet, because they consider it would constitute a breach in RTE confidentiality obligations. Additional improvements are expected concerning capacity nominated in intra-day and details on outage of transmission line.

⁶⁸ For example, the Transparency report in the CS region is to be implemented in full from 2010.

⁶⁹ “Second ERI Coherence and Convergence Report-An ERGEG Conclusions Paper”, Ref: E08-ERI-19-04, 11 March 2009.

with respect to generation data⁷⁰ and post trade information⁷¹). Moreover, during the consultation process some stakeholders complained about the level of implementation requirements and commitments included in the Transparency Reports. In addition, in June 2009 the European Commission launched infringement procedures⁷² against some Member States due to the lack of compliance with Regulation 1228/2003 and the Electricity Directive (2003/54/EC).

One way to improve the harmonisation of information provided would be to publish standardised information on a single information platform. In this sense, in 2006 ETSO launched a transparency platform for electricity market data, called ETSOVista. In the first phase, a large number of TSOs published information on cross-border physical flows, cross-border commercial schedules and auction information⁷³. However, the platform has not operated as envisaged as it was expected that data, especially that relating to generation, would be published in a more coordinated manner than has been the case. Possible reasons why the platform has not been particularly successful are similar to those reported for the slow progress in the implementation of Regional Transparency Reports, namely a lack of commitment of some of the involved parties, and legal constraints in some countries (business confidentiality) for data exchange between generators and TSOs.

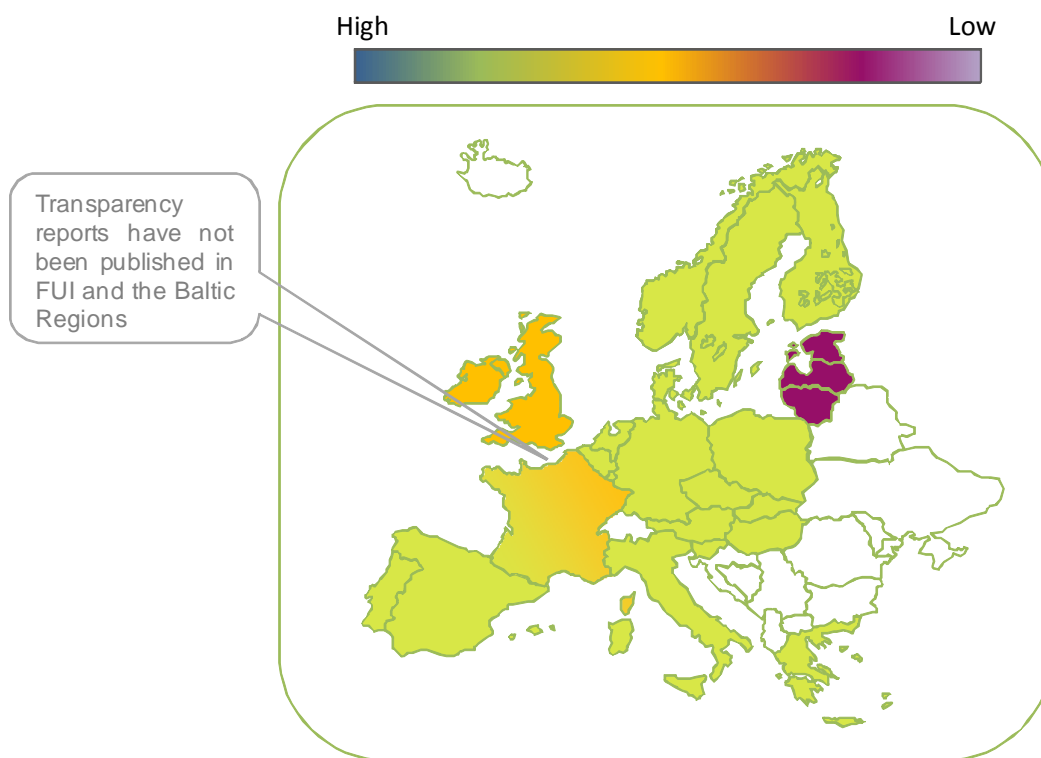
⁷⁰ At the moment, publication of the price, volume and time of the transactions executed are missing in several markets. See "The 3rd IEM Package and wholesale markets". H. Hick, European Commission, DG TREN C2.

⁷¹ Further development of post-trade Transparency with respect to contracts and derivatives (publication of the price, volume and time of the transactions executed) is currently being pursued. Information is already available from platforms in several countries; however it is not always uniform throughout the EU. Recital 32 of the Electricity and Gas Directives (3rd Package).

⁷² See Press releases: "Commission acts to ensure effective and competitive energy market across Europe" IP/09/1035 (June 2009), "Q&A: the infringement exercise concerning cross-border energy network access and regulated prices" MEMO/09/297 (June 2009).

⁷³ From September 2008 ETSOVista publishes about ten types of data supplied by more than thirty TSOs.

Figure 17. Current level of development on Transparency across Regions – Electricity.



Although there are some Regional differences, general requirements are very similar in all the Regions that have published a Regional Transparency Report

Source: everis and Mercados EMI

In general, transparency does not have regional aspects and therefore, is suited to a Top-down approach. Consensus on major transparency requirements for a well functioning electricity market seems to have been reached easily. Therefore, an earlier piece of binding legislation could have been effective in advancing progress. To date implementation has lagged behind the development of Regional Reports. The harmonised implementation of transparency rules may only be achieved if supported by detailed and binding European legislation. Minimum information requirements, including data to be reported in a European level platform should be established.

In this regard the Commission has started the process of developing legally binding guidelines for transparency. At the Florence Forum of December 2009 ERGEG agreed to advise the Commission on a legally binding guideline by the June 2010 Forum with the view of developing a final draft by the end of 2010 that the Commission can pass through Comitology.

3.1.2.4. Others

Apart from the topics mentioned above, there are some other issues that have been considered by the Regions. These include the regulatory gap, market entry barriers, interconnection investment planning, regional market monitoring, and approaches to licensing market players. A summary of the activities undertaken in all those issues by the different Regions is presented below:

Figure 18. Activity within other issues.

Issues		Progress
Regulatory differences for cross border issues	SW	<ul style="list-style-type: none"> MIBEL has addressed the distribution of competences and organizational matters concerning regulatory authorities. Analysis of the administrative procedures for the changing of the legislation in force in each country showed wide differences in the powers of each Regulator.
	CE	<ul style="list-style-type: none"> Identification of tasks and responsibilities for market integration. Analysis shows, that the allocation of responsibilities differs in the Region. Progress unclear.
	CW	<ul style="list-style-type: none"> Planning of some form of regional market monitoring. This will involve commitments from regulators to exchange relevant data and information.
Market entry barriers	CE	<ul style="list-style-type: none"> Regulators defined the identification of currently existing impediments and the negative impacts on market integration in that respect as a major priority.
Planning and investment in transmission	Baltic	<ul style="list-style-type: none"> Development of a Baltic Energy Market Interconnection Plan (BEMIP) for the interconnection of Baltic region to the Nordic market. First draft project proposals of Nord Balt Estlink cable.
	CE	<ul style="list-style-type: none"> TSOs have elaborated a "Regional Investment Plan" which seems to be more a collection of national TSO investment intentions than a regionally coordinated plan.
	CW	<ul style="list-style-type: none"> TSOs have elaborated a common methodology and concrete results are expected for the end of this year. The monitoring of this task has been transferred to the Pentilateral Energy Forum.
	N	<ul style="list-style-type: none"> Limited progress.
	SW	<ul style="list-style-type: none"> Agreement between the Governments (June 2008) to build a new line to increase the interconnection capacity between France and the MIBEL through the Eastern Pyrenees.
	FUI	<ul style="list-style-type: none"> Interconnection has not been considered within the FUI RI project, however new interconnectors are proceeding between UK and the Netherlands (Britned) and UK and Ireland (Eirgrid's East-West Interconnector).
Integration of wind-power in the systems	N	<ul style="list-style-type: none"> Limited progress.
Licensing	Baltic	<ul style="list-style-type: none"> Comparison of the existing licensing systems. Only one barrier identified: electricity import/export permits system in Lithuania and electricity import licensing in Estonia. Lines of work include: <ul style="list-style-type: none"> Abolition of the export/import permits and licenses. Maximize access to information. Appropriate changes to legislative authorities.

Source: ERGEG. Elaboration: everis and Mercados EMI

Out of all of these issues the “regulatory gap” and “interconnections” are the most relevant for their impact in the overall integration process.

Currently regulatory competences are not uniform across jurisdictions, which can affect the scope for regional cooperation. Some of the aspects considered across Regions include:

- Differences in powers of Regulators, and the possibilities for cross-border cooperation and action;
- Lack of flexibility in some national legislation; and

- Differences in market design.

Progress on interconnection reported by Regions can be classified under two headings:

- A Regional investment plan developed by TSOs, which however is generally more a collection of national investment plans rather than a coordinated regional plan; or
- Bilateral agreement between Member States to increase cross-border capacity.

In both cases limited national government support and/or commitment has hampered progress. Decisions have sometimes been transferred to the alternative regional initiative in which governments are involved (for example, the Pentilateral Forum or MIBEL). If the interconnection is outside those boundaries, support from the European Commission has proved to be a key driver for development (i.e. Interconnection France-Spain). The Community-wide ten-year Network Development Plan included in the 3rd Package is expected to provide a more consistent approach to this issue⁷⁴.

The integration of wind energy has only been addressed within the N Region. However, political commitment to promote renewable energy across the EU has increased focus on this issue. An increasing amount of wind generation combined with greater inter-relationships between national markets has forced NRAs and Member States to discuss the impacts of greater wind energy across borders, including at a European level. Thus, the Council of European Energy Regulators (CEER) is already considering how to assess the way in which the different regulatory regimes to promote wind generation can impact on market arrangements and the implications for gate-closure times, cross-border market integration and balancing and reserve markets⁷⁵. Other new developments like smart grids, distributed generation and the introduction of the electrical car may also be appropriate topics for the ERIs due to its possible impact on regional networks.

⁷⁴ “ENTSO for Electricity should draw up, publish and regularly update a non-binding Community-wide ten-year network development plan (Community-wide network development plan)”, Regulation No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation No 1228/2003.

⁷⁵ “Regulatory aspects of the integration of wind generation in European electricity markets”. Ref: C09-SDE-14-02a 10-December-2009.

3.1.3 Analysis by Region: Organisational mechanisms

The different Regions in the ERI have been structured following the organisation described in the Section 2.2.3. However, the relative importance of the RCC and IG has varied by Region, as has the activity of the Regions in producing reports for public consultation. The high-level activities of each Region is summarised in the following table:

Figure 19. Activities in each Region.

Region	RCC Meetings	IG Meetings	SG Meetings	Other meetings
Baltic	7	6	8	0
Central East (CE)	12	20	2	1 ⁽¹⁾
Central South (CS)	16	14	2	0
Central West (CW)	18	5	3	2 ⁽²⁾
Northern (N)	14	14	3	1 ⁽³⁾
South West (SW)	10 ⁽⁴⁾	5	3	3
France-UK-Ireland (FUI)	16	16	8	0

⁽¹⁾ Common RCC meeting CE-CW

⁽²⁾ 1 Common RCC meeting CE-CW and 1 Common RCC meeting CW-Northern

⁽³⁾ Common RCC meeting CW-Northern

⁽⁴⁾ 2 RCC meetings and 8 Technical RCC meetings

Source: ERGEG (number of meetings reported in ERGEG website as of December 2009)

The schedule of meetings shows that the RCC and IG fora have been most used in the CE, CS, FUI and N Regions. The focus on the RCC has been predominant in the CW Region, while the IG has been particularly prominent in the CE Region. SG meetings have been employed most in the Baltic and FUI Regions.

In all Regions there has been activity over the past 6 months. However, the use of the RCC seems to have waned in the Baltic Region (no meeting since September 2008), while the IG has become relatively dormant in the CW (last meeting January 2008), N (last meeting July 2008) and the FUI (last meeting November 2008) Regions. The CW Region has been the most active in the area of public consultations, producing consultation documents on Auction Rules, Intraday Trade and Transparency.

Further details on how the various Regions have operated are set out below.

3.1.3.1. Baltic Region

The Baltic Region is the smallest Region, including Member States which account for less than 1 per cent of total EU energy consumption. The Baltic market is relatively isolated, but is considered to have the potential to form a strategic link between the developed CW and N Regions. There are currently plans to integrate the Baltic market with the Nordic/Northern market, with the Estlink Price area due to be opened in April 2010. A prerequisite for the integration is market-based pricing at least at the level of wholesale market. Member States have started to take action in this regard, for example, the Estonian Parliament approved a Bill that amends the electricity market legislation and abolishes regulated tariffs for eligible customers.

An additional unique feature of the Baltic Region is the relatively low priority initially given to congestion management due to a lack of congestion on its internal borders⁷⁶. Nevertheless, congestion management has been raised as an emerging issue in the SG meetings in 2009. In response the Region has created a Working Group to manage progress.

3.1.3.1.1. Achievements

An overview of progress against the stated objectives of the Region is set out below.

Figure 20. Concrete results achieved in the Baltic Region.

	Objectives	Concrete results
Short Term	Cooperation between network operators (including cross border issues and availability of transmission capacity)	<ul style="list-style-type: none"> The need for procedures relating to congestion management were minimised due to the proposed Estlink interconnector being except from the provisions related to new interconnectors and the lack of cross border constraints.
	Access to grids and balancing	<ul style="list-style-type: none"> Three reports on balancing in the Baltic region has been produced with proposals and assessment for future arrangements.
	Availability and control of information	<ul style="list-style-type: none"> A Regional Transparency Report is under finalization.
Medium Term	Market development and compatibility with national legislation	<ul style="list-style-type: none"> The IG has produced a paper on licensing across the three countries.

Source: ERGEG. Elaboration: everis and Mercados EMI

3.1.3.1.2. Organisation

The Baltic Region has adopted an organisational structure which is substantially different from the other Regions. Rather than relying mainly on the RCC and IG, the Baltic Region has placed strong emphasis on SG meetings.

There have been a high number of stakeholder group meetings (8), more than in most other Regions. At the same time, IGs are run in parallel the day before of the SG

⁷⁶ There is currently excess capacity in interconnections with neighbouring countries. However, it has been reported that the available supply of electricity for Latvia could be restricted due to congestion outside the Baltic region (in the Smolensk - Belorussia and Lithuania - Belorussia cross border).

meeting. The relatively small number of stakeholders and the small size of the market appear to have facilitated this form of working arrangement.

Stakeholders were actively involved in the Balancing IG's work and the balancing models were presented and discussed at the SG meetings.

Being a small Region, isolated from other EU electricity markets, and with few problems of congestion management, significant progress on many issues has not been essential to date. However, due to its strategic position, further integration with CW and N Regions will facilitate work on congestion management.

3.1.3.2. Central-East Region

This Region encompasses a wide range of market experiences, due to the inclusion of many Member States which joined the EU in 2004. Reflecting the nature of the markets in some of the 'new' EU Member States, a large part of the work developed in the Region has been oriented towards accelerating progress in the new Member States.

3.1.3.2.1. Achievements

An overview of progress against the stated objectives of the Region is set out below.

Figure 21. Concrete results achieved in the Central-East Region.

	Objectives	Data specified for action	Action specific by this date	Concrete results
Short Term	Congestion management	▪ 2007	▪ Explicit Auctions: Development of Regional Auction Office	▪ A Regional Auction Office has been set up and achieved clearance under EU merger law. Consultation on auction rules ongoing, implementation planned for 2010.
	Transparency	▪ Not specified	▪ Regional Transparency Report issued February 2008	▪ Regional Transparency Report issued in February 2008.
	Market Entry Barriers	▪ Not specified	▪ Gradual removal of barriers	▪ Limited progress.
	Regulatory Competences	▪ Not specified	▪ Define clear cross border competencies	▪ Issues discussed in early RCC meetings but was subsequently deferred and eventually removed.
Medium Term	Balancing	▪ Not specified	▪ Develop progress	▪ Limited progress.
	Market Designs	▪ Not specified	▪ Develop progress	▪ Limited progress.

Source: ERGEG. Elaboration: everis and Mercados EMI

3.1.3.2.2. Organisation

The CE Region has adopted a relatively standard organisational structure, with the IG primarily focusing on congestion management and transparency. The level of activity of the IG has been high compared to other Regions. Work streams on specific issues have

been created within the IG. The Regulators noted that the TSOs in the Region have shown strong commitment to congestion management.

Priority has been given to congestion management and reducing market entry barriers rather than balancing.

There have only been two SG meetings in the CE Region, the latest held on November 2007. Compared with other Regions, this mechanism to involve stakeholders has not been frequently used. However, the CE Region has been effective in implementation, where a Regional Auction Office has been established. The large number of IG meetings may be a contributing factor to progress, or at a minimum an indicator of the level of engagement of key participants.

3.1.3.3. Central-South Region

The CS Region encompasses a diverse range of countries, from France, Germany, Austria and Italy, through to Slovenia and Greece; the latter, with the exception of an interconnector with Italy, being isolated electrically from the other members. Moreover, Switzerland is strategically placed in the middle of this Region, but, not being an EU Member State, it is not bound by the 3rd Package (nor by the previous Directives and Regulation).

The CS Region developed Action Plans for the three key priorities (Auctions, Market Coupling and Transparency).

3.1.3.3.1. Achievements

An overview of progress against the stated objectives of the Region is set out below.

Figure 22. Concrete results achieved in the Central-South Region.

	Objectives	Data specified for action	Action specific by this date	Concrete results
First Priority	Improvement and harmonization of congestion management methods	▪ End June 2008	▪ Development of Business Plan for Regional Auction Office	▪ Agreement has been reached for extension of CASC, originally the auction office for the CW Region, to CS borders. The first auctions for the Italian borders are planned for the end of 2010.
		▪ End 2008	▪ Implementation of market coupling in the CS region	▪ Identified implicit auctions as the target model for short term allocations.
Second Priority	Transparency	▪ Spring 2008	▪ First draft report	▪ Final Regional Transparency Report was produced in January 2009.
	Market Designs	▪ Not specified	-	▪ Limited progress.
	Compatibility of balancing markets	▪ Not specified	▪ Intraday and balancing markets	▪ Limited progress.
	Inter TSO coordination: operational/security standards	▪ Not specified	-	▪ Limited progress.
	Compatibility of national legal frameworks and regulatory competences	▪ Not specified	-	▪ Limited progress.
	Assessment of markets arrangements	▪ Not specified	-	▪ Limited progress.
	Development of new interconnector infrastructure	▪ Not specified	-	▪ Limited progress.

Source: ERGEG. Elaboration: everis and Mercados EMI

3.1.3.3.2. Organisation

The CS Region has met relatively frequently and continues to do so. There have been 15 meetings of the RCC and 14 of the IG. Work streams have been created on transparency and on harmonisation and improvements of explicit auctions.

Specific roadmaps with deadlines and responsibilities have been developed for the Single Auction Office and Market Coupling.

The Region has devoted significant time and resources to address and discuss the role of Switzerland in the Region. The Swiss NRA participates in RCC and IG as an Observer. The Swiss TSO also participates in IGs. However, the fact that Switzerland is not an EU Member State, and that only one out of four Swiss borders is integrated in the work of the CS Region, is often cited as an obstacle to coordinated progress in the Region.

3.1.3.4. Central-West Region

The CW Region differs from many of the other Regions in that, prior to its formation, a strong regional body, the Pentalateral Energy Forum (PLEF) had already been set up to promote regional issues.

The PLEF was established in June 2005 by the ministers of Belgium, France, Germany, Luxembourg and the Netherlands and was designed to improve regional market integration in the region by creating a platform for governments, NRAs, TSOs and key market participants to discuss three main topics:

- Optimisation of available interconnection capacity and allocation mechanisms;
- Security of supply and development of new interconnectors; and
- The removal of legal barriers to closer co-operation.

By the end of 2005, the three regulators CRE, CREG and NMa published a common roadmap concerning the integration of the electricity markets with the following items set as objectives:

- Long term auction rules,
- Market coupling (TLC),
- Implementation of intra-day and cross-border balancing exchanges,
- Transparency,
- Capacity calculation, and
- Monitoring.

At the same time the PLEF created three support groups in charge of the optimisation of transmission capacity, security of supply and the removal of legal obstacles respectively. These support groups started to meet during 2006. A MOU was signed by the member governments following agreement of the regulators on a common roadmap.

The key identified priorities of the CW Region were translated into an Action Plan that was published in February 2007.

All parties in the CW Region committed to enhancing market integration in the region through a Memorandum of Understanding (MoU)⁷⁷. The objectives sought are to analyse, design and implement a flow-based market coupling mechanism between the five countries of the CW zone.

3.1.3.4.1. Achievements

An overview of progress against the stated objectives of the Region is set out below.

⁷⁷ TSOs, Regulators, PXs, the market parties platform and governments. MoU signed on 6 June 2007.

Figure 23. Concrete results achieved in the Central-West Region.

Objectives	Data specified for action	Action specific by this date	Concrete results
Explicit Auctions	▪ January 2008	▪ Implementation of auction rules across CW region	▪ CASC-CWE was set up in 2008 and since January 2009 has managed auctions. Harmonised set of auction rules approved and enforced during 2009.
Market Coupling	▪ 2008	▪ Implementation of FMBC across all region	▪ Implementation of market coupling across whole region planned for May 2010 but not based on FBMC (see capacity calculation).
Cross border intraday trade	▪ January 2008	▪ Implementation	▪ Behind schedule, consultation of stakeholders organised by regulators.
Cross border balancing trade	▪ March 2009	▪ Implementation	▪ Awaiting progress on market coupling and intra-day trade.
Capacity calculation	▪ November 2007	▪ Report on common capacity calculation	▪ TSOs and regulators have agreed to develop an interim methodology between bilateral ATC and flow-based ATC. A proposal is to be developed during 2009 (19-3-09 communication).
Transparency	▪ December 2007	▪ Report issued on information	▪ Report issued November 2007.
Capacity allocation	▪ November 2007	▪ Development of regional incentive scheme to maximise capacity allocation	▪ Minutes of 9th RCC state that regulators were awaiting response from TSOs. Not discussed subsequently in RI meetings.
Plan for regional investment	▪ December 2007	▪ Development of regional investment plan for whole region	▪ Issue passed to Pentilateral Forum due to lack of competency of regulators on this issue.
Regional Market monitoring	▪ February 2007	▪ Taskforce commenced	▪ Timetable for publishing a report in 2009 developed (14th RCC meeting) but no report issued to date.

Source: ERGEG. Elaboration: everis and Mercados EMI

3.1.3.4.2. Organisation

Many key congestion management issues were already being considered before the launch of the ERI process. However, the creation of the CWE RI has facilitated a regional approach to addressing these issues. At least in terms of meetings convened, strong reliance has been placed on the RCC to drive the agenda of the Region. IG meetings have been replaced by expert meetings on specific topics discussed within the region. Additionally, the consultation documents produced have been primarily developed by the RCC, rather than the TSOs.

The TSOs have stated that their resources have been stretched due to the co-existence of the PLEF and the ERI process (though note that detailed congestion management issues have typically only been considered by the ERI). Moreover, the TSO's have stated that,

in the case of overlapping agenda items, the PLEF would take priority. The minutes of the 4th IG meeting (January 2008) state the following concern:

Elia indicated that all TSOs have an acute problem of resources for performing tasks required by the PLEF and by the Regional Initiative because of the addition of parallel running items. It was specified that it was not a question of having too many meetings, but of making sure meetings to be held are needed and efficient. They indicated that, for efficiency reasons, whenever an issue is discussed in both forums, TSOs will give the preference for a discussion in the PLEF in order to avoid double presentations.

In general there has been tacit agreement that political decisions will be left to the PLEF while close monitoring of market coupling will remain with the regulators. At each PLEF Support Group meeting there is a presentation of the CWE regulators on their monitoring of the implementation of market coupling in the region.

The combination of clear results achieved in the Region – notably the TLC – and the structures created by the PLEF has provided a strong framework to develop progress in congestion management. The MoU of the PLEF, partially based on (and referring to) the agreement reached by the regulators of the CWE region is an example of cooperation with a view to reaching a shared objective.

3.1.3.5. Northern Region

The countries in the N Region that are also members of Nordpool are highly integrated. The inclusion of Germany and Poland in the N Region was designed to promote integration between the Nordic countries and the rest of Europe. With the exception of the Polish market⁷⁸, there is high market liquidity in national wholesale markets in the region.

3.1.3.5.1. Achievements

Building on the high level of integration in the Nordpool member countries, the fundamental goal established for this Region has been the creation of a well functioning market interface between the Nordic area and Germany/Poland. The priority topics of work initially identified were divided into primary priorities - tasks closely dependent on the 3rd Package and with a time-frame of 2-3 years - and secondary priorities - with a time horizon of 5-10 years. The Region has made good progress with its primary priorities, while balancing is the most developed issue of the secondary priorities.

An overview of progress against the stated objectives of the Region is set out below.

⁷⁸ In Poland the balancing market is subsidised and due to the weakness of the exchange most trade takes place through bilateral agreements. “Review and analysis of EU wholesale energy markets. Evaluation of factors impacting on current and future market liquidity and efficiency”, July 2008. Work carried out for the DGTREN by Moffat Associates.

Figure 24. Concrete results achieved in the Northern Region.

	Objectives	Data specified for action	Action specific by this date	Concrete results
First phase	Optimizing the use of cross border capacity	<ul style="list-style-type: none"> Different deadlines 2007 to 2009 	<ul style="list-style-type: none"> Implementation 	<ul style="list-style-type: none"> Some progress reported on long term capacity allocation market coupling between Germany and Denmark. Foreseen joining of the Baltic Cable Interconnector to the market coupling of Germany and Denmark on the 1st of January 2010, as well as the interconnection of Germany-Sweden and Sweden-Poland. Future progress includes long term financial transmission rights on all borders connecting the Nordic region with CWE region.
	Transparency for market-actors	<ul style="list-style-type: none"> January 2008 	<ul style="list-style-type: none"> Report issued on information 	<ul style="list-style-type: none"> Regional transparency report published. Second monitoring report to be made public in November
Second phase	Need for joint intra-day and balancing markets	<ul style="list-style-type: none"> July 2009 	<ul style="list-style-type: none"> Implementation 	<ul style="list-style-type: none"> Reciprocal access to foreign balancing markets already existed prior to the ERI initiative in the Nordel area. Important differences between Nordic market and Germany and Poland. Initial report produced and presented to the TSOs of the region in October 2009.
	Planning and financing of new/strengthened interconnectors	<ul style="list-style-type: none"> December 2010 	-	<ul style="list-style-type: none"> Limited progress.
	Cooperation on integration of major shares of wind energy	<ul style="list-style-type: none"> December 2010 	-	<ul style="list-style-type: none"> Limited progress.

Source: ERGEG. Elaboration: everis and Mercados EMI

3.1.3.5.2. Organisation

The N Region has adopted a relatively streamlined management approach by working on a limited number of parallel tasks and limiting the number of meetings. The idea behind the relatively small number of priority topics was to concentrate on the tasks required to integrate competitive markets as quickly as possible. As part of this process the N Region issued an Indicative Roadmap in September 2006.

The N Region has used both the RCC and the IG structures in a relatively consistent manner, with 14 meetings of the RCC and 14 of the IG.

The RCC has applied a relatively flexible approach to membership, with DG-TREN representatives and observers from neighbouring countries/Regions (Baltic and Dutch NRAs) attending meetings due to the discussion of issues of cross-region interest (Estlink and the NorNed interconnectors).

The IG differs from many other Regions in that it has organised itself around a series of specific working groups focusing on a limited number of parallel tasks. The following groups were set up:

- Optimising use of interconnectors Swe-Pol and Baltic Cable;
- Optimising use of interconnectors Germany-DK West and Kontek; and
- Transparency for market actors.

The working groups were successful in promoting progress during 2007, when there were a substantial number of IG meetings. However, none of the working groups have met since July 2008, with the last public consultation being the stakeholder forum in November 2008. The lack of recent meetings suggests that the Region has lost part of the momentum initially achieved after the launch of the roadmap for the first period.

Overall, the pragmatic approach adopted with a clear focus on a limited number of issues distinguishes the N Region from other Regions. Implementation of the results agreed on these issues has been according to the roadmap initially planned. Previous experience from the Nordel market integration has probably benefited this practical approach. However, quicker integration of the Nordel area with the Continent was expected. Recognising the technical difficulties encountered in the process, there is still a question on whether a further level of integration and harmonisation can be supported by the current working structure.

3.1.3.6. South-West Region

There has been previous regional integration experience in the SW Region, including MIBEL and the Spanish-French Mini Fora in 2004-2005. MIBEL integrated the Spanish and Portuguese markets into a single electricity market in July 2007⁷⁹, following work that had started in 2001 after both governments signed a collaboration protocol.

As parallel processes and sharing the same aims, there is continuous effort in coordinating the MIBEL and the ERI processes. The SW Region aims at integrating the electricity markets of France, and therefore the TLC, with the Iberian Peninsula (MIBEL) into a single REM.

3.1.3.6.1. Achievements

Cross-border issues are the most relevant topic in the SW Region. The Portugal-Spain interconnection capacity has been doubled with the establishment of MIBEL. Due to the participation of France in three other Regions, improving capacity availability for the MIBEL-France interconnections is considered a critical factor to ensure integration with other Regions⁸⁰.

An overview of progress against the stated objectives of the Region is set out below.

⁷⁹ Two essential factors are considered to have established the single electricity market: There is just one wholesale market (run by OMI) and there is a joint interconnection management mechanism that includes an allocation method to be applied when interconnection congestion occurs.

⁸⁰ Currently there is a lack of physical investment and a “high” cross-border tariff (according to relevant stakeholders). Source: “Review and analysis of EU wholesale energy markets. Evaluation of factors impacting on current and future market liquidity and efficiency”, July 2008. Work carried out for the DGTREN by Moffat Associates.

Figure 25. Concrete results achieved in the South-West Region.

	Objectives	Data specified for action	Action specific by this date	Concrete results
First phase	Interconnections capacity	<ul style="list-style-type: none"> 2007 	<ul style="list-style-type: none"> New infrastructure projects 	<ul style="list-style-type: none"> Portuguese-Spanish border, interconnection capacity has increased dramatically and will be doubled by 2014 (thus reaching up to 3000 MW in both directions). French-Spanish border, June 2008, Spanish and French Governments agreed to accept the proposal of the European Coordinator and to create a joint venture named INELFE. This company is in charge of developing a new line expected to increase the capacity to 2600 MW in 2014.
	Convergence in transparency	<ul style="list-style-type: none"> June 2008 	<ul style="list-style-type: none"> Report issued on transparency 	<ul style="list-style-type: none"> Regional transparency report published. Since the report was issued, Spanish Portuguese and French TSOs have announced that as of 2009 they will comply fully.
	Congestion management between France-Spain	<ul style="list-style-type: none"> Different deadlines 2007 to 2009 	<ul style="list-style-type: none"> Long and medium term explicit auction mechanisms Day-ahead market coupling mechanism between Mibel and CWERI Cross-border intraday capacity allocation 	<ul style="list-style-type: none"> Harmonisation and improvement of explicit auctions in the French-Spanish border implemented in June 2009 (New version of IFE rules). Planned day-ahead integration of MIBEL and CWE. Current study on harmonization requirements based on parallel algorithmic simulations by OMEL, POWERNEXT and NORDPOOL.
	Regulatory gap	<ul style="list-style-type: none"> 2007 	<ul style="list-style-type: none"> Analysis of administrative procedures 	<ul style="list-style-type: none"> No majors progress achieved.
Second phase	Balance mechanisms	<ul style="list-style-type: none"> January 2009 	<ul style="list-style-type: none"> Reciprocal access to balancing markets 	<ul style="list-style-type: none"> Proposal for a balancing model presented by TSOs.
	Compatibility of MIBEL & French Markets	-	-	<ul style="list-style-type: none"> No majors progress achieved, addressed in the context of market coupling.

Source: ERGEG. Elaboration: everis and Mercados EMI

3.1.3.6.2. Organisation

The organisational structure of the SW Region has reflected the small number of countries involved and the previous agreement reached between Portugal and Spain under MIBEL. As already mentioned, most of the work has been targeted to integrate MIBEL with other Regions, due to the involvement of France in several Regions.

The Region initially set up two types of RCC meetings: the so called “High Level RCC” and “Technical RCC”⁸¹. The High Level RCC forum was an attempt to provide a strategic vision to the Region.⁸² However, most of the RCC meetings have been at the Technical level. On the other hand, in 2009 the Region launched other meetings outside

⁸¹ South-West Electricity REM – E07-ERI-SW-RCC-02-03.

⁸² This kind of meeting is considered a transitory solution until the regulatory gap is resolved.

the regular RCC, IG and SG work plan designed to promote discussion on specific issues⁸³.

The wide differences in powers of NRAs within the region and differences in processes to change national legislation have created problems⁸⁴. Reflecting the different NRA powers, the participation and support of National Governments as well as the collaboration of other key parties (for example, TSOs and PXs) have been essential to achieve progress. The Region established High Level Meetings to solve the delay with the launching of the ERI in the SW Region (more than one year later than the rest of the regions) and to solve the regulatory gap in the Region. These High Level Meetings include senior representatives at political level (within the National Ministries and the DG-TREN). This solution has been considered by the stakeholders involved, and especially by Governments, to be effective in speeding up progress.

A detailed Action Plan for 2007-2009, with actions and deliverables, was agreed for the Region. The Region also establishes “ad hoc” task forces to speed up progress on particular issues⁸⁵.

A lack of capacity in the interconnection between Spain and France has hindered the integration between MIBEL and Continental Europe. Although some progress in implementation can still be achieved across borders on a bilateral basis (for example, balancing), a broader approach to the integration with other Regions will ultimately be required.

3.1.3.7. France-UK-Ireland Region

The primary goal of the FUI Region is to promote the integration of the national electricity markets in the three countries in order to facilitate trading and further development of competition. A key development in the Region, which is however not under the Regional Initiative, is the development of SEM in Ireland.

The participation of the countries involved in the SEM in the Region has been relatively limited. Rather than search for a single model across the whole Region, the FUI Region has opted for a flexible approach to bilateral progress within the Region, fundamentally on the France-UK interconnection.

3.1.3.7.1. Achievements

The FUI Region is unique among the Regions in that the three key market centres are geographically separated from each other. Interconnection, balancing and capacity allocation have been key topics of discussion and progress.

⁸³ So far there have been 3 of these seminars including: TSOs coordination, PX proposal on market coupling and Energy markets in SW Europe.

⁸⁴ Especially in the Spanish case since CNE is the Regulator with the fewest powers in the region with regard to cross border issues. “Analysis of the administrative procedures for the changing of the legislation in force in each country”, Ref: E07-ERI-SW-SG-01-05. October 2007.

⁸⁵ Referred to as “Mini-Fora” in the website of ERGEG. The Ad-Hoc Work Groups are designed to promote debate amongst interested parties on required decisions and implementation. The key participants are the relevant Regulators and governmental bodies, as well as the stakeholders involved in the SG. During 2009 the Region has organised 3 of these meetings: one on market coupling, one on power and gas wholesale markets and another on congestion capacity calculation.

An overview of progress against the stated objectives of the Region is set out below.

Figure 26. Concrete results achieved in the FUI Region.

	Objectives	Concrete results
First phase	Congestion Management: implementation of CM guidelines and co-ordination of auctions on interconnectors	<ul style="list-style-type: none"> Implementing Capacity Management System between France and Great Britain (IFA): <ul style="list-style-type: none"> New rules implemented firm stage for nomination. Intraday auctions, application of netting and Use it or sell it (UIOSI) enter into force.
	Enhancing reciprocal access to Balancing markets	<ul style="list-style-type: none"> Launch of the BALIT project for balancing exchanges between France and Great Britain, which is structured in two stages: <ul style="list-style-type: none"> The first set up a hybrid arrangement, starting on March 3rd, 2009. The second stage, due to be implemented in Autumn 2009, however this has been delayed while TSOs' proposals are re-considered.
	Wholesale market transparency	<ul style="list-style-type: none"> Assessment on current levels of transparency but no Regional Report developed. Progress on currently on-hold.
Second phase	Transmission pricing	<ul style="list-style-type: none"> Formal written consultation paper outlining the different tariffication systems in the region.
	Further investment in interconnectors	<ul style="list-style-type: none"> Not within the RI project, however new interconnectors are proceeding between GB-Netherlands (Britned) and GB-Ireland (Eirgrid's East-West Interconnector).
	Imbalance pricing	<ul style="list-style-type: none"> No majors progress achieved.
	Regulatory framework	<ul style="list-style-type: none"> No majors progress achieved.

Source: ERGEG. Elaboration: everis and Mercados EMI

3.1.3.7.2. Organisation

The FUI Region has met frequently, both at the RCC (16 meetings) and the IG levels (16 meetings), albeit having reduced the frequency of the formal meetings, with these being replaced in part by several bilateral (between CRE and Ofgem) or four-party (between CRE, Ofgem, RTE and NGIL) meetings. In addition, a notable feature in the FUI Region has been the reliance on phone conferences⁸⁶.

In 2007, the FUI Region established work streams as a pragmatic attempt to accelerate the development of priority issues. Each work stream is led by a different Regulator⁸⁷ and includes representatives of TSOs and stakeholders. Moreover, for the key priority work streams in the Region (Congestion Management and Balancing), stakeholders were recently asked to provide Ofgem (the British Regulator) with their thoughts for future work areas.

Due to the focus on congestion issues across the UK-France border, active presence of participants from Northern Ireland and Ireland has been a relatively recent phenomenon

⁸⁶ It should be noticed that several bilateral or four party meetings are not reported on the ERGEG website according to participants.

⁸⁷ Congestion management by CRE; Reciprocal access to Balancing markets (Ofgem) and Wholesale transparency by CER/NIAUR.

(since late 2007). The developments in the Region are consistent with there being a strong commitment initially between Britain and France to solve interconnection issues across the IFA interconnector – culminating with the development of the IFA Access Rules – with participants from Ireland joining the group once the interconnection with Great Britain has become a more pressing issue.

So far, progress has been observed only at bilateral level, rather than towards a more coordinated solution across the different countries in the Region. This raises the question of whether a regional approach is needed to promote bilateral interconnection and cooperation.

3.2. Gas Regional Initiatives

3.2.1 Introduction

The three Regions of the GRI were set up during the spring of 2006. The Regions have contiguous borders, while only one country (France) is in more than one Region. Each Region has a lead NRA which coordinates the tasks within the Region with one Region (South-South East) led by two NRAs.

An overview of the members of each Region and the lead NRA(s) is set out in the following figure:

Figure 27. Overview of members of each gas Region.

Region	Country of Lead Regulator	Members solely represented in the GRI		GRI Members with membership in other GRIs
North West (NW)	The Netherlands	The Netherlands Belgium Ireland Great Britain Germany	Denmark Sweden Northern Ireland Norway (observer)	France
South – South East (SSE)	Austria Italy	Austria Bulgaria Czech Republic Greece Hungary	Italy Poland Romania Slovakia Slovenia	
South (S)	Spain	Spain Portugal		France

Source: ERGEG

Each gas Region has had significant autonomy in operations. Reflecting this autonomy, each Region has identified and developed its own priority issues, and tailored the structure proposed by ERGEG to its regional circumstances. The following Sections consider the issues covered by the Regions of the GRI and progress achieved as of December 2009, and the specific approaches which each Region has adopted.

3.2.2 Analysis by Issue. Progress to date.

Although each Region has had freedom to choose its priority issues, in practice the topics considered by the GRI over the past three years can be grouped under a few common headings. These include:

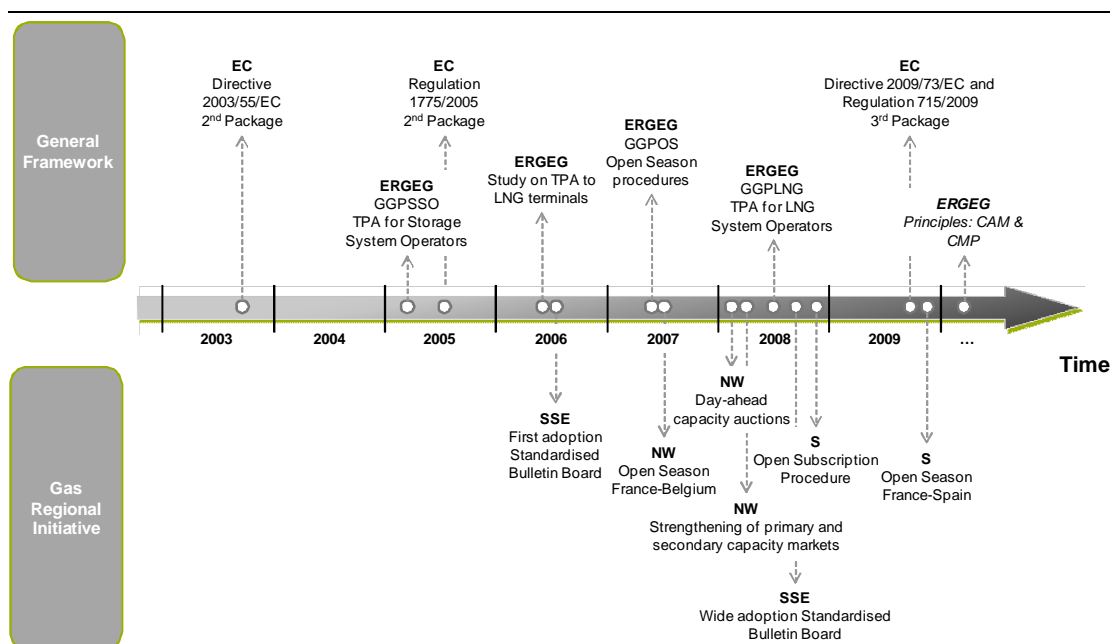
- Interconnection and Capacity;
- Interoperability;
- Transparency;
- Hubs;

- Security of Supply; and
- Others.

3.2.2.1. Interconnection and Capacity

The importance of cross-border capacity and non-discriminatory access is reflected in ERGEG's Roadmap of 2005, which is a key building block for the construction of a single competitive market. The facilitation of new transmission and interconnection capacity, as well as the efficient use of existing capacity, are essential for removing trade barriers between different gas markets.

Figure 28. Interconnection and Capacity Timeline – Gas.



Milestones written in *italics* are envisaged for the future. Source: everis and Mercados EMI

All three Regions have prioritised the need to enhance the efficient use of existing pipeline capacity and facilitate the development of new interconnection capacity in order to improve market integration. In fact, capacity development is one of the most significant work areas in the S and NW Regions.

As for capacity allocation, the Madrid Forum has identified contractual congestion on the main natural gas transport routes and IPs as one of the main barriers to cross-border trade and to the completion of the internal gas market. In fact, ERGEG has recently published a final version of its Principles on Capacity allocation mechanisms (CAM)

and Congestion management methods (CMP) proposals for Framework Guidelines and for modifications to the annexed guidelines to the current Regulation 1775/2005⁸⁸.

The main results achieved by the GRI process under the headings of investment and capacity allocation are considered below.

Investment in new infrastructure

Efficient investment is critical for the development of a fully functioning European Internal Market. In the context of the GRI a number of achievements can be observed, both in terms of regional investment plans and bilateral agreements.

- The **S Region** agreed the need for a joint Open Season (OS) in 2007, in order to coordinate the decision-making processes in France and Spain. In France, the TSO is required to carry out an assessment of market demand in order to provide a rationale for new investment. In Spain, although a mandatory planning procedure for essential infrastructures is applied, the regulatory framework has been adapted to allow OS procedures⁸⁹. The OS is jointly conducted by 4 TSOs: Enagás, GRTgaz, Naturgas Energía Transporte and TIGF. It is also notable that this OS involves four different balancing zones, which requires additional efforts of coordination within the Region. Indeed, capacity is allocated in a coordinated way in three points in the boundaries of the four balancing areas at the same time, not only at the border but also inside France, providing the shippers with the possibility to contract joint products simplifying the usual requirements and promoting cross-border trading.

Currently, there are two IPs on the border between France and Spain, at Larrau and Biriattou. The capacities (current and future) to be offered through the OS, and at the related connection points between balancing areas in France, will be available from 2013. A third IP is foreseen at Le Perthus (MidCat project) and will be available from 2015. In September 2009, TSOs carried out the binding phase for the 2013 capacity and the non-binding phase for the 2015 capacities simultaneously⁹⁰. The binding phase for the 2015 capacities has started in February 2010 and publication of results is envisaged for June 2010.

⁸⁸ “ERGEG principles on Capacity allocation and congestion management in European gas transmission network”, Ref: E09-GNM-10-03, 10 December 2009.

⁸⁹ Under Royal Decree 1766/2007 Article 4, the Spanish regulation has been modified in order to allow capacity allocation mechanisms, different from the *First Come First Served* principle, at congested natural gas infrastructures or at interconnection points in order to obtain a more efficient TPA. Ministerial Order ITC/2607/2008 establishes Open Seasons as the relevant mechanism for evaluating the need for new interconnection capacity and for developing coordinated and common allocation procedures at interconnection points with France.

⁹⁰ This binding phase was concluded at the 11th IG meeting of the S GRI, on 26 October 2009, with a decision to develop the infrastructure at the IP of Larrau, but not the infrastructure at Biriattou. The French Ministry, as well as the French regulator CRE and TIGF considered that Biriattou should not be built since the final allocation of capacity to shippers would be 249 GWh/day instead of the necessary 250 GWh/day or above, according to the document “Information Memorandum”, published in July 2009. When adding the capacity of both interconnections at the Spanish-French border, 200% more capacity was offered than requested. The situation at Biriattou contrasts with other OSs in Europe in which 100% capacity reserved in only one direction has been sufficient to justify investments. See “Development of the Open Procedure to increase and allocate new interconnection capacity from 2013 between Spain and France”. CNE. October 2009.

- In the **NW Region** an OS was launched in 2007 between France and Belgium (at Blaregnies/Taisnière) which provided important information on spare capacity and flexibility in the contracts for subsequent alignment with other European OSs. Experience gathered in the Region has highlighted the complexity of coordinating cross-border OS procedures. Therefore, the Region has set up a project aimed at developing options to improve the coordination of OS procedures. A virtual test case is being carried out to assess the feasibility of building a pipeline between Germany, the Netherlands, Belgium and France. In addition, a manual of the regulatory frameworks in the countries of the Region was published in September 2009.
- Following the January 2009 gas supply crisis, the **SSE Region** has undertaken work to assess the possibility of realising or enhancing reverse gas flows at several IPs. These short and mid-term investments would significantly improve security of supply. GTE+ members within the SSE Region have also agreed to elaborate a more detailed investment plan for the Region, after having completed the European 10-Year Investment Statement by 2010.

In parallel to these developments, the importance of LNG in the European market has been steadily growing in recent years, driving investments on import terminals, competition and new business models⁹¹. This trend is expected to continue as LNG is considered to play an important role in terms of competitiveness and source of diversification in future years. Moreover, key stakeholders have claimed equal access to LNG terminals, resulting in a commitment by ERGEG to develop guidelines⁹².

Capacity allocation and congestion management

In the consultation of the “*ERGEG principles: Capacity allocation and congestion management in natural gas transmission networks*”⁹³ most of respondents highlighted the importance of capacity allocation and congestion management initiatives in order to promote the integration of EU gas markets. Progress achieved in the issue since the launch of the Regions is the following.

- The **NW Region** has worked on strengthening primary capacity markets and the integration of these markets with secondary markets.

Since January 2008, the Belgian TSO, Fluxys, has been offering an interruptible capacity product, designed to improve the use of existing capacity. In addition, at Medelsheim/Obergailbach a joint diagnostic concerning capacity has been published by the adjacent TSOs. With the Roadmap already in place (2008) and

⁹¹ Spot trade and the number of agents have increased and new market arrangements are developing. See “Congestion management procedures and anti-hoarding mechanisms in the European LNG terminals”. ERGEG. 17th Madrid Forum.

⁹² Despite the lower gas demand due to the economic crisis, LNG imports increased by 13% in 2009. Moreover, LNG is considered a key driver of competition in certain countries, for example Spain or Italy. After a GLE workshop in April 2009 and a meeting with the European Commission, EFET and Eurogas in July 2009, ERGEG committed to develop a specific study on congestion management procedures and anti-hoarding rules in EU LNG terminals, which is currently ongoing. See ERGEG presentation in XVII Madrid Forum on “Congestion management procedures and anti-hoarding mechanism in the European LNG terminals”.

⁹³ ERGEG. Ref: E09-GNM-07-03. 24 August 2009.

a specific work area of “Capacity Stream” defined, a number of projects aimed at improving services and allocation conditions related to primary and secondary capacity, as well as their harmonisation, have been carried out.

In particular, significant work has been undertaken to increase the compatibility of capacity services among adjacent TSOs, with a barrier removal plan in place since the third quarter of 2009. The plan describes in detail the hurdles that have been identified and illustrates, step-by-step, the measures that have to be taken to remove the obstacles. The scope of the project is concerned with primary cross-border capacity and booking procedures (daily, monthly and yearly).

Activities have been initiated to establish a firm short-term capacity market. It is expected that the availability of firm capacity on the day-ahead will promote liquidity on the gas markets in the region. Possibilities of how a firm short-term market could be established have been discussed including providing incentives to TSOs to make additional capacity available.

In addition, a project aimed at developing and introducing “bundled capacity” products has been accomplished. The focus of the work was a platform for the trading of day-ahead bundled (i.e. at both sides of the border) interruptible capacity, which was launched in February 2008 at the IP of Oude Statenzijl. Feasibility studies on the possibility to extend bundled products to other IPs have also been conducted⁹⁴.

The NW Region has also undertaken work on day-ahead secondary capacity auctions, intended to maximise availability of secondary capacity by reducing contractual congestion and giving shippers additional access to surplus capacity. At the beginning of 2007, a pilot project, based on a proposal from EFET and aimed at improving trading in secondary capacity, was launched at the border between Germany and the Netherlands (Bunde/Oude Statenzijl) and the border between Germany and Denmark (Ellund). This work has resulted in the development of a platform which allows shippers to trade firm capacity on a day-ahead basis⁹⁵. The pilot has a wide participation of German, Dutch and Danish TSOs, two trading platform operators (the Anglo-Dutch APX and the German Trac-x), traders and NRAs in the Region.

- The **SSE Region** has developed what can be considered a best practice on this issue: the standardised bulletin board.

In order to ensure market integration via simplification of how gas can be shipped both within the Region and across the neighbouring Regions, the SSE Region in 2007 started studying the feasibility of a One-Stop-Shop service for capacity. The project, which aimed to provide a reference role for all the Regions, consisted of a single trading platform for booking capacity for the whole transportation routes between certain IPs. However, in face of the

⁹⁴ A number of benefits are expected through the introduction of bundled products: unused capacity can be more easily made available to the market; day-ahead products can strengthen gas trading; and access to capacity on both sides of the border can be simplified, which will benefit cross-border trading.

⁹⁵ Where there is firm capacity shippers are compensated if their capacity is curtailed.

considerable difficulties to be met at the implementation stage, the work of the Region switched towards the adoption of a Standardised Bulletin Board (SBB). The SSB, if not a common trading platform for transmission capacity, can be considered, to an extent, as an intermediate step towards such a platform. It is essentially a template with relevant information made available by all TSOs throughout the Region to make it easier for shippers to find each other. The bulletin format used by the Trans Austria Gas (TAG) pipeline has been adopted by the SSB.

- The **S Region** has developed coordinated capacity allocation mechanisms through Open Subscription Periods (OSPs) subsequent to the launch of the OS.

In November 2008, TIGF and Enagás offered long-term (April 2009 – March 2013) and short-term (April 2009 – March 2010) capacity through an agreed and coordinated OSP at the interconnection point of Larrau, between Spain and France. The capacity was fully subscribed by shippers in both directions⁹⁶. According to the procedures agreed by the two TSOs, the short-term capacity amounted to 20% of the firm capacity offered under the OSP, plus any non-allocated long-term capacity.

Since the short-term capacity was planned to be sold annually via a coordinated OSP, in November 2009 a new OSP was launched to allocate short-term capacity available for the period April 2010-March 2011. All capacity offered has been reserved on both sides of the IP.

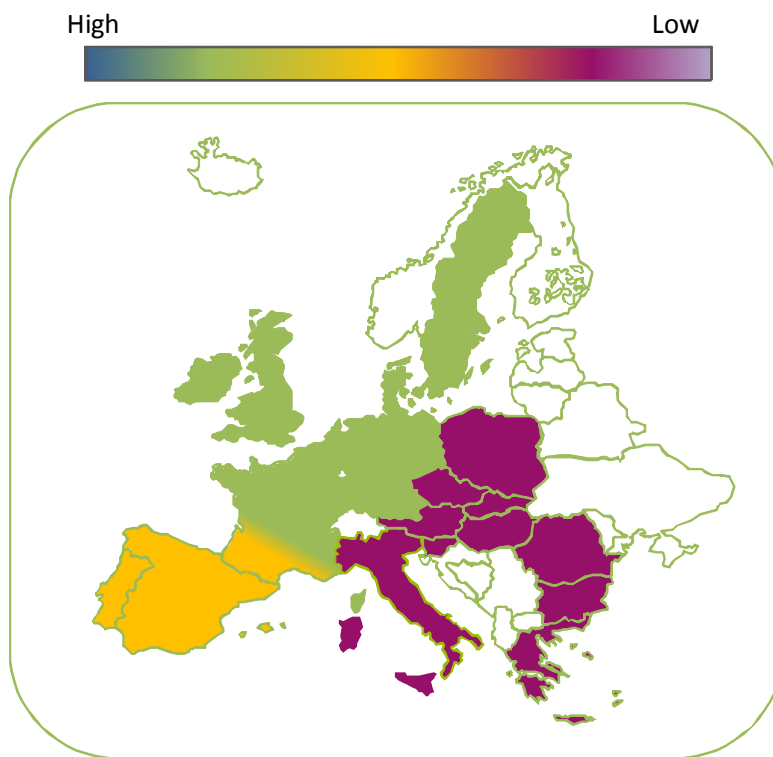
In summary, the S Region framework has offered a “formal platform” to complete and extend existing (and partially developed) projects. A key factor in its success appears to have been the willingness and commitment of the involved players at the political and industry level, which is to some extent independent from the “platform”.

As for SSE Region, the only clear result concerning interconnection and capacity so far has been the adoption of a Standardised Bulletin Board for transmission capacity trading. Given the acute lack of network integration that affects the Region, this has to be considered a limited and partial result. However, taking into account the size and the considerable heterogeneity of the Region, the potential for progress should not be overestimated.

In the NW Region, due to the significantly higher degree of network integration with respect to the other two Regions, work has concentrated on secondary and short-term capacity markets. Day-ahead auctions and new products (“bundled products”) at several IPs can be seen as providing significant improvements on previous arrangements.

⁹⁶ In fact, the demand for capacity was several times higher than the offered one.

Figure 29. Current level of development on Interconnection and Capacity across Regions – Gas.



Source: everis and Mercados EMI

New transmission and interconnection capacity, as well as the efficient use of existing capacity, are essential for removing trade barriers between different gas markets. The LNG projects currently underway, which are key to the diversification sources of supply, will increase this need. An integrated European network, adapted to local structures and energy balances' profiles can guarantee that market operations can be deployed on a regional level. Today, the market is not sufficiently integrated primarily because the networks are not sufficiently integrated. Moreover, developing gas transmission capacity on the secondary market and smoothing the "contractual congestion" - mainly due to long-term import contracts – can play a key role.

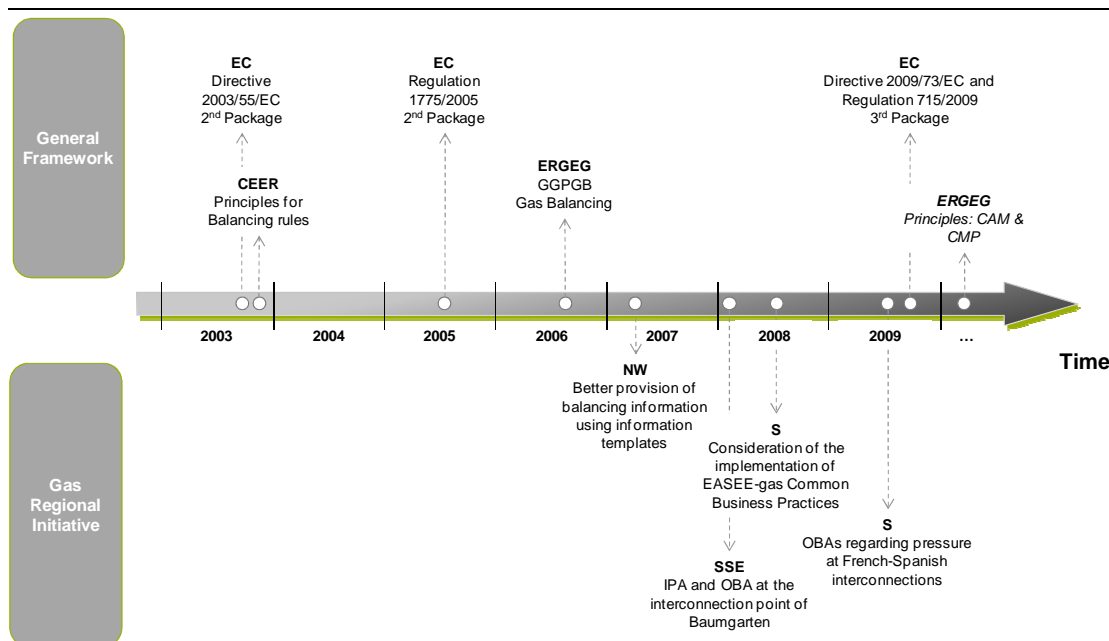
Open seasons, and market mechanisms in general, have proved to be, in most cases, efficient. However, a potential "vicious cycle" exists: while market signals may be expected to drive infrastructure investment – and also ensure efficient capacity allocation - these signals are more likely to emerge if multiple players operate along the market value chain; though, these participants can only be present if the infrastructure is adequate.

Therefore, reducing contractual congestion might not be sufficient to ensure adequate investment. In fact, ensuring an adequate level of coordinated investments for cross-border gas transport and the connection between regional gas hubs may require a super-regional Top-down approach, as well the involvement of European and national political authorities.

3.2.2.2. Interoperability

Cross-border trading can be hindered by 'interoperability' issues. This term encompasses technical issues, including Information Technology, balancing, compatible booking and operational procedures. To some extent, gas quality can also be seen as related to interoperability. All these issues could hamper cross-border trading by raising transaction costs. A single European market will require a degree of convergence of standards in order to remove barriers to cross-border trading. This suggests that co-operation between TSOs is necessary in addition to co-operation between NRAs.

Figure 30. Interoperability Timeline – Gas.



Milestones written in *italics* are envisaged for the future. Source: everis and Mercados EMI

All three Regions have identified priorities which directly relate to interoperability. The key focus of these priorities is to enhance the integration of operators' procedures and cooperation within each of the Regions and in many cases to standardise operational procedures. Work carried out by the Regions of the GRI includes:

- Provision of balancing information using information templates (**NW Region**).

To prevent differences in balancing markets from being an impediment to cross border trading, the TSOs of the NW Region have agreed a common "terms of reference" format for gas balancing.

- Interconnection Point Agreements (IPAs) and Operational Balancing Agreements (OBAs) (**SSE and S Regions**).

In the SSE Region, an important IPA, as well as the related OBA, at the IP of Baumgarten has been concluded. The TSOs involved had to overcome a series of technical obstacles. To be able to ensure that allocation equals nomination, TSOs need to manage the flows at the IP accordingly. This is only possible if: a) matching of nominations can be executed with the neighbouring TSO; b) nominations are provided sufficiently in advance of the relevant Gas Day; c) those nominations do not significantly differ from any re-nominations later on, especially during the relevant Gas Day ("yo-yo flows" would lead to a very inefficient operation of the system). Another IPA, and the related OBA, had been previously reached between OMV Gas and Geoplin plinovodii, with reference to the IP at the border between Slovenia and Austria. Several technical

barriers were removed: gas day, reference temperature for metering and nomination regimes.

In the S Region, TSOs' OBAs at French-Spanish interconnections have been agreed. Even if they are for the moment limited to a number of essential issues (e.g. pressure), they have been accompanied by an in-depth study - on the main obstacles when accessing the international connection pipelines - which, for the degree of details and availability of public information, is remarkable.

- Feasibility of a regional “entry-exit” tariff system (**SSE Region**).

The European Commission and CEER have recommended entry-exit tariff systems as the preferred topological tariff structure for gas transportation. This is most suitable to reflect costs, notably for meshed networks with variable flows, and to promote a competitive environment, thanks to its simplicity and flexibility. In fact most countries in the Region have adopted systems of this nature (Austria, Czech Republic, Italy, and Slovakia). Austria however, until recently, had distance-based tariffs on transit pipelines. The remaining countries have postage stamp tariffs. Considerable theoretical work and a large-scale simulation exercise on a regional-wide entry-exit system have been carried out. The results were presented in January 2008. As expected, simulated tariffs were higher at peripheral entry and exit points than at points located in the centre of the SEE Region transport network. This pattern of entry exit tariffs can be explained by higher connections costs at remote entry points (e.g. Velke Kapusany and Mazara/Gela), which are further from the larger consumption areas. On the contrary, exit tariffs tend to be lower near entry points into the system and higher near the larger consumption areas⁹⁷. So far, little progress has been made beyond the simulation work and implementation has been postponed indefinitely.

- Implementation of EASEE-gas Common Business Practices (**S Region**).

The European Association for Streamlining Energy Exchange-gas (EASEE, established in 2002) has developed a set of Common Business Practices (CBPs) aimed at harmonising measurement units, nomination and matching processes, electronic data interchange format and rules. A number of internal groups among TSOs of the Region are working on these interoperability issues. Spain is to amend its Network Code to achieve full compliance with the CBPs; whereas Portugal has already accomplished the harmonisation of units and is also progressing towards the implementation of other CBPs.

The main focus in this area of work has been to enhance the integration of operators within each of the Regions, to standardise technical rules and operational procedures and, as a consequence, to harmonise business practice. Significant progress has been achieved particularly in the SSE and S Regions, where initial differences among the

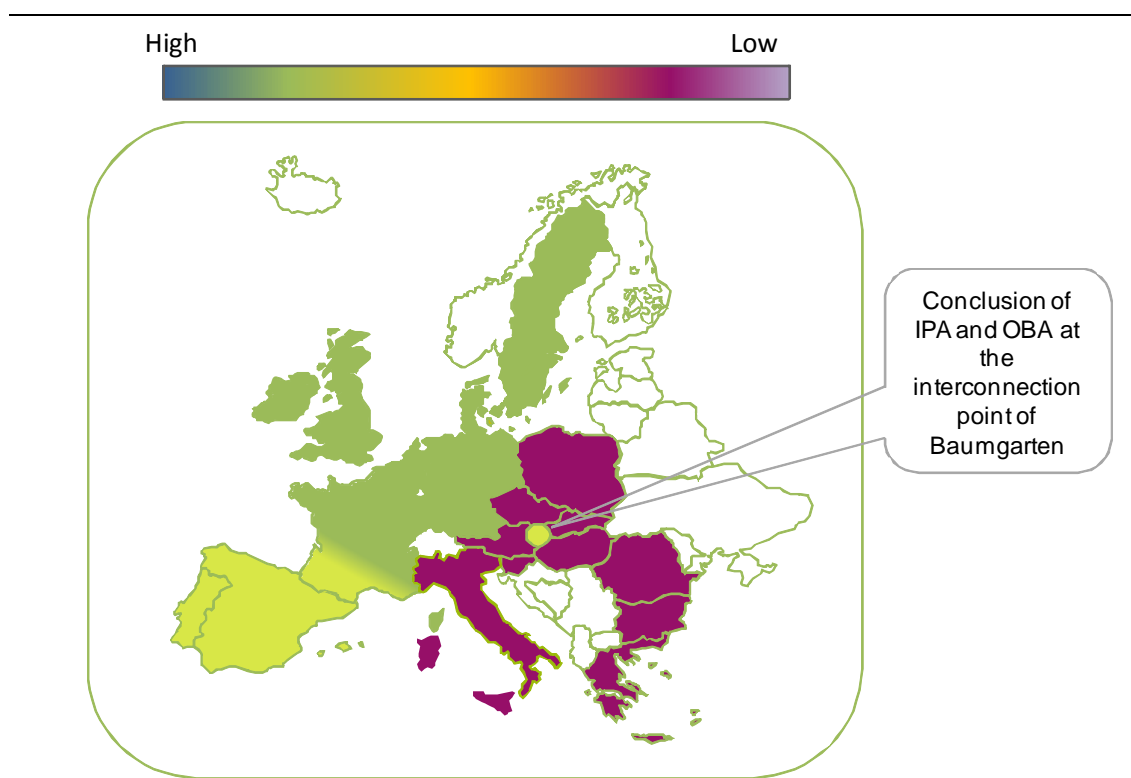
⁹⁷ See “Towards a Regional Entry-Exit System in the SSE Gas Market”, Gas Regional Initiative – Region: South-South East, January 2008.

operators were more accentuated and prejudicial to cross-border trading. Therefore, the IPAs and OBAS implemented in those Regions will be key to facilitate the transport of gas. The additional progress achieved at the hub of Baumgarten⁹⁸ has been particularly relevant, given the lack of liquidity that still burdens gas trading at IPs.

On the other hand, the harmonisation of technical requirements for ensuring the interoperability of gas systems often requires changes to national rules, which, in turn, calls for the involvement of national governments. To this end the example of Spain is relevant, where it is in the process of changing the national legislation in order to implement the EASEE-gas common business practices⁹⁹ (measurement procedures and Gas Day).

Whilst the work on these areas is clearly inward focused, each Region needs to address issues of interoperability within the Region before fully functioning markets can be created at a EU-wide level.

Figure 31. Current level of development on Interoperability across Regions – Gas.



Source: everis and Mercados EMI

⁹⁸ With the planned establishment of a Gas Exchange at the Baumgarten gas hub (Austria), a new regional balancing point will be created, right at the centre of the SSE transmission system.

⁹⁹ A proposal agreed by all stakeholders was sent to the Ministry of Industry, in charge of its approval. Meanwhile, it is already applied by Spanish and French TSOs under voluntary agreements.

Interoperability is the necessary complement to interconnection, and all three regions have identified it as a key plank of market integration. The main focus in this area of work is to enhance the integration of operators within each of the Regions and to standardise operational procedures. To this end, the implementation throughout the regions of interconnection point agreements (IPAs), operational balancing agreements (OBAs) and common business practices (CBPs) have been positive developments.

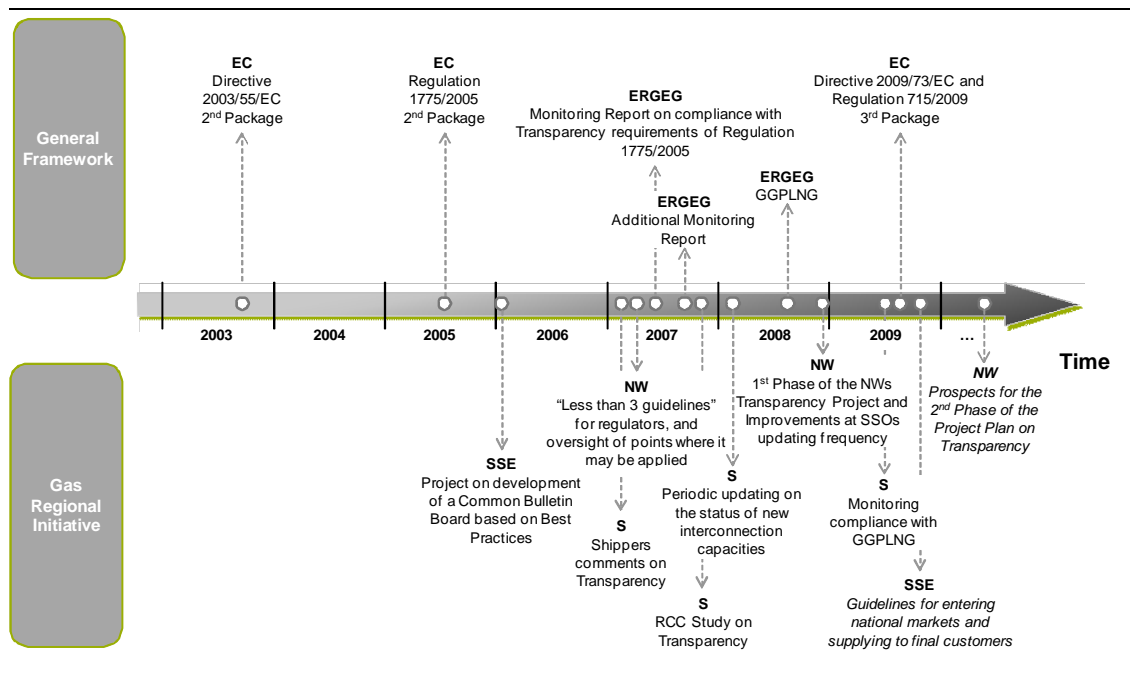
The experience acquired and the various technical solutions identified during the work to date should help to establish the minimum requirements and the building blocks required for the EU gas market. A regional approach to balancing that guarantees a harmonised and functioning inter-regional market, rather than a uniformed market, may be a suitable approach, while the EASEE-Gas CBPs enables a Top-Down approach to the implementation of specific operational rules.

3.2.2.3. Transparency

Directive 2003/55/EC¹⁰⁰, Regulation 1775/2005 and the set of relevant guidelines require that certain information is published in a transparent and harmonised way. In particular, Regulation 1775/2005 contains specific transparency requirements, to be accomplished by all TSOs, and whose implementation has to be monitored by NRAs. It applies to transmission infrastructures but not to LNG terminals, nor to storage facilities. However the existing guidelines on the issue, as well as and several other ERGEG's documents contain specific requirements on transparency in connection with these facilities as well.

¹⁰⁰ Article 8.1.d.

Figure 32. Transparency Timeline – Gas.



Milestones written in italics are envisaged for the future. Source: everis and Mercados EMI

In its energy sector inquiry¹⁰¹ DG Competition identified the lack of transparency as a main shortcoming to be tackled to create a single competitive market in gas. In parallel, the “Roadmap for a competitive single gas market in Europe”¹⁰² also considered transparency as one of the key priorities for market development and integration. The three Regions considered the transparency issues a key priority in their respective action plans.

In the second half of 2007 ERGEG published the results of two monitoring exercises¹⁰³ carried out to assess the current level of implementation of the relevant requirements in Gas Regulation¹⁰⁴. The monitoring exercise identified a heterogeneous landscape with a low degree of implementation and a restrictive vision of regulation. Implementation varied both in terms of the geographic scope (by TSO and country) and by issue. The overall compliance level was clearly insufficient. In particular ERGEG highlighted two key areas requiring development:

¹⁰¹ “Sector inquiry under Article 17 Regulation 1/2003 on the gas and electricity markets” Preliminary report, February 2006.

¹⁰² “Roadmap for a competitive single gas market in Europe – An ERGEG Discussion Paper for Public Consultation”, Ref: E05-SEM-13-03, 21 November 2005.

¹⁰³ “Compliance with Transparency Requirements of Gas Regulation 1775/2005/EC - An ERGEG Monitoring Report”, Ref: E07-TRA-02-03, 18 July 2007; and “Transparency Requirements – An ERGEG Additional Monitoring Report”, Ref: E07-TRA-02-03b, 9 October 2007.

¹⁰⁴ The compliance assessment was based on a survey and included a set of requirements listed in the regulation according to which TSOs are obliged to publish information: Tariffs, Third party access (TPA) services, Capacity allocation mechanisms and congestion management procedures, Balancing, Technical aspects, Capacities and Exemptions.

- i) The need for a more comprehensive implementation of the gas regulation including the extension to other elements of the network (i.e. Storage and LNG facilities) and a restriction in the use of exemptions to limit transparency (in particular, an abuse of the “less-than-three shippers” (LTTS) clause).
- ii) Greater harmonisation of data publication methods and strengthening of current requirements, as the amount and frequency of information publication varies widely from market to market.

This work represents a major milestone in transparency issues for the gas markets, and the Regions of the GRI have used it as a cornerstone in their respective plans on transparency.

- In November 2006, the **SSE Region** published a first report on monitoring the implementation of Gas Regulation¹⁰⁵ based on the first results of the ERGEG’s monitoring questionnaire. This report highlighted differences in implementation across the Region. The need of further monitoring by the NRAs and regular updates to the RCC was identified. However, few further updates have been reported since then.

Other initiatives developed in the SSE Region were also designed to further improve specific transparency issues, including the implementation of a common Bulletin Board for Secondary Market capacity at Central European Gas Hub (CEGH), or the planned “Guidelines for entering national markets and supplying to final customers”.

- Taking advantage on the work undertaken by ERGEG, a full report on the transparency status¹⁰⁶ on transmission was published by the **S Region**. The conclusions highlighted the level of compliance of the TSOs, although stating that there was some room for improvement. This report was complemented by information regarding transparency at LNG and storages facilities. The conclusions of this report noted that transparency on the access to the LNG and storage infrastructure should still converge towards those achieved in transmission¹⁰⁷. In April 2009, the NRAs in the S Region published a report¹⁰⁸ on the compliance of LNG terminals with the current Guidelines on Good Practice on TPA for LNG System Operators (GGPLNG),¹⁰⁹ which identified a high overall level of compliance.

Other specific initiatives regarding transparency in the Region have included the regular update of the status of the construction of new infrastructure and the

¹⁰⁵ Workshop on transportation routes (November 2006).

¹⁰⁶ Previously the South region had already published a first progress report with the shipper’s view on the existing level of transparency. The report stated the need for a further harmonisation in the data publication, and the necessity of more information of available capacity at cross-border interconnections.

¹⁰⁷ “Study on the level of transparency” on the transparency of Transmission, LNG and Storage System Operator, in France and Spain. July 2007 (3rd SG Meeting).

¹⁰⁸ Analysis of ERGEG, monitoring exercise about level of compliance with “Guidelines for Good Third Party Access Practice for LNG System Operators (GGPLNG)”, May 2008.

¹⁰⁹ “Guidelines for Good Third Party Access Practice for LNG System Operators (GGPLNG)”, May 2008.

publication of information on new interconnection capacity. With respect to the application of the LTTS rule, it is surprising to note that none of the TSOs restricts the publication of information due to the number of users.

- In the **NW Region**, a detailed work plan on transparency was defined¹¹⁰. Significant steps designed to enhance transparency have been undertaken. In September 2007, the NW Region published guidance notes on the application of the LTTS exemption rule, which are to be used in all cases within the Region. In December 2007 the Transmission Transparency Project was launched. The project included specific arrangements focused on delivering improved information on available transmission capacity and gas flows, including daily flows and interruptions and daily aggregate day-ahead nominations¹¹¹. Data releasing rules were set up on a voluntary basis by TSOs and network users. In the second quarter of 2009 the third and final Implementation Report¹¹² was published marking the successful completion of the project. Participating TSOs reported that they were providing up to 90% of agreed data, and the number of points subject to the LTTS rule was declining¹¹³.

Other important activities in transparency include the gas storage transparency project -publication of daily information on storage levels, storage inflows and storage outflows- originally proposed in the NW Region and further developed at EU level by GSE¹¹⁴.

The lack of legally binding rules on TSO cooperation in the SSE Region, including the potential to interpret the wording of Directive 2003/55/EC to provide minimum information, has been foreseen in the drafting of Regulation 715/2009. For example, the reluctance of some TSOs to participate in the GTE+ Transparency Platform is significant and shows that stronger legal powers are required for NRAs. While these problems are cross regional and may not be seen as specific of the SSE Region, it may be noted that they have been an important factor contributing toward the limited results achieved in this Region. Nonetheless, there is a question on whether greater active participation by network users, commitment from TSOs and further political involvement could deliver progress on this issue.

On the other hand, in the S and NW Regions there has been significant progress on transparency. In both cases, apart from the overall compliance with current legally-binding arrangements, there have been additional achievements enhancing transparency within the Regions.

¹¹⁰ GRI-NNW-RCC-02-17 NW (2nd NW-RCC Meeting September 2006).

¹¹¹ This information is crucial for network users to understand the volume of capacity and capacity products available at cross-border interconnection points. The information also helps network users attach a fair and efficient value to the capacity products offered by TSOs and make more efficient use of the existing infrastructure.

¹¹² Detailed report on the status of the project at NW GRI Third Implementation Report GRI-NW-RCC-22-05, May 2009.

¹¹³ The reduction of the number of interconnection points subject to confidentiality under the less than three clause has declined from 35 to 20. Third Implementation Report GRI-NW-RCC-22-05, May 2009

¹¹⁴ Aggregated Gas Storage Inventory: This initiative is beyond that required by the GGSSO and Gas Directive and will help provide the information the market needs to operate efficiently and effectively whilst protecting commercially sensitive information. The majority of SSOs in North West Europe, representing 83 per cent of storage capacity, were able to start publication before the 1 December 2009. 96 per cent of storage capacity in North West Europe is expected to be covered by April 2010.

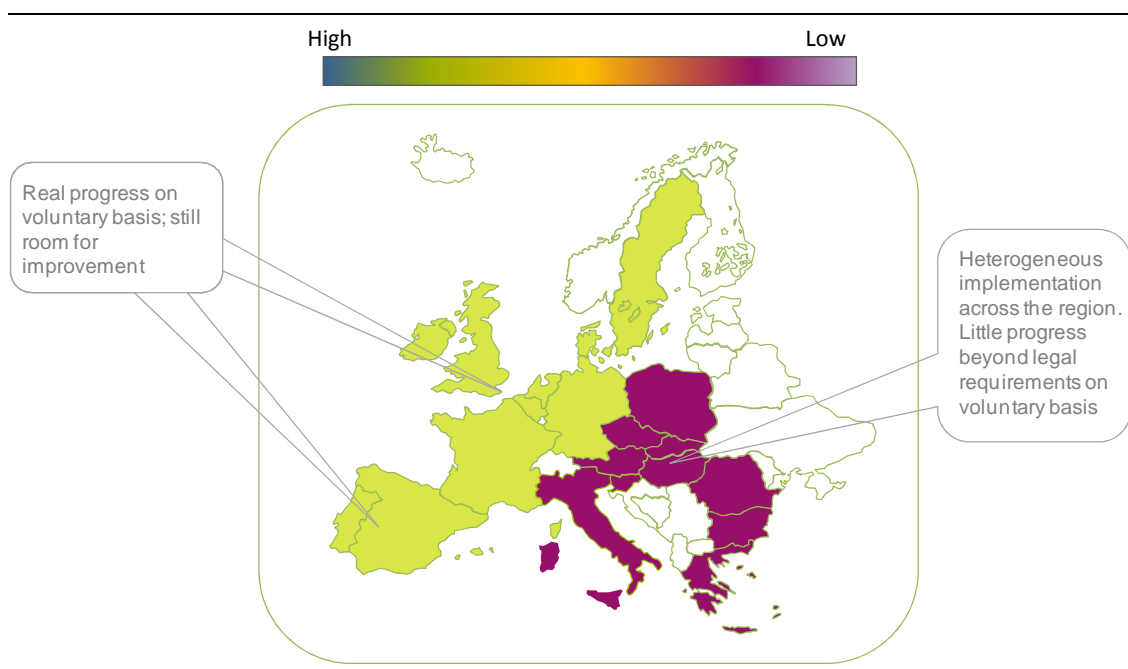
The recent approval of the 3rd Package, and particularly Regulation 715/2009, sets up a new framework for the future development of the transparency issues. A set of tools has been defined to tackle the main barriers around transparency. Nonetheless, and until it comes into force, there are a number of actions that may promote progress on this issue including:

- The proposal to amend Chapter 3 of the current annex to Regulation 1775/2005 by a Comitology process¹¹⁵;
- The new infringement proceedings against Member States, launched by the European Commission for not complying with the Regulation 1775/2005 and Directive 2003/55/EC¹¹⁶;
- Within GTE+, the Transparency Platform, which is envisaged to enhance transparency in the European gas market by providing various types of information relating to gas transmission on a single website;
- Within GSE, the “Aggregated Gas Storage Inventory”, which goes beyond current requirements in GGPSSO and Directive 2003/55/EC and is to provide information the market needs to operate efficiently and effectively whilst protecting commercially sensitive information; and
- At the GRI Regions, the promotion of full compliance with the existing guidelines and their requirements on transparency, seen as the natural transition to the new framework.

¹¹⁵ Draft proposal by DG TREN services - not binding on the European Commission (Madrid Forum May 2009).

¹¹⁶ See Press releases: “Commission acts to ensure effective and competitive energy market across Europe” IP/09/1035 (June 2009), “Q&A: the infringement exercise concerning cross-border energy network access and regulated prices” MEMO/09/297 (June 2009).

Figure 33. Current level of development on Transparency across Regions – Gas.



Source: everis and Mercados EMI

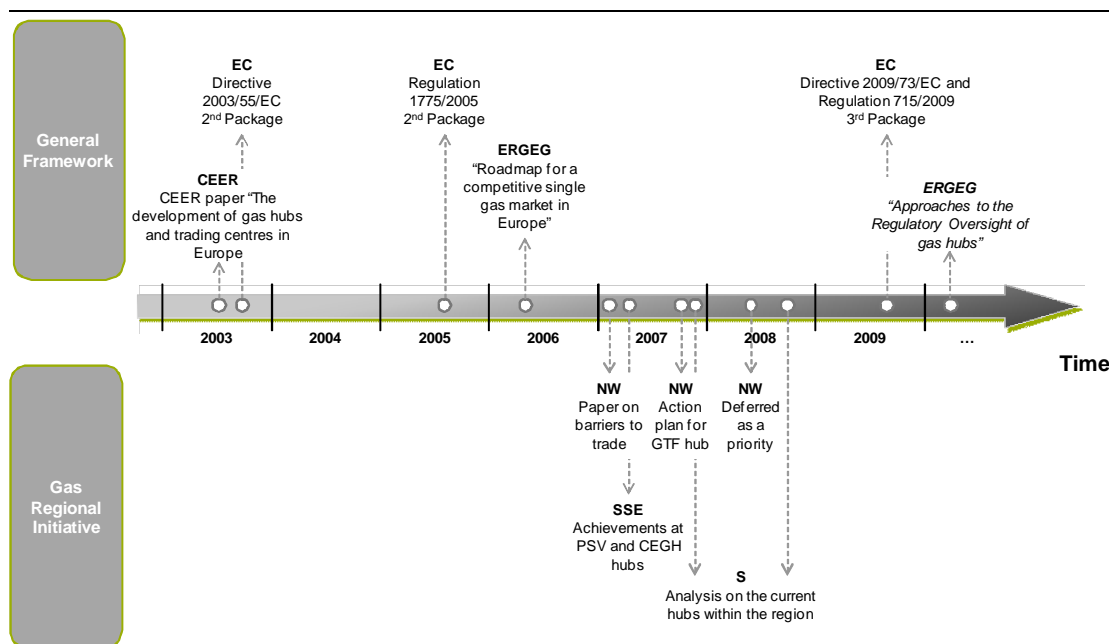
The concept of Transparency encompasses a set of issues that covers a wide range of topics, from technical subjects to secondary market data release. Since the last Monitoring Report, there has been some progress in compliance with both current legally-binding regulation, and other existing transparency arrangements based on voluntary agreement. In this sense the GRI work has contributed to increased transparency.

The issue of transparency will not easily progress further without an efficient and well structured Top-down approach. The need for standardisation, harmonised definitions, and understanding of transparency elements, as well as the inclusion of additional binding requirements are seen as necessary by stakeholders and NRAs. This is a main barrier since transparency on flows and capacities is critical to enhance efficiency of the transmission system. Hence, this issue is a first step in establishing an effectively functioning European internal market.

3.2.2.4. Hubs

The publication by CEER¹¹⁷ of its 2003 paper on gas hubs showed an early concern among European NRAs regarding the need to increase liquidity at hubs.

Figure 34. Hubs Timeline – Gas.



Milestones written in italics are envisaged for the future. Source: everis and Mercados EMI

One of the main issues addressed in the paper on the creation of the GRI¹¹⁸ was related to the liquidity of hub-based trading, where ERGEG concluded that trading at hubs had not developed sufficiently to provide adequate liquidity. In fact, the overall objective of the GRI has been to push forward the development of competition, focusing on the development of liquid trading at, and between, gas hubs¹¹⁹ as the basis upon which regional markets will develop. The report also identified numerous factors that might be hindering the development of European hubs: non standard location that may imply additional transportation costs, contractual factors, lack of independence of TSOs, SSOs or hub operators - that may have access to commercially-sensitive information - from market participants, and insufficient transportation capacity.

As a consequence, the three Regions considered the development of hubs as a priority in their respective action plans. Differences encountered in the action plans are explained by the characteristics of the local markets and the development stage of hubs within each Region:

¹¹⁷ Council of European Energy Regulators, "The developing of gas hubs and trade centres in Europe".

¹¹⁸ "Roadmap for a competitive single gas market in Europe – An ERGEG Discussion Paper for Public Consultation", Ref: E05-SEM-13-03, 21 November 2005.

¹¹⁹ "Roadmap for a Competitive Single Gas Market in Europe – An ERGEG Conclusions Paper", Ref: E06-GMI-13-03, 28 March 2006.

- The 2006 Action Plan for the **S Region** considered “hubs development and operation” as a central point for the development of the regional market. The main objective was to encourage shippers to use the hubs that were operational in the Region¹²⁰. An analysis on the situation of the gas hubs within the Region was developed¹²¹ in order to promote the use of current gas hubs, but no further measures have been implemented.
- The **SSE Region** also considered that hubs were a major issue¹²² if a regional market is to be developed. The initial intention was to create regional balancing points at the two hubs in the Region, PSV and CEGH¹²³. Currently, progress can be observed in both hubs. The greatest achievement for the PSV hub is the implementation of an independent market operator, while the most important milestones for the CEGH hub are the implementation of back-up/back-down services and the establishment of a day-ahead gas price index. In addition, a Bulletin Board for Secondary Market capacity has been implemented on the platform of the CEGH¹²⁴. The already-mentioned IPA and OBA¹²⁵ have also contributed to the progress made in the CEGH hub¹²⁶.
- The **NW Region** also identified “hub liquidity and the efficient trade of gas between hubs” as a key priority¹²⁷. The desired objective regarding this issue was to develop liquidity at the hubs in the Region (e.g. NBP, TTF, GTF, Zeebrugge). To progress the work in this area it was decided to identify barriers to trade at hubs¹²⁸ and then, to tackle those problems at specific hubs¹²⁹. The GTF hub (Denmark) was selected as the first hub and an Action Plan was produced¹³⁰, which set out a list of actions to overcome barriers to trade and, ultimately, increase liquidity at the hub. After the implementation of the Action Plan improvements on the GTF hub have been achieved. In response there has been an interest by stakeholders to carry out similar work on other hubs within

¹²⁰ The Spanish “Centro de Gravedad” (CDG) and the French “Point d’Exchange de Gaz” (PEG). GRI-S-RCC_Action plan final.doc (23 November 2006).

¹²¹ During the 4th SG meeting (October 2007) the French and Spanish regulators presented material on issues facing gas trading in the region and an initial Working Plan for hub development and secondary capacity trading. Enagás (Spanish TSO) issued a presentation on “Gas Exchanges in Spain” (30th November 2007-5th IG meeting); GRTgaz (French TSO) issued a presentation on “Trading at French PEGs” (23th July 2008-EFET Workshop).

¹²² GRI-SE-SG-01-05_Consultation Summary (1st SSE-SG Meeting October 2006).

¹²³ The two hubs of the SSE region are Punto di Scambio Virtuale (PSV) in Italy and Central European Gas Hub (CEGH) in Austria. To take work forward, a study for consultation on “the hub used as a balancing point” was issued by the beginning of 2007. GRI-SSE-SG-02-05_HUB (2nd SG meeting March 2007).

¹²⁴ As already mentioned in Section 3.2.2.1, the bulletin format used by the Trans Austria Gas (TAG) pipeline was adopted by the SSB.

¹²⁵ See Section 3.2.2.2.

¹²⁶ During December 2009, a Gas Exchange was launched at the CEGH, offering standardised products on a day-ahead basis.

¹²⁷ GRI-NNW-RCC-01_Plan of action report (1st NW-RCC Meeting June 2006).

¹²⁸ This work was developed by the hubs work stream through a questionnaire issued to hub/market operators and TSOs, two workshops – Bonn, February 2007; Dublin, April 2007 - and a conclusions paper.

¹²⁹ Enablers Group (EG) was established for the hubs work stream – an overall EG- and one Users Group (UG) for each hub. See paper “Project plan for the hub work stream 2007” (Gas Regional Initiative –North West Region).

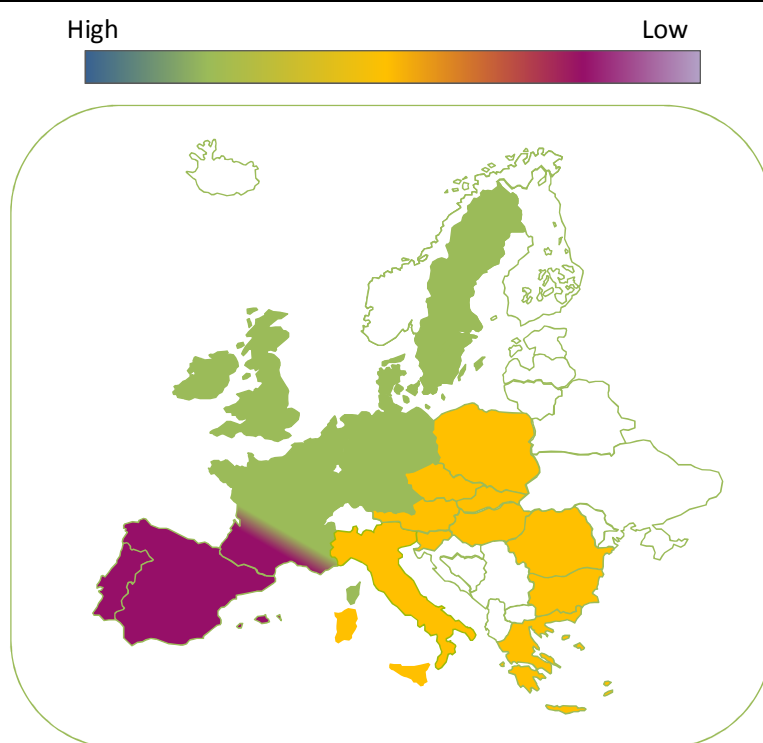
¹³⁰ Tentative Action Plan for the Danish hub Gas Transfer Facility (GTF) (2nd NW-SG meeting October 2007).

the Region, but due to reprioritisation of issues and limited resources the action plans have been temporarily delayed¹³¹.

Work undertaken within the three Regions has addressed the issue of liquidity at hubs by focusing on removing barriers to liquidity in a two-step process: identifying impediments around the hubs and then issuing working plans to deal with them. Progress has been achieved at specific hubs and on specific issues. The NW Region published a conclusions paper¹³² that assessed the hubs' liquidity problem and the successful implementation of the Action Plan in the GTF. In the SSE Region a Gas Exchange at CEGH is to be launched soon due to the signing of an IPA at Baumgarten as well as an OBA.

The lack of resources or stakeholders' cooperation has been identified as the main barriers to faster progress on this issue.

Figure 35. Current level of development on Hubs across Regions – Gas.



Source: everis and Mercados EMI

¹³¹ See “A vision and roadmap for the Gas Regional Initiative North West”, published on April 2008, which establishes capacity, investment and transparency as the only priorities for the NW region for the period 2008-2012.

¹³² Based on the responses to the questionnaire.

Trading between hubs with no barriers forms the basis of market development. Given its close relationship with other major issues such as Interconnection, Capacity, Interoperability, Transparency or Security of supply, progress with hubs development strongly depends on progress being achieved in the other issues.

Overall a Top-down approach is needed to establish operational minimum requirements at a European level. A Top-down approach would help to ensure non discriminatory access to the services provided by hubs¹³³.

3.2.2.5. Security of Supply

The GRI, by integrating national gas markets, aims to also reinforce security of supply. The European internal gas market has been seen by ERGEG as crucial to ensure the security of Europe's gas supply. A single competitive European market should be able to attract global gas and generate right investment signals¹³⁴.

Moreover, functioning hubs permit market participants to supplement or adjust their portfolios in the short-term through an organised market-place. Under tight supply conditions, liquid market-places are of critical importance in order to avoid or limit emergency interventions.

On the other hand, as already indicated and discussed in more detail in Section 3.2.2.1, the still insufficient network interconnection in some areas of Europe (e.g. SSE Region) seems to create a sort of "vicious cycle": while market signals may be expected to drive infrastructure investment, a pre-condition for the emergence of those signals is the presence of multiple agents along the value chain, which in turn is possible only if the infrastructure is adequate. Investment in new gas transport infrastructure and efforts to mitigate risks associated with a single supplier pattern are to be deployed in those areas. This probably requires a super-regional approach, as well as the involvement of the European Commission and national governments.

The gas supply crisis of January 2009 revealed the weaknesses and the level of risk exposure of the SSE Region, which, for historical reasons, suffers from insufficient network integration and supply diversification. While Western Europe gas flows go in two directions, in Eastern Europe the current pipeline system allows gas to flow only from East to West (bringing gas from Russia). Moreover, the Region is affected by inadequate peak storage.

¹³³ ERGEG is currently carrying out a consultation about the requirements related to transparency, regulatory framework and oversight (hub operator and OTC/Exchange traders) which could provide the basis for a possible piece of legislation addressing hubs harmonisation. Specifically, the consultation opens the possibility to establish a regulation for the following hub services: title transfer services; balancing offer; matching; rounding; wheeling service; virtual storage service; nomination service. In addition, respondents are questioned about "legal basis for reporting trade deals to keep oversight and control possible".

¹³⁴ Although this issue has not been a top priority on the agenda of some of the Regions, there have been significant developments in the last years which have brought it to the forefront. Thus, although it does not follow the same narrative structure of the previous issues, we have included it in this part of the report due to its current relevancy.

The January 2009 interruptions of supply have prompted renewed efforts in the issue. The **SSE Region** identified a variety of measures aimed at mitigating risks of future supply disruptions. In addition to the strengthening of interconnection, these measures are to a large extent interrelated and overlapping with the priorities previously identified: harmonisation of network operations, supply diversification, reverse-flow capability and market flexibility through storage, LNG and hub trading.

In fact, liquid hubs and adequate peak storage capacity may mitigate the effects of supply shortage or disruption in a timely and efficient manner. On the other hand, improving interconnections between markets – both along the lines of the proposal of the European Commission’s Second Strategic Energy Review (i.e. North-South interconnection in Eastern Europe) and through new sources (mainly LNG) – and the better use of existing networks (making reverse flows possible) could ensure long-term diversification of supply and substantially reduce transit risks. These measures have a mutually reinforcing character. Finally, in the event of a supply disruption, coordinated gas dispatching between adjacent TSOs is essential.

The SSE Region has raised the following specific infrastructure projects that would ensure proper market response in case of default of one supplier:

New interconnections:

- Denmark – Poland (Baltic Pipe).
- Poland – Slovakia / Czech Republic.
- Slovakia – Hungary.
- Romania – Hungary.
- Germany – Italy, Slovenia (Tauern Gas Pipeline).
- Greece – Italy (Poseidon Pipeline).

Strengthening of existing networks:

- Southbound transit through Romania and Bulgaria, to Greece and Turkey (which may be upgraded for northward flows).

Storage:

- Austria (i.e. Haidach expansion and Schönkirchen Tief).
- Several other options under study in the Central East Europe and Balkan regions.¹³⁵

In the **S Region** the development of new interconnection facilities between Spain and France will allow Algerian gas – whose capacity is about to be largely enhanced by the

¹³⁵ EFET Proposal on Regional Independent System Operator (R_ISO), February 2008.

entry into operation of the Medgaz pipeline - to flow to North European countries and piped gas from Europe to the Iberian Peninsula, diversifying the supply sources and thus improving security of supply.

Security of supply is an EU-wide concern, which requires a common and long-term EU strategy to provide incentives for the strengthening of interconnections between regional markets or investments on new Pan-European pipelines, as envisioned by the Ten Year National Development Plan (TYNDP). At the same time, significant regional progress can be achieved, as in the case of the SSE Region (e.g. reversing flows at inter-connectors).

Thus a combination of a Bottom-Up approach for the management and coordination of specific measures at regional level, with a Top-down approach for the long-term development of a Pan-European network may be the most appropriate approach.

3.2.2.6. Others

Apart from the previously mentioned issues, there is a set of other issues that have also been addressed by the Regions. This includes topics regarding Regulatory Coordination, TSOs Cooperation and Gas Quality. The following table summarises the work within the Regions regarding these issues:

Figure 36. Activity within other issues - Gas.

Issues		Progress
Regulatory Coordination	NW	<ul style="list-style-type: none"> In the second half of 2007 the regulators within the NW region signed a MoU promoting a greeter cooperation and intended to fill the regulatory gaps in the current regulatory framework.
	SSE	<ul style="list-style-type: none"> In June 2008 the regulators within SSE region signed a MoU promoting coordination, information and harmonization.
	S	<ul style="list-style-type: none"> The development of MIBGAS between Spain and Portugal is seen as a step towards the enhancement of current harmonization levels. Work currently in progress to implement a common trading license in both countries. Modification of Spanish legislation (a Royal Decree, a Ministerial Order and three Resolutions) in order to harmonize capacity allocation mechanisms with those in force in France.
TSOs Cooperation	SSE	<ul style="list-style-type: none"> Nine TSOs in the SSE region signed a MoU to strengthen their cooperation in the region in transparency, cross border capacities, standard harmonisation and operational arrangement issues. The MoU establishes working groups on the agreed issues.
	S	<ul style="list-style-type: none"> Within the S region the four French and Spanish TSOs are currently working on a MoU for better coordination in interconnection issues.
Gas Quality	All	<ul style="list-style-type: none"> Identified as a common priority by all the GRIs, soon became apparent that a harmonisation process on gas quality exceeded the scope of the regional initiatives. Therefore this issue is been addressed directly through the mandate M/400 of the EC to CEN, and the EASEE-gas work followed-up at the Madrid Forum. Nonetheless bilateral agreements between TSOs at IP are being addressed when necessary.

Source: ERGEG. Elaboration: everis and Mercados EMI

Achieving a regional market requires effective regulatory coordination, particularly on cross-border issues. At present powers of different NRAs vary, something that may have an effect on the cooperation within each regional market. The 3rd Package introduces common rules on NRA powers. Until it comes into force, the signed MoUs in the NW and SSE GRI Regions (both with a large number of countries) encourage market integration by means of facilitating coordination between NRAs. In the S Region, perhaps due to its small number of countries, there has not been a need for adopting a similar practice.

3.2.3 Analysis by Region: Organisational mechanisms

The Regions of the GRI have been structured following the organisation described in Section 2.2.3. However, the relative importance of the RCC and IG fora has varied between Regions. An overview of the high-level activity of each Region is summarised in the following table:

Figure 37. Activity of each Region - Gas.

Region	RCC Meetings	IG Meetings	SG Meetings	Other Meetings
North West	16	8	6	33
South – South East	18 ⁽¹⁾	6	7	4
South	7	12	10	2 ⁽²⁾

⁽¹⁾ 16 RCC meetings and 2 Ad hoc RCC meetings

⁽²⁾ These two meetings correspond to interoperability issues. The S Region has also held four meetings that have not been reported to the ERGEG website (two High Level meetings, one related to EASEE-gas support and one concerning gas quality)

Source: ERGEG (number of meetings reported in ERGEG website as of December 2009)

The schedule of meetings shows that the NW Region has had an intense activity especially in the tailored fora defined within this Region. The role of the RCC has been the most predominant in the SSE Region, while IG and SG have been the main focus in the S Region.

The intense activity developed by the NW Region since the first half of 2008, when a new roadmap to 2012 was published, is notable.

Further details on how the various Regions have operated are set out below.

3.2.3.1. North-West Region

The NW Region is the largest of the three Regions of the GRI in terms of size of the gas market and geographical scope. In fact, it accounts for more than half of EU gas consumption and more than three quarters of EU gas production. Nevertheless, a decrease of production has been observed in the last years. This trend is likely to continue in future years, marking a growing dependency on external supply sources of the NW Region.

Interconnection capacity between NW Region countries is particularly large compared to the rest of EU. This gives a boost to liquidity within the Region, which ultimately facilitates gas trading. Trading is also enhanced by the existence of numerous hubs in the Region. Currently, the most liquid gas hub in Europe is the NBP hub, which is located in the NW Region. However, the churn rate at the NBP is still far from the most liquid gas hubs around the world.¹³⁶

Similarly to the PLEF in the electricity sector, a political initiative parallel to the GRI process has been developed between governments with the aim of promoting the

¹³⁶ The churn factor indicates the number of times that the same physical gas is exchanged on a hub. The more times the gas is traded, the more liquid is the hub (i.e. in latest updates published by OFGEM June 2009, “Liquidity in the GB wholesale energy markets”, NBP hub monthly averages churn rate peak up to around 13, while Henry Hub – located in USA- churn ratio reaches around 100).

regional gas market: the Gas Platform has been created as a regional gas forum between Germany, France and the Benelux countries.

3.2.3.1.1. Achievements

Initially, the NW Region 2006 Action Plan defined six priority areas aimed at delivering a functioning and effective regional market. Two of these areas were identified as critical by both NRAs and the operators, namely regulatory coordination and transparency. In addition, two topics were later incorporated into the key priority issues, namely investment and day-ahead capacity.

In April 2008 the NW Region redefined its priorities and focused on a shorter list of topics: transparency, capacity and investment.

The NW Region has been very active and has managed to make substantial progress. This progress has been encouraged by commitment of stakeholders, along with the necessary governance structures.

The NW Region updates regularly its page on the ERGEG's website with the current state of the different arrangements and steps related to each issue. The following table summarises the major results achieved in the Region:

Figure 38. Concrete results achieved in the North-West Region.

	Objectives	Concrete results
Initial priorities (until April 2008)	Transparency	<ul style="list-style-type: none"> TSOs agreed to deliver firm timetable for delivery of plans to provide daily capacity and flow data. Published guidelines on the less than three rule.
	Regulatory coordination	<ul style="list-style-type: none"> MOU signed by regulators in October 2007. Special website for coordination since 2008/2009.
	Interconnections; primary and secondary markets	<ul style="list-style-type: none"> Information on capacity flows and contracted capacity published at three interconnection points: Bunde/Oude Statenzijl (BOS), Medelsheim/Obergailbach (MO), Blaregnies/Taisnières (BT). Secondary markets: Publication on interruptible capacity products (as recorded in EU Regulation 1775/2005).
	Hubs	<ul style="list-style-type: none"> Action plan in order to increase liquidity at the GTF hub published as a result from the previous assessment of liquidity problems.
	Gas quality and interconnections	<ul style="list-style-type: none"> Decided to defer work on gas quality issues due to other existing initiatives related to the same topic.
	Balancing	<ul style="list-style-type: none"> Development of information templates on data to made available under gas balancing mechanisms consistent with ERGEG's guidelines for good practices for gas balancing. Terms of reference for gas balancing interactions case study on France, Belgium and UK.
	Day ahead capacity	<ul style="list-style-type: none"> Clear commitment of stakeholders, TSOs and NRAs with the work streams around the Day Ahead Capacity pilot project.
	Investment	<ul style="list-style-type: none"> Consultation works regarding future investment issues.
Current priorities (from April 2008)	Transparency	<ul style="list-style-type: none"> Further improvements in storage transparency – more accurate, detailed frequently updated data and information on available capacity. Improved transparency (capacity and flow data) at cross border points, the Transmission Transparency Project. Number of interconnection points subject to the less than three rule reduced from 35 to 20 as of 3Q 2009.
	Capacity	<ul style="list-style-type: none"> Strengthening of primary and secondary capacity markets: <ul style="list-style-type: none"> Implementation of interruptible products. Improvement in the implementation lead time for a transfer of secondary capacity within the day ahead pilot project. Secondary markets goes live early 2008 at BOS with two participating platforms operators (Trac-X and APX). Development of new capacity products (weekly, weekend). New bundled products offered on platform Eucabo.
	Investment	<ul style="list-style-type: none"> Coordinated Open Season at Belgium-French border teaching valuable lessons. Website on planned investment and open seasons in the region. Recommendations on regional investment climate report based on organised Virtual Test case. Manual of the regulatory investment frameworks of the Region published. Project plan and synthesis report on Open Seasons coordination.

Source: ERGEG. Elaboration: everis and Mercados EMI

Additionally, the NW Region has developed a comprehensive system of progress reporting related to the priority issues.

3.2.3.1.2. Organisation

The NW Region is organised under the general framework established by ERGEG, with RCC, IG and SG. However, the NW Region has introduced additional organisational layers with respect to the original model.

From its inception the NW Region set up work streams to address the previously-identified priority topics¹³⁷. Each work stream is jointly chaired by a NRA and an operator, with defined work plans with assigned roles, timelines and responsibilities. This organisation has proved to be useful in order to coordinate and monitor efforts within the Region. In addition, by the first half of 2007, the Region set up Enabler Groups (EGs) for the different work streams. These EGs consisted of the lead Regulator of the work stream along with a number of market operators and other stakeholders. The main aim of the EGs was to focus on the development of issues and designing practical solutions before they were discussed within the wider SG. Furthermore, they were meant to play an important role in delivering the work plan in each work stream¹³⁸. The EG model has been considered helpful to facilitate progress of the different work streams, given the large number of countries and participants involved in the NW Region.

The organisational framework of the NW Region was altered in April 2008¹³⁹. A Programme Board was created to provide clear leadership and direction for the regional work programme. The Programme Board consisted of senior representatives of the NRAs, TSOs and a senior stakeholder. This Programme Board took on the programme management functions from the RCC. Thereafter, the RCC has focused on the co-ordination of regulatory decisions and on the regulatory issues which emerge from the project work streams. The Programme Board needed the support of dedicated staff experienced in programme management techniques, and a Programme Office was established for this purpose; its main function is to deal with the day-to-day operation of the NW Region according to the overall direction set by the Programme Board¹⁴⁰.

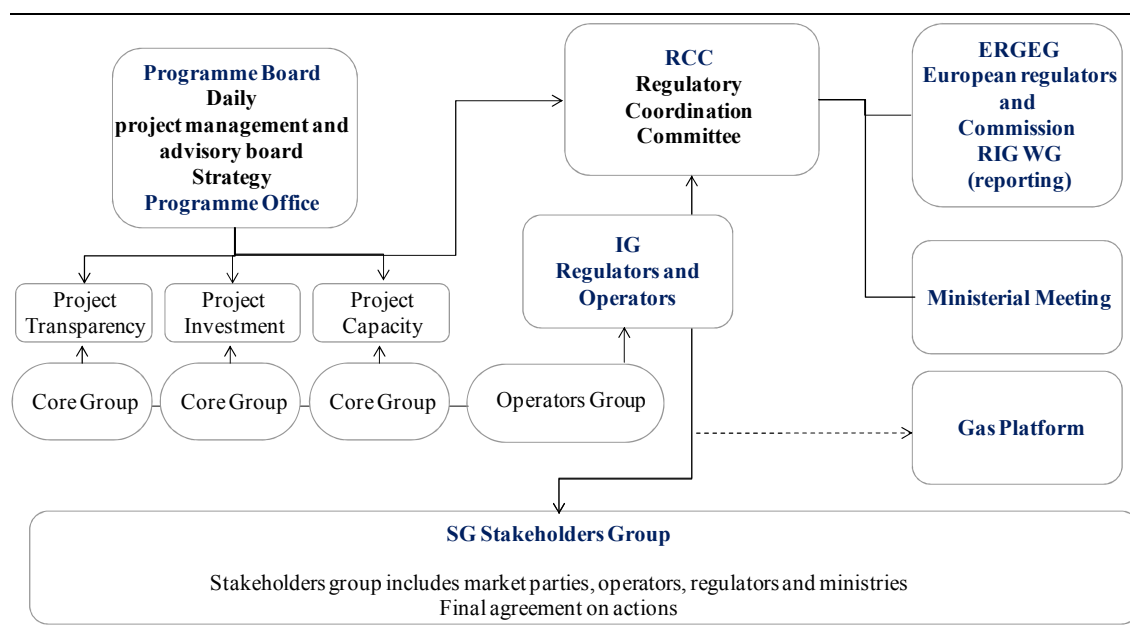
¹³⁷ Initially, six work streams were defined, one per priority topic. Two more work streams were later on created for the issues incorporated into the priorities of the region (investment and day-ahead capacity).

¹³⁸ Report on Outcomes Stakeholder Group Workshops GRI NW-EU Region 8th and 9th of February 2007.

¹³⁹ The GRI NW Roadmap from 2008 to 2012 was published on 4th April 2008: "A vision and Roadmap for the Gas Regional Initiative North-West". It introduced some changes into the NW region structure.

¹⁴⁰ "Programme Board: Resources issues" (2nd NW-PB Meeting June 2008).

Figure 39. Organisational structure of the NW Region after its Roadmap to 2012.



Source: ERGEG. Elaboration: everis and Mercados EMI

The Region has also addressed the issue of political involvement by inviting Ministries from different countries within the Region to meetings with NRAs, TSOs and other stakeholders involved in the NW Region. These events have been named as Ministerial Meetings. As of the end of November 2009 three Ministerial Meetings have taken place.

3.2.3.2. South-South East Region

The SSE Region is co-chaired by the Austrian and the Italian NRAs and also includes Bulgaria, the Czech Republic, Greece, Hungary, Poland, Slovakia, Slovenia and Romania.

The gas market in this Region¹⁴¹ may be regarded as mature in most countries with the exception of Greece, where gas was introduced ten years ago and the market has only recently been liberalised, and to a lesser extent, in Poland and Bulgaria. However demand is still growing in the whole Region, notably in the power generation sector.

This Region contributes significantly to the security of energy supply in the EU, since nearly half of the European import capacity transits through the countries included in the SSE Region. Currently most gas flows originate in the former Soviet Union, but the Region is also expected to become a major transit area for gas arriving from Central Asia, the Middle East and North Africa.

¹⁴¹ Their combined gas market amounts to approx. 160 bcm in 2007, about a quarter of the whole EU gas consumption, with an average per capita consumption slightly below the European average.

The gas transportation network of the Region is centred on the strongest European pipeline system (Brotherhood) entering Slovakia from the Ukraine, with a primary junction in Slovakia and further splits in Austria (Baumgarten) and in the Czech Republic. The Southernmost branch reaches Italy while parallel lines cross Hungary and Slovenia. From South-East Europe gas of mostly Russian origin transits into Germany, France and into the Balkans. This is a large and powerful interconnected system, featuring some spare capacity in the Slovak and Czech sections but with bottlenecks in Austria.

The SSE Region countries currently include two “hubs”: A physical hub at Baumgarten, conveniently located at or near major pipeline interconnections and storage facilities; and the Italian notional hub, a “virtual exchange point” (PSV). Limited liquidity exists at the two hubs, compared to the NW Region hubs.

The lack of liquidity in the SSE Region is a function of market concentration. On average about 80% of each country’s market is controlled by the local incumbent, with several countries still featuring a quasi-monopoly market structure with dominant companies that have a limited interest in liquid markets and trading at hubs.

The SSE Region also provides an example of regulatory differences hampering the development of competition between neighbouring countries. Third party access regulation was only recently introduced or revised in several countries and differs across borders in many respects, for example, tariffs, capacity allocation, congestion management and balancing.

3.2.3.2.1. Achievements

As a consequence of its features and conditions, the SSE Region has focused its work on, and achieved the most significant results in, the areas of Interconnection and Capacity, and Interoperability.

The SSE Region has developed a Standardised Bulletin Board for transmission capacity on all its major transmission systems (see Section 3.2.2.1). The intention is that greater transparency in the secondary market will increase liquidity, which in turn should lead to less contractual congestion at interconnection points.

The Region has also proposed the introduction and studied the feasibility of a One-Stop-Shop service for capacity bookings to be implemented by the TSOs. This service would benefit shippers who want to transport gas across a number of countries in the Region, by allowing them to make one booking rather than separate ones with each relevant TSO (see Section 3.2.2.1)

In the area of interoperability, TSOs and stakeholders have worked on removing remaining barriers to the implementation of IPAs and OBAs so as to facilitate cross-border trade. Concrete results have been achieved at the interconnection points of Baumgarten and the border between Austria and Slovenia (see Section 3.2.2.2). Although the proposal has still to be implemented and substantial difficulties can be foreseen, the envisaged development of a regional entry-exit tariffs system is notable.

The work involves promoting more cost-reflective transportation pricing systems and market access for new shippers.

Most of the TSOs of the Region have joined the GTE+ Transparency Platform; those who have been reluctant to participate, taking advantage of alternative interpretations of the European directives and regulations, were given a common formal invitation to join in the last SG meeting, held in October 2009.

The table below shows the most significant results achieved in the Region:

Figure 40. Concrete results achieved in the South-South East Region.

	Objectives	Concrete results
Initial priorities	Interconnection Capacity	<ul style="list-style-type: none"> Development and adoption of a Standard Bulletin Board for transmission capacity (to facilitate secondary market trading for shippers). Best practice provision of one-stop-shop service. Established standard for Secondary Capacity Market.
	Interoperability	<ul style="list-style-type: none"> Conclusion of Interconnection Point Agreement (IPAs) and Operational Balancing Agreements (OPAs) at Baumgarten (CEGH). Progress made at other interconnection points.
	Transparency	<ul style="list-style-type: none"> Some improvement on information availability at hubs/storages of the region. Most TSOs joined GTE+ platform.
	Hubs	<ul style="list-style-type: none"> Imminent launch of a Gas Exchange at CEGH (standard products on a day-ahead basis; later in 2010 also derivatives).
	Other / General issues	<ul style="list-style-type: none"> Cooperation between NRAs deepened through the signing of MoU. SSE Regulators' Network launched to promote cooperation of NRAs.

Source: ERGEG. Elaboration: everis and Mercados EMI

3.2.3.2.2. Organisation

The Region is organised under the general framework established by ERGEG for the work of the three Regions of the GRI.

The SSE Region is marked by heterogeneity: full-size operators, shippers and traders are grouped with small entrants that lack the necessary resources to participate in all the meetings and to represent their interests appropriately. Due to the heterogeneity in size and differing interests of members, the Region has probably suffered more than others from the drawbacks of the voluntary and cooperative approach which characterises the RIs, that is to say a certain organisational looseness and lack of commitment. Progress on some issues and projects, which originally appeared to offer significant benefits, has been slow.

In order to overcome the lack of stakeholder commitment, and following the example of the NW Region, in 2008 the SSE RCC decided to establish a Strategic Advisory Panel (SAP) to give strategic guidance and advice to the SSE Region on how to better achieve stakeholder involvement and commitment as well as to better communicate progress to all stakeholders. The first Panel meeting was held on January 30th, 2009 in Sofia. The SAP is made up of senior gas industry representatives. Meetings are to be held 3-4 times a year.

The gas supply disruption of January 2009, forced the SSE Region to refocus its attention and work on the issue of security of supply and possible measures to mitigate the impact of potential future cuts in gas supplies. Under those circumstances the cooperation throughout the Region proved to be prompt and effective. The Region's NRAs diagnosed the situation and provided timely advice to the European Commission including a set of actions (for example, strengthening of gas reverse flows at key IPs).

The exchange of information, the coordination of effort and the publication of findings have been incorporated in the regional Work Programme.

3.2.3.3. South Region

The S Region is the smallest of the three Regions in terms of both the size of the market and geographic scope. However, due to its strategic location, the S Region plays an important role for European gas supply, contributing to the security of supply through the large number of LNG terminals present in the Iberian Peninsula.

The three countries participating in the S Region have different degrees of development. While France can be considered as a mature market with low rates of growth, Spain has experienced high rates of demand growth in recent years. The gas sector in Portugal is still in its early stage of development due to the recent introduction of natural gas, which has led the European Commission to consider Portugal as an emerging country in the gas sector¹⁴².

From a physical point of view, Portugal and Spain are highly integrated, but interconnection between France and Spain is limited. Enhancing interconnection has become a priority issue within this Region, since the Spanish-French interconnection is crucial to gas flow between the Iberian Peninsula and the rest of Europe.

Based on the previous experience in the electricity sector, a parallel initiative has been developed within this gas Region. The Iberian Gas Market (MIBGAS) includes Portugal and Spain and aims at the integration between the two countries' markets. MIBGAS has as a priority the regulatory harmonisation between the two countries.

3.2.3.3.1. Achievements

Contrary to the other Regions, whose boundaries were originally defined with reference to one or more regional hubs, this Region was assembled because regulators believe in the potential of the three countries to become a single market. As a consequence, the efforts of the S Region have concentrated on interconnection proposals between Spain and France, benefiting from the strong support of Governments and industry. The efforts culminated in the launch of the two aforementioned OSs in summer 2009 (construction and allocation of new interconnection capacity between France and Spain).

In addition to the interconnection, the Region has addressed interoperability and transparency as well as facilitating the development of hubs in the Region.

¹⁴² Directive 55/2003 considers Portugal as emergent country in the gas sector.

The S Region reports regularly on its achievements on its page of the ERGEG's website. The following table summarises major achievements related to each issue.

Figure 41. Concrete results achieved in the South Region.

	Objectives	Concrete results
Initial Priorities	Interconnections capacity	<ul style="list-style-type: none"> Studies on investment needs at cross borders within the region. Available existing and committed capacity at Larrau sold via Open Subscription Procedure carried out in the 4Q 2008. Two Open Season to provide new capacities since 2013 and 2015, developed by TSOs, between Spain and France. OS 2013 binding phase and OS 2015 non-binding phase finished as of October 2009.
	Interoperability	<ul style="list-style-type: none"> TSOs' operational agreements (OBAs) regarding pressure at French-Spanish interconnections. Changes in the Spanish Network Code in 2008, implementing harmonization of units, nominations and matching processes. Modification of balancing rules in Portugal in a consistent and coherent way with the current ones in Spain.
	Transparency	<ul style="list-style-type: none"> Identified small areas for improvement regarding the information published by TSOs. Interconnector status record is being published and updated making public the development of new interconnectors. Regulators analysis of compliance of LSOs with GGPLNG. Good level of compliance with some room for improvement.
	Hubs	<ul style="list-style-type: none"> Analysis on the current situation of the hubs within the region.
	Other Issues	<ul style="list-style-type: none"> Approved by regulators and published the General Principles and the Organization Model of the Iberian Gas Market (MIBGAS) in January 2008. Approval of harmonization and mutual recognition of trading licenses in the Iberian gas market in early 2009. Submitted to public consultation, finishing in mid April 2009.

Source: ERGEG. Elaboration: everis and Mercados EMI

3.2.3.3.2. Organisation

The Region is organised under the general framework established by ERGEG for the work of the three Regions, with RCC, IG, SG and specific rules of procedure¹⁴³. These meetings are attended regularly by all the participants in the gas market from the three countries. Additionally and while mainly focused for electricity market issues, the High Level Group, with the involvement of senior representatives at political levels, has also dealt with gas issues where specific support from Governments and European Commission has been required. The main driver for progress in the S Region has been the strong commitment to the process of all the agents in the Region working jointly, in a coordinated way and focusing the work towards defined results. Indeed, the work of the TSOs has been important in developing the procedures and defining the details of the OS. It should be also noted that representatives from the European Commission and Ministries have regularly attended meetings. The small number of countries involved has also helped in achieving results. During its 6th meeting, the RCC approved the

¹⁴³ S GRI "Rules of procedure".

Working Plan for 2009. The document contains further activities to be undertaken and deadlines regarding Interconnection, Transparency and MIBGAS issues¹⁴⁴.

¹⁴⁴ 6th RCC Meeting. South Gas Regional Initiative (S-GRI), 27 January 2009.

4. Assessment of the approach provided by the Regional Initiatives

The purpose of the RIs (as described in Section 2) has been to provide a Bottom-up approach to market integration, intended to complement the more Top-down approaches to the development of a European-wide energy market set out in the 2nd ¹⁴⁵ and, more recently and prominently, 3rd Packages.

Section 3 analysed the various issues considered by the RIs, highlighted areas of progress and areas where improvements may be required. In this Section we evaluate the strengths and weaknesses of the RIs process by considering various governance and organisational issues that have contributed to the progress achieved to date. At the same time we consider changes to the governance of the European electricity and gas sector that will be introduced under the 3rd Package, and assess the extent to which these changes will affect the functioning of the RIs process.

4.1. Strengths

Our analysis has identified various strengths of the RIs process. These can be grouped under three key themes: the benefits from greater regional cooperation, allowing different Regions to move at different speeds according to their needs, and facilitating pilot testing, benchmarking and spread of best practices.

4.1.1 Enhancement of regional cooperation

A common feeling among stakeholders is that the RIs process has been extremely beneficial in creating a forum for participants in neighbouring countries to discuss common issues. In some cases, collaboration among parties with the same role in different countries previously existed through associations (for example, ERGEG, ETSO and GIE). However, historically, collaboration on technical issues across stakeholder groups has not been common. In addition, RIs have also encouraged dialogue amongst different parties by providing a common face-to-face forum. One example of progress is in the relation between NRAs and TSOs, where in some cases this has changed from one of mutual distrust to a constructive common approach over the period in which the RIs have been operating.

Although discussion by itself may not solve key problems, bottom-up decision-making is likely to be more effective where there is a habit of stakeholder interaction and effective working relationships.

Additionally, the smaller size of the groups enables extensive interaction between stakeholders and not just European-wide organisations. This gives an opportunity for local participants to be involved in regional issues, and for participants to be co-opted in

¹⁴⁵ The key features of the 2nd Package are Directives 2003/54/EC and 2003/55/EC and Regulations 1228/2003 and 1775/2005.

from other Regions where necessary and/or for other Member States to be incorporated as Observers¹⁴⁶.

Furthermore, the smaller size of the working groups may place greater pressure on participants to achieve the results agreed in the Action Plan of the Region. Possible reasons include: market participants' demands for improvements; TSOs needs (for example, for an adequate framework for ensuring operational security of the transmission grid in all situations); and regulatory consensus to achieve progress according to the Action Plan.

4.1.2 Allowing Regions to move at different speeds

A regional approach reflects the reality of energy market integration as in many cases it is clear that the most appropriate geographical scope of an issue is neither bilateral in nature, nor European wide¹⁴⁷. For example, the level of market integration between the countries operating in Nordpool bears no resemblance to the market structure in Member States which joined the EU in 2004. Requiring a "one size fits all" approach cannot work, as it does not reflect the different starting points of the various Member States and regions.

Moreover, allowing Regions to move at different speeds leaves more room for the Regions to set their own agenda, considering important regional and local characteristics in the discussion, bearing in mind the different starting points, and current regional needs. In addition, different Regions will have different priorities. Although this is true both for the electricity and the gas sectors, this is more evident in the latter, in which there are broader differences in market development among different countries. Therefore, as described in Section 3, Regions have been working on very different issues. For instance, in the S Region the main priority has been developing the interconnection capacity between the Iberian Peninsula and France, while the NW Region has focused on market optimisation (transparency and interconnection optimisation) and the SSE Region on issues related to security of supply. In the case of electricity, by contrast, there are common issues on which several Regions have been focusing most of their efforts, mainly congestion management and transparency. However, it is also true that as for congestion management, Regions have been working on different aspect of the issue. For example, in the CE Region priority has been on developing an Auction Office to coordinate longer-term capacity allocation, while in the Baltic Region the priority has been developing cooperation between network operators over the availability of cross-border capacity.

4.1.3 Pilot testing, benchmarking and spread of best practice

Having a number of smaller groups can provide for benchmarking between the groups, and a means by which best practice can be implemented across Regions.

¹⁴⁶ Some stakeholders commented that the opportunity to co-opt members and or have presentations from other RIs was rarely used, to the detriment of the overall process. However, there is nothing intrinsic within the current arrangements that prevent this type of interaction.

¹⁴⁷ For example, it is often most efficient to consider the calculation of available cross-border electricity capacity within a group of countries, particularly where this group of countries is subject to loop flows: in this case a bilateral approach would not capture all inter-relationships, while a European-wide approach may be inefficient as capacity across many borders can be calculated using simpler methods.

Another fundamental advantage of the RIs approach is that it allows pilot testing, whereby solutions can be tested in one Region before implemented in others and results compared between Regions. This has been considered important in the case of Transparency. In the electricity sector, the N Region was the first to produce a report based on the ERGEG Good Practice Guidelines, with the format subsequently adopted in a large part by the CE, CW and CS Regions. In the gas sector, the NW Region originally proposed the gas storage transparency project which gained support and is delivering results at EU level via the GSE platform¹⁴⁸.

The potential role of the Regions in trialling out solutions is evident in a number of areas, including:

- The (volume-based) market coupling between Germany and Denmark;
- Work in the CW and CE Regions to develop flow-based approaches to capacity calculation and allocation;
- The development of Regional Auction Offices;
- Balancing solution for the UK-France interconnection;
- MoU between NRAs in the NW Region and the subsequent roll out to the SSE Region;
- Coordinated capacity allocation along four different balancing zones in the S Region; and
- One-Stop-Shop for Third Party Access via a single platform in the SSE Region.

For a range of issues there has been and there still is no “blueprint” and the experience of learning by doing is fundamental for subsequent market development. For example, problems in the attempt to couple the Danish and German electricity markets may have had positive benefits in that consensus towards the benefits of price-based coupling has evolved much quicker than may otherwise have been the case.

4.2. Weaknesses

Although the RIs process has produced benefits, various factors have either limited the available benefits or have resulted in the realised benefits having a higher cost.

In practice, various governance and administrative factors have restricted the ability of the RIs to perform the bottom-up role most effectively. There is a large degree of overlap between governance and administrative issues, but for sake of clarity these are considered separately.

¹⁴⁸ See Section 3.2.2.3.

4.2.1 Governance processes

A problem affecting some Regions appears to be the lack of clear leadership in the governance of the process. Governance is fundamental to the success of European market integration. On one hand, and in general, effective layers of governance are required to ensure that European-wide legislation can be implemented in clearly defined manner that is mutually beneficial for all Member States. That is, there is effective top-down guidance. On the other hand, there is a need to establish effective internal working arrangements within the Regions to ensure that the overall aims of legislation are implemented consistently and in a cost-effective manner within the Regions.

With the introduction of the 3rd Package, the regulatory and policy landscape will change significantly. In this sense, the governance structure that will arise once the 3rd Package is fully implemented is most relevant. However, the history of the RIs is important to assess what has worked to date, and to assess the extent to which changes under the 3rd Package will address existing weaknesses.

The following governance issues are considered in turn:

- The extent of policy guidance provided to the RIs.
- The powers of NRAs and their ability to exercise these powers, and
- The role for National Governments.

4.2.1.1. Nature of Policy guidance

The RIs were specifically designed as “bottom-up” processes with a degree of autonomy. However, without proper policy guidance there has always been a risk that the Regions may move in different directions, thereby jeopardising the subsequent harmonisation of energy markets. Put another way, a key risk is that regional solutions may turn into an obstacle to – rather than a facilitator of – EU integration, as participants may become used to regional solutions and be reluctant to change towards a broader EU-wide scheme.

Policy guidance is particularly important at the start of any process. However, in practice, little policy guidance has been given to the RIs. Documents issued by ERGEG at the start of the process did not specify clear outcomes to be achieved, beyond the overall goal of establishing effective regional markets. For example, an ERGEG fact sheet on the RIs process stated little more than the subject headings:¹⁴⁹

The objective of the Regional Initiative is to establish functioning and effective regional electricity markets as a step towards a competitive single European market. The Regional Initiative will organise a number of Regional Energy Market projects (REMs) to identify barriers to further progress towards competitive electricity markets, and develop options for overcoming these barriers.... The focus will be on the practical issues that are most important to

¹⁴⁹ “The Electricity Regional Initiative – Fact Sheet”, Ref: E05-ERF-03-06b, February 2006.

the further development of effective competition. For example, key issues in electricity wholesale markets are the management of congestion at borders, and associated measures to maximise the availability of cross-border capacity.

The lack of clear terms of reference provided to the RIs was compounded by other problems.

First, the legislation itself has not been sufficiently specific, notably in the case of the initial versions of the Congestion Management Guidelines. The gap between the provisions in the Guidelines and a model that could have been implemented has been too large for the different Regions to fill acting independently¹⁵⁰.

Second, the lack of legislative specificity is not necessarily a problem if there is a means by which policy guidance can be provided at a secondary level, for example by providing a target model that can be implemented. However, this level of detailed guidance has generally been lacking. ERGEG has not driven the process forward as forcefully as possible. At the same time the powers of NRAs acting regionally have been limited.

The importance of, and lack of, policy guidance has been stated by many stakeholders, including ERGEG¹⁵¹. Reflecting the policy vacuum other initiatives have been developed, including the ETSO/Europex work on market models. More recently, the Florence Forum has also moved to address the policy vacuum with a decision to establish an Ad Hoc Advisory Group (AHAG) to further develop a target model¹⁵².

4.2.1.2. Role for National Governments

The role of National Governments is largely undefined in the RIs process.

The only role envisaged for Governments has been as a participant in the Stakeholder Group meetings. However, it is unlikely that participation in Stakeholder Group meetings is the most efficient format for Government input. In general, the role of Governments is twofold:

- To set policy; and
- To make changes to primary legislation that contributes to the implementation of the single internal energy market, including by expanding the powers of NRAs.

A key role of the Stakeholder Group is to facilitate consultation. However, Governments are also understandably reluctant to participate vocally in the SG meetings due to a perception that their presence is inappropriate as it might be interpreted as interfering with the independence and powers of NRAs.

¹⁵⁰ The idea of lack of specification in European legal provisions and its impact on the convergence in the European energy markets has been subject of several studies in recent years. For example see Nadine Haase, "European gas market liberalisation: Are regulatory regimes moving towards convergence?", May 2008.

¹⁵¹ In their latest documents ERGEG stresses the importance of the lack of a vision for the Regional Initiatives process. See "Draft Strategy for delivering a more integrated European energy market: The role of the Regional Initiatives". An ERGEG Public Consultation Document. Ref: E09-RIG-04-03. 9th November 2009.

¹⁵² See Section 4.2.3. for further details on the role of AHAG.

However, it is clear that national Governments should be allowed to take a more prominent role in the RIs process, without interfering with the power and responsibilities of NRAs. Even though the RIs have mainly dealt with regulatory issues, the harmonisation and standardisation needed for promoting an internal energy market may require changes in national legislation, including primary legislation, which can only be effectively pursued by Government. Moreover, Government, by being better able to overcome legislative hurdles, can provide greater thrust to the process of regional integration.

The PLEF and the equivalent Gas platform provide an example of the potential role for Government. The PLEF resulted in the signing of a Memorandum of Understanding by all the National Governments, who have subsequently performed a key role in its operation. Of particular relevance:

- The PLEF has continued to meet despite the setting up of the CW Region that includes all its members; and
- There are examples of strong cooperation between the two groups, particularly between the CWE RI and the Support Group 1 of PLEF (charged with optimisation of transmission capacity).

Even though these parallel initiatives do not involve all stakeholders, they have proved very effective to overcome political barriers. In fact, where European markets have been integrated there has been strong Government involvement from the beginning of the process. Relevant examples include Nordel, MIBEL and SEM. Without strong policy guidance, cross-border integration into a single European market will be difficult. Hence, the main challenge for the RIs is to improve on the involvement of Governments and integrate and coordinate progress achieved in these parallel regional initiatives.

4.2.1.3. Potential duplication with other initiatives

Concern was raised by stakeholders about the possible duplication of work between the RIs and other initiatives, for example, the PLEF and the Gas platform. Duplication of work is not only inefficient, but has resource implications for the participants. The potential resource implications are most critical for those Member States that are involved in various parallel projects and those Member States that are involved in multiple Regions.

A consequence of these resource limitations is that some members will send more junior participants to the RIs meetings and/or Regions may employ other approaches to meetings (for example, tele-conferencing) for the purpose of reducing costs, which may ultimately lead to less effective decision-making.

In some respects the resource implications is a symptom rather than a cause of problems with the RIs. For example, members will be more willing to devote resources to the RIs if they are considered to be more effective and perform a key role in market integration. However, the administrative costs of having, for example, two countries in four separate Regions and having parallel initiatives running side by side should be evaluated in any future configuration of the Regions.

4.2.1.4. Regulatory powers and ability to exercise them

The RIs were conceived by ERGEG with NRAs taking a prominent role in the process, notably through their leading role in the RCC.

However, stakeholders have claimed that the ability of NRAs to drive progress has been compromised by a lack of powers to either propose far-reaching regional solutions or ensure compliance with the agreed agendas of the RIs.

NRAs do not have powers to take regional decisions, whereas the issues considered by the RIs are necessarily cross-border in nature. This mismatch highlights the difficulty in developing regional solutions, particularly given that ERGEG, the main regulatory body with a cross-border function, does not have implementation powers. However, a lack of cross-border powers does not necessarily preclude, and in some cases has not precluded a group of NRAs acting together to implement a common approach to an issue. For example, TLC was created following (an eventual) agreement by the Dutch, Belgian and French NRAs to implement common regulatory arrangements affecting cross-border trade. In addition, the creation of Access Rules across the IFA interconnection was facilitated by agreement between NRAs.

However, until now, even the national powers of NRAs have varied significantly. Some NRAs have had fewer regulatory tools, even at national level, with which to facilitate or require progress. This has several implications. First, NRAs may be reluctant to participate in discussions on issues where they have no power to act. Second, regional implementation of a policy decision may be less efficient where all NRAs within a Region are expected to implement a similar approach to an issue but limited regulatory powers impede the introduction of that approach in one or more Member States. Third, and as a consequence of the other two implications, the overall progress of different Regions may become a function of the respective regulatory powers within the Regions. For example, in the SW Region, the limited cross-border powers of CNE have had an impact on the progress achieved¹⁵³.

To some extent the limited set of tools reflects the fact that the RIs have been developed as voluntary organisations. The voluntary nature of the RIs has a number of implications:

- The key parties that drive the agenda of the different Regions, typically the NRAs and TSOs, are not required to raise particular topics for consideration and/or participate in the subsequent discussions;
- Outcomes are not binding. That is, it is possible for an organisation to participate in discussions but subsequently not feel bound by the agreements reached; and
- Although RIs can report progress to the Florence and Madrid Fora, there are few specific levers with which non-participants can be brought into line.

¹⁵³ “Analysis of the administrative procedures for the changing of the legislation in force in each country”, Ref: E07-ERI-SW-SG-01-05. October 2007.

Although some stakeholders suggested that the voluntary nature of the RIs was in some cases responsible for the limited progress, it is unclear whether there is an alternative to voluntary participation, at least under a regulatory-driven model for the RIs. There are many reasons why the RIs were developed as voluntary organisations. One reason is pragmatism. Without supporting European-wide legislation it was difficult to force organisations to participate in a cross-border forum. Another reason is more philosophical in nature. Within the concept of a voluntary process it may be possible to design incentive structures that encourage participation. For example, if best practice is developed in one Region, participants in other Regions may see the advantages of adopting this practice either because a) clear benefits have been demonstrated in the other Region; or b) pressure is brought to bear on participants in the Region by stakeholders who see progress in their Region lagging behind progress in other Regions.

Voluntary participation and varying regulatory powers mean that the RIs would be expected to focus on issues in which participants are required to make progress, for example where there are legislative requirements that mandate action, where there is a clear common interest or where the costs of participating and progress are relatively small. Transparency is a case in point. Participants were required by Regulation 1228/2003 and 1775/2005 to publish information, guidelines issued by ERGEG facilitated the process and the issue was non-technical with few “sunk” costs.

However, there are few other issues that have been as simple or costless to resolve as transparency. For example, it is not surprising that progress with respect to congestion management has been limited given the wide variety of stakeholder views within a Region and between different participants. Similarly, the lack of a legal basis may have hindered the development of the single regional platform for shipping gas.

4.2.1.5. Regional structures

The electricity regional boundaries were developed with the aim of incorporating one key congestion point in each Region. These boundaries are loosely locked-in through their inclusion in section 3.2 of Annex 1 of Regulation 714/2009. By contrast, the gas regional boundaries were developed with the aim of enhancing the liquidity of trading through the definition of Regions around the location of existing gas hubs, or locations where progress in the establishment of a gas hub was relatively advanced.

While there is still strong widespread support among stakeholders for a regional approach - also recognised as appropriate in the 2nd and 3rd Packages - it is unclear that the current regional structure in electricity and gas is still appropriate for the purpose of developing a European market. The work of the Regions has concentrated on issues within their defined regional borders, whereas the most relevant cross-border issues do not necessarily correspond to these boundaries. For example:

- Some Regions focus largely on issues that are bilateral in nature: For example, between Britain-France or Spain-France;
- Some important regional developments are not covered by a single Region, as currently defined; for example, the development of gas transport capacity between Britain and the Netherlands; and

- Switzerland is in the CS Region, but many of its most pertinent issues arise across its borders with the CW Region, of which it is neither a member nor an observer.

In theory, the most appropriate regional structure should be that which is most consistent with the model of market harmonisation (or reference model) to be adopted. In this respect, the possibility of abandoning a unique regional structure and allowing the regional structure to be modified for different topics should be considered. A potential future model for the RIs could resemble that being considered for ENTSO-E in which the geographical structure is different for different topics (network planning, system operations etc).

However, in assessing the benefit of a topic-driven model for the RIs, the greater flexibility from having more than one regional configuration needs to be weighed against the greater administrative costs in having more than one forum, an issue that is especially critical when the regional boundaries for an issue are not clearly defined. Moreover, other changes, for example those that can provide greater Top-down guidance to all Regions, may reduce the need to fundamentally change the geographical structure of the Regions at this stage.

4.2.2 Administrative and operational issues

Addressing governance issues is not by itself a sufficient measure to ensure effective functioning of the RIs. The various administrative and operational features of the individual Regions, including their configuration, are important in determining the overall performance of the RIs.

Key factors include the consultation mechanisms employed, project management within the regions and the potential duplication with other initiatives.

4.2.2.1 Consultation mechanisms

The three key groups (SG, IG, RCC) have been employed in each ERI and GRI Region. Section 3 highlighted that the Regions have used the various fora in different manners. For example, the Baltic Region has made extensive use of the SG, while the CW Region has primarily relied upon the RCC. The flexibility for Regions to decide the most appropriate use of different groupings is considered a strength of the RIs process. However, various factors imply that the groups have not been as effective as envisaged.

First, across the groups (SG, IG, RCC) as a whole the number of meetings has reduced during 2009¹⁵⁴. Potentially, a reduced number of meetings may indicate fewer but more efficient meetings. However, stakeholder comments are consistent with a drop off in interest in using the RIs vehicle, particularly in the context of participants becoming focused on the regulatory framework under the 3rd Package.

Secondly, many stakeholders believe that they are being involved too late in the process, and therefore are not in a position to influence developments. Moreover, some participants have claimed that the number of clear proposals that are put forward in SG

¹⁵⁴ Especially in the ERI.

meetings are few and that where proposals are presented they are in many cases not circulated in advance.

Thirdly, for some large Regions, the overall structure of the groups may not be the most efficient. This was the case for the NW and SSE GRI Regions¹⁵⁵, where additional organisational structures were developed. The main reason behind it was the difficulty of reaching consensus due to the large number of member countries. Moreover, in the case of the SSE Region, the inclusion of Bulgaria and Romania has created a Region with a broad spectrum of market structures and limited interconnection. In this case, there may be a need to split the work into work streams which bring together markets at similar stages of development, as mentioned above. This experience in the GRI suggests that if the electricity regional structure is to be changed, integrating the current seven Regions into a smaller number of bigger Regions, additional structures may be required to ensure appropriate coordination.

4.2.2.2. Project management within the Regions

An issue raised during the consultation process was that there seems to be a lack of focus of the Regions, not only related to the lack of central direction for the different issues, but also with respect to the commitment to achieve results.

Although the Regions were supposed to develop an Action Plan, with specific deadlines, this has not always been the case. Even when an Action Plan has been developed, deadlines are frequently missed. This problem is more exacerbated in the largest Regions, which have to deal with a larger number of countries and stakeholders.

More formalised project management approaches appear to have helped to achieve results. An example can be found in the NW GRI, where the introduction of the Programme Board has helped the Region to refocus towards achieving specific goals. By contrast, the SSE Region is struggling to pursue concrete results.

Effective project management is also critical to the effectiveness of stakeholder meetings. Several stakeholders have mentioned that the various SG meetings are more effective when there is clearly defined leadership and project management. For example, some participants noted that the most effective SG meetings have been those where European Commission representatives have taken a pro-active role.

4.2.3 Potential changes under the 3rd Package

The previous Sections (4.2.1. and 4.2.2.) have considered a range of weaknesses in the policy guidance provided to the Regions and in the general leadership and direction of the RIs process.

The 3rd Package does create some new institutions and regulatory instruments that can provide greater overall guidance to the development of a European-wide energy market, namely:

¹⁵⁵ Namely Ministerial meetings and Programme Board for the NW region and Strategic Advisory Panel in the SSE.

- The creation of ACER as a body promoting regional cooperation among NRAs, and
- The development of European-wide network codes.

The 3rd Package also requires a more uniform approach to the powers of NRAs, including strengthening their powers on interconnection issues.

There is a growing general perception that many of the governance problems facing the RIs may be alleviated through the various mechanisms introduced through the 3rd Package. Potentially ACER can provide an institutional layer between the legislation and the Regions, while the development of network codes can act as the necessary policy guidance that has been lacking to date.

However, there may be limits as to what ACER can achieve, particularly in the short to medium-term. On one hand ACER will be an advisory body that cannot set policy, while on the other hand, ACER will only become operational in March 2011 and up to 18 months may be required before the first Network Codes are adopted.

The form of the network codes will be critical in implementing the necessary steps for market integration: it is extremely unlikely that appropriate Top-down guidance can be provided from a short document setting out a series of principles. However, to carry weight, the network codes must be detailed and relatively prescriptive in nature, even though achieving agreement among all members is inevitably more difficult the more prescriptive the network codes are.

Once ACER has its full powers, it is possible that it can move the process of regional integration forward. A key issue will be its Framework Guidelines, which will define the key regulatory pillars under which the subsequent network codes will be drafted by ENTSO-E and ENTSO-G. These three documents potentially provide the key cornerstones according to which a reference model can be first designed and subsequently implemented.

A reasonable working assumption for the time required between the setting up of ACER and the issuing of the full set of Network Codes is approximately three years. This timeframe, which corresponds to all Network Codes being finalised by 2014 at the earliest, creates a serious risk of a policy vacuum opening in the intervening period. Exacerbating this risk is the fact that parties are now already focusing on the post-ACER world, and that the RIs process is already being affected by the shift in attention. This has also been reflected in the number of meetings of the different Regions in 2009. The potential for little, if any, progress over the forthcoming three or four years is a serious problem that itself can delay market integration by a similar length of time. Moreover, parallel developments occurring in this period, especially in the electricity sector, may not benefit from the guidance of a reference model and may proceed in ways which could hamper EU-wide integration at a later stage.

Reflecting the risks of inaction or, worse, diverging developments, the decision by the Florence Forum for ERGEG to establish an AHAG that will continue the work of the PCG in the areas of capacity allocation and congestion management will be critical in

ensuring that the process of regional integration does not stall in the interim period. If the AHAG can agree on the key required congestion management measures before ERGEG hands the process over to ACER, it can provide powerful precedent that may allow stakeholders to move integration forward in a common manner, for example, under an industry-agreed target model.

While the 3rd Package provides the possibility, if not the certainty, that specific policy guidance can be provided to the Regions, it does not fully address all other weaknesses of the RIs process.

The 3rd Package provides for some harmonisation of regulatory powers and increased powers for NRAs. However, the incentives for NRAs to take relevant coordinated cross-border decisions may be restricted without an appropriate political support and a greater involvement of national governments in the market development process. In this regard, the role of National Governments is largely unchanged under the 3rd Package. Their key role is providing input to the Codes at the Comitology stage, which may be too late to make any real impact to the process.

Other proposals may assist in improving the functioning of the RIs. The convening of meetings of Energy Ministers under the Council of Ministers would be a step forward.

5. Identification of Best Practice

This Section outlines practices, identified during the review, of successful initiatives introduced by RIs in the areas of facilitating political involvement, coordination and project management.

While the practices outlined have been identified as useful in the Regions concerned, the benefits from implementing them across all Regions will depend on local conditions. Therefore this set of Best Practices may be seen as a practical ‘toolbox’ that could potentially be adopted and/or adapted in other Regions depending on regional-specific factors.

5.1. Facilitating Political Involvement

Integrating different national markets necessarily involves addressing cross-border issues which, in many cases, requires changes to national rules. Therefore achieving political commitment is often critical to the success of market integration. Although the role of National Governments is largely undefined in the RIs process, some initiatives have been developed that have achieved cross-border political support, including:

- High Level Group Meetings: in the SW Region and the S Region, these meetings included senior representatives at political level (Governments and the European Commission) committed to the integration of the three national markets within the Region¹⁵⁶; and
- Ministerial Meetings: within the NW Region, ministries from the different countries within the Region have been invited to meetings with NRAs, TSOs and other stakeholders. These events have been named Ministerial Meetings.

5.2. Enhanced Coordination

Given the voluntary nature of the RIs process, promoting greater cooperation between NRAs as well as other stakeholders is critical to efficient operation of the RIs.

Examples of practices designed to improve coordination include:

- The signing of MoUs between NRAs. In the 3rd quarter of 2007, NRAs within the NW Region signed a MoU intended to fill a regulatory gap that exists within the current legislative framework. Subsequently, in the 3rd quarter of 2008, a similar MoU was signed in the SSE Region;
- The signing of MoUs between TSOs to strengthen cooperation. In the SSE Region, a MoU between TSOs was signed to improve gas transmission services across the Region. The signing of a MoU between Spanish and French TSOs has proved to be effective in speeding up the progress of the OSs within the S Region;

¹⁵⁶ National markets of Portugal, Spain and France.

- Common RCC meetings between neighbouring Regions. In June 2009 NRAs in the CW and CE Regions held a common RCC meeting to share views on the current state of progress on issues being addressed in both Regions. Similarly, in October 2009 NRAs of the CWE Region and the Northern Region held the first joint session to explore options for coupling of both Regions; and

The ERI Task Force is promoting a study at regional level on the use and management of interconnections. This study could help enhance understanding and coordination in relation to the different congestion management methods at a regional level¹⁵⁷. Regional reports will be produced in five regions: FUI, CE, CS, CW and SW.

5.3. Project Management

A concern that has been raised by stakeholders has been the importance of effective project management procedures. Examples of project management practices developed within the Regions include:

- Development of detailed Action Plans with specific dates for key deliverables;
- The Programme Board and the Programme Office of the NW Region, which have enhanced project management procedures. The Programme Board was first defined in the Roadmap for 2008-2012¹⁵⁸ and has aimed to provide clear leadership for the programme management of the NW Region. The Programme Office supported the Programme Board through programme management techniques; and

Following the example set by the NW Region, the SSE Region set up a Strategic Advisory Panel which follows a similar approach¹⁵⁹.

¹⁵⁷ According to the ERI Task Force the report “aims to provide a detailed evaluation of the economic efficiency of congestion management methods” at a regional level. It should also help National Regulatory Authorities to reach not only a common understanding about the functioning of congestion management methods, but also a common view about the best way to further improve their functioning”.

¹⁵⁸ The Roadmap to 2008-2012 streamlined priorities and defined a set of additional structures to provide coordination and direction to the work needs identified.

¹⁵⁹ Information note To the ERGEG GRI REM SSE, 16 June 2008.

6. Development of Reference Models in the electricity and gas EU markets

6.1. Introduction

Over the last fifteen years, EU policy in the electricity and gas sectors has been aimed at creating single “internal” markets, even though the exact meaning of such concept has never been defined. For the purpose of this Report, simple criteria will be used to define a single EU-wide market:

- a) market participants shall be able to trade electricity and gas across the single EU-wide market in much the same way as they currently trade within each national jurisdiction;
- b) trading in the single EU-wide market should not involve higher costs than trading within each jurisdiction, when the comparison is carried out with reference to similar physical network situations, in particular in terms of transmission capacity.

The creation of regional markets and, later on, the move from regional market to a single EU-wide Energy market requires, at a minimum, that:

- Adequate¹⁶⁰ interconnection capacity is available between national markets within the same Region and between Regions;
- Rules and procedures are in place to ensure that the existing interconnection capacity is used efficiently;
- Market designs and procedures in the different jurisdictions are compatible to the extent that this is necessary to support trading at regional or inter-regional level.

Notwithstanding common pre-requisites, there are many different forms which a single EU-wide market can take. To date there has been extensive work in the electricity and gas sectors to either develop a single EU-wide market or components of a EU-wide market.

A first important step in moving towards a single EU-wide market was achieved, in the electricity sector, in 2002, with the abolition of the so-called “transit fees”¹⁶¹ and

¹⁶⁰ Adequacy, in economic terms, would require that the interconnection capacity is developed up to the level at which the marginal benefits (value) of additional capacity equal the marginal costs of such capacity. Given that capacity expansion involves positive costs, the adequate level of interconnection capacity may still imply some congestion. However, the lumpy nature of investments in energy interconnection infrastructure may result in interconnection capacity being, at times, higher or lower than the optimal level. Moreover, security standards for network operation, especially in the electricity sector, may require transmission capacity to be expanded beyond the level justified by a comparison between cost and market values.

¹⁶¹ These fees were charged on long-range electricity trading, between agents located in non-adjacent jurisdictions, by the intermediate jurisdictions which were crossed, or deemed to be crossed, by the resulting power flows.

therefore the prevention of “pancaking” of network fees¹⁶²; in the gas sector, the problem has not been organically addressed as yet¹⁶³.

At the same time, the first and second gas and electricity Directives aimed at introducing “common rules” in the different national markets.

However, the level of approximation or harmonisation required to make market design and procedures in the different jurisdictions compatible typically depends on the approach (rules and procedures) governing the use of interconnection capacity and therefore trading between different jurisdictions. Such rules and procedures started to be outlined in Regulations 1228/2003 and 1775/2005 and, reaffirmed and reinforced by Regulations 714/2009 and 715/2009.

Therefore, the assessment of the harmonisation requirements between the different jurisdictions within the same Region and between Regions can only be performed with reference to a model, the “reference model”¹⁶⁴, for market integration. However, the exact nature of a reference model will depend on many factors, including the form of the single market that is sought, in particular the degree of inter-regional integration which is required in order to achieve the main benefits of a single market. This may for example differ between the electricity and gas sectors¹⁶⁵.

A reference model is particularly relevant for some of the issues that the Regions in both the ERI and GRI have addressed, and in particular for:

- Investment in new infrastructure;
- Congestion management/capacity allocation; and
- Balancing.

On other issues - e.g. transparency, interoperability in electricity, tariffication - a target model is little more than a set of common standards that should be applied in all jurisdictions.

6.1.1 Investment in new infrastructure

While there has been some increase in interconnection capacity in recent years, on some interconnectors the available capacity is still much below what would be needed to support the flows resulting from the commercial transactions in the single energy market¹⁶⁶.

¹⁶² “Pancaking” refers to the accumulation of transmission tariffs charges by different jurisdictions involved in a cross-border trading.

¹⁶³ Article 13(1) of Regulation 715/2009 envisages that “by 3 September 2011, the Member States shall ensure that, after a transitional period, network charges shall not be calculated on the basis of contract paths”.

¹⁶⁴ In the work of the PCG established by ERGEG, and to be further developed by the AHAG, the aim is the definition of a Target Model, which serves a similar purpose as the reference model referred to in the text.

¹⁶⁵ Indeed, a more detailed reference model may be appropriate in electricity as many issues have been subject to more detailed debate over the past decade than has been the case in the gas sector.

¹⁶⁶ However, from a purely economic point of view, the optimal level of interconnection capacity may still leave some congestion unrelieved.

In the electricity sector, until recently, the cross-border capacity was developed mainly for security, stability and mutual support purposes. With liberalisation, this level of capacity has soon appeared insufficient to accommodate cross-border trading and on some borders – e.g. between Spain and France – the establishment of a meaningful internal single market requires the development of significant additional capacity. The European Commission is giving priority to such developments in a number of corridors through the TEN-E programme, but progress is remarkably slow. The Sector Inquiry identified the lack of cross-border capacity as one of the main obstacles to the development of a competitive internal energy market.

The slow progress in this area can be mainly attributed to:

- The complexity of the licensing procedures and the reluctance of many local authorities to host new transmission facilities in their territory;
- The lack of proper incentives for System Operators (ISOs/TSOs) to promote transmission capacity expansion where it is most needed, including on congested cross-borders corridors. This is the case even when there are no conflicts of interest deriving from the affiliation of the TSO to a vertically-integrated undertaking¹⁶⁷;
- The lack of a proper system for allocating the costs of new infrastructure among the beneficiaries;

In the case of gas a further problem has been the involvement of extra-EU transit countries and the need of a supra-regional coordination for projects opening new supply corridors or strengthening existing ones¹⁶⁸.

Going forward, one objective for all Member States and for the European Commission will have to be the streamlining of authorisation procedures for new transport infrastructure. However this is likely to be a complex and slow process, which will encounter opposition both at the national and local levels. In particular, national and local authorities will fight to maintain their prerogatives, especially in the setting of new electricity transmission lines or gas facilities such as LNG terminals and storage installations.

The issue of authorisation can probably more effectively be addressed by providing the right incentives to ISOs/TSOs to plan and develop infrastructure where it is the most valuable in the context of the regional or single internal energy market. If provided with the right incentives, ISOs/TSOs may adopt a more proactive attitude, exert more pressure on the national and local authorities and overcome the administrative and bureaucratic hurdles.

¹⁶⁷ In fact, some form of regulation may provide “perverse” incentives to slow down investment in infrastructure. This is for example the case when transmission remuneration is based on an ex-ante assessment of the expansion requirements, with only ex-post reconciliation of actual with planned investments. In this situation, grid operators may have an incentive to over-estimate the planned requirements and subsequently under-invest.

¹⁶⁸ The gas supply disruption of January 2009 clearly revealed the weaknesses and the level of risk exposure of the Eastern part of the internal European natural gas market. For historical reasons, gas markets in Central and South-Eastern Europe lack sufficient network integration and supply portfolio diversification that would have significantly mitigated the consequence of the disruption.

At the moment, transmission planning is still performed, in all EU jurisdictions, through an administrative process, whereby typically a draft investment plan is prepared and proposed by the ISO/TSO and approved by the NRA, the competent Minister or Parliament. When it does not approve the plan, the NRA generally has a consultative role. The review/approval process should ensure that the plan includes the most urgent and valuable development initiatives, but neither the NRAs nor the Ministries are usually equipped (in terms of resources and technically) to perform a comparative cost-benefit analysis of the different proposed infrastructures. And once the plan is approved, ISOs/TSOs have little incentives to give priority and focus the effort on the most urgent and valuable initiatives¹⁶⁹. The 3rd Package has introduced common rules for this process. Directives 2009/72/EC and 2009/73/EC, in Article 22, require ISOs/TSOs to submit every year to their NRAs a ten-year network development plan, which should “contain efficient measures in order to guarantee the adequacy of the system and the security of supply”. The national plans should be consistent with the non-binding Community-wide ten-year network development plan which, respectively, ENTSO-E and ENTSO-G are required to publish every two years, under Article 8.3(b) of Regulations 714/2009 and 715/2009¹⁷⁰. But neither the Directive nor the Regulation introduce specific incentives for efficient planning and development of the European networks.

Finally, as infrastructure developed in one jurisdiction/Region may benefit market participants located in other jurisdictions/Regions, a proper system of incentives for efficient planning and infrastructure development should be complemented by a system through which the infrastructure costs are spread among the different jurisdictions in a way which reflects the distribution of benefits. In the case of electricity, a temporary Inter-TSO Compensation (ITC) mechanism has been in place since 2002 and, extended and modified several times, will be in operation until the end of 2009. Regulation 714/2009, in Article 13, requires that an ITC mechanism is put in place under which:

- TSOs are compensated for the costs incurred as a result of hosting cross-border flows of electricity on their networks;
- The compensation is paid by the TSOs of national transmission systems where cross-border flows originate and end;
- The magnitude of cross-border flows hosted and the magnitude of cross-border flows designated as originating from and/or ending in national transmission systems shall be determined on the basis of the physical flows of electricity actually measured during a given period of time;

¹⁶⁹ Ofgem, the British Regulator, has in the past repeatedly indicated its intention to deepen the SO incentive scheme to address investment decisions as well. More recently, AEEG, the Italian regulator, has introduced differentiated allowed rates of return on new transmission assets, depending on their main function. This has been presented as an intermediate step towards an incentive scheme for efficient investment planning, which should be introduced in January 2012, where the allowed rate of return will be linked to an efficacy index, measuring the benefits (expected to be) delivered by the each new infrastructure.

¹⁷⁰ The relationship between the “non-binding” Community-wide ten-year network development plan and the national plans is a critical aspect of the new regime introduced by the 3rd Package. There is a risk that the non-binding nature of the Community-wide plan may not solve the problem of coordination between national developments. Much seems to be left to the “voluntary” cooperation between NRAs and ISOs/TSOs.

- The costs incurred as a result of hosting cross-border flows shall be established on the basis of the forward-looking long-run average incremental costs, taking into account:
 - Losses;
 - Investment in new infrastructure; and
 - An appropriate proportion of the cost of existing infrastructure, in so far as such infrastructure is used for the transmission of cross-border flows, in particular taking into account the need to guarantee security of supply;
- Recognised standard-costing methodologies shall be used for establishing the costs incurred as a result of hosting cross-border flows; and
- Benefits that a network incurs as a result of hosting cross-border flows shall be taken into account to reduce the compensation received by the TSOs.

The European Commission is currently working on the Guidelines which should define the details of the ITC mechanism, as required by Article 18 of Regulation 714/2009¹⁷¹.

A reference model for transmission capacity expansion may therefore include:

- A consistent approach, across the different jurisdictions, to the assessment of transmission network investment, so that priorities can be identified at regional level¹⁷²;
- At least in the case of electricity, an ITC mechanism to reallocate the costs of new infrastructure according to the benefits that they deliver¹⁷³.
- In the case of gas, the introduction of an ITC mechanism deserves further consideration, as reflected below in Sections 6.3.3.2. and Section 6.3.3.3.

This reference model requires a degree of harmonisation of national rules and procedures in relation to the assessment of transmission network investment requirements. However, the way in which incentives will be provided to TSOs/ISOs, and the compliance verification measures, to ensure that priority is given to those network developments which are most valuable, could be left to be defined regionally;

The reference model should be supported by some degree of harmonisation of network access tariff structure¹⁷⁴ (so called, tariffication) so that cross-border competition can develop on a level-playing field¹⁷⁵.

¹⁷¹ See Inter Transmission System Operator Compensation Mechanism and Harmonisation of Transmission Tariffs for Electricity. Commission Staff Working Document. Brussels, 3.7.2008.

¹⁷² This consistent approach should support the definition of the 10-year EU-wide indicative network development plans introduced by Regulations 714/2009 and 715/2009.

¹⁷³ Whether the ITC mechanism should also reallocate the costs of existing infrastructure is an open issue. Both the current temporary mechanism and the one envisaged by Regulation 714/2009 includes a proportion of the costs of the existing infrastructure corresponding to the use of such infrastructure for cross-border flows. The costs of existing infrastructure are sunk and therefore their inclusion in the ITC mechanism has no incentive properties.

6.1.2 Congestion management/capacity allocation

In both the electricity and gas sectors the issue of congestion management or transmission capacity allocation is key to the creation of a single EU internal market. However, the issue presents itself in somewhat different ways in the two sectors, mainly due the different characteristics of electricity and gas and the structure of the two industries.

In the electricity sector, congestion problems typically arise at borders between national systems¹⁷⁶, since before liberalisation these systems were mainly operated separately, with, in most cases, little exchanges of power between them. Therefore, it is only over the last ten years that the issue of expanding the cross-border transport capacity between the national systems has been addressed, but given the (long) times needed to develop new transmission infrastructure, congestion can only be alleviated gradually. And in the electricity sector, the main issue at present is the development of solutions which will guarantee the most efficient use of the existing capacity to support trading in the single market.

The quest for a reference model for congestion management for the EU single electricity market dates back to the 3rd Florence Forum meeting in 1999, to Regulation 1228/2003 and to the Congestion Management Guidelines contained in the Annex¹⁷⁷. These Guidelines were revised in 2006 and again in 2009, with new Guidelines annexed to Regulation 714/2009. The main tenet of all these provisions is that congestion management solutions should be non-discriminatory and market based, giving efficient economic signals to market participants and TSOs. Non-market based approaches, such as the chronological criterion¹⁷⁸, are only admissible in the intra-day framework.

More specifically, the Guidelines contained in Annex I of Regulation 714/2009 require that:

- Preferably, no transaction-based distinction should be applied in congestion management (paragraph 1.6);
- Cross-border capacity should be allocated through explicit or implicit auctions, with the possibility of these two methods coexisting on the same interconnector, except for intra-day trading, where continuous trading may also be used (paragraph 2.1);

¹⁷⁴ This structure refers to the way in which network costs are recovered from network uses and, in particular, which proportion of these costs are charged to generators (the so-called G charge) and which proportion to consumers (the so-called L charge). It is clear that if different jurisdictions apply different G-L structures, competition between generators located in the different jurisdiction may be distorted.

¹⁷⁵ Regulation 714/2009, in Article 18(2), specifies that the EC should issue Guidelines which should “determine appropriate rules leading to a progressive harmonisation of the underlying principles for the setting of charges applied to producers and consumers (load) under national tariff systems, including the reflection of the inter-transmission system operator compensation mechanism in national network charges and the provision of appropriate and efficient locational signals”. For the first time, these Guidelines should be adopted together with those on the ITC mechanism. The need to wait for these latter Guidelines to be defined has been the cause for the delay in establishing the Guidelines on tariffication, on which agreement had already been reached a few years ago.

¹⁷⁶ Even though some jurisdictions experience congestion in their internal network, which in some cases is “pushed” to the border.

¹⁷⁷ But congestion management has been one of the central issues in the Florence Forum meetings since 2000.

¹⁷⁸ The so-called “first-come-first-served” principle.

- However, in regions where forward financial electricity markets are well developed and have shown their efficiency, all interconnection capacity may be allocated through implicit auctions (paragraph 2.8); and
- Capacity allocation shall not discriminate between market participants that wish to use their rights to execute bilateral supply contracts or to bid into power exchanges. The highest value bids, whether implicit or explicit in a given timeframe, shall be successful (paragraph 2.7);

The Guidelines also recognise that, depending on the competitive conditions, the congestion management mechanism may need to allow for both long- and short-term cross-border transmission capacity allocation and that, in this case:

- TSOs shall define an appropriate structure for the allocation of capacity between different timeframes, which is subject to review by the respective NRAs. This may include an option for reserving a minimum percentage of interconnection capacity for daily or intra-daily allocation (paragraph 2.6);
- Each capacity-allocation procedure shall allocate a prescribed fraction of the available interconnection capacity plus any remaining capacity not previously allocated and any capacity released by capacity assignees from previous allocation(s) (paragraphs 2.2 and 2.3);
- The access rights for long- and medium-term allocation shall be firm transmission capacity rights, subject to the UIOLI or UIOSI principles at the time of nomination (paragraph 2.5); and
- Market participants shall firmly nominate their use of the capacity to the TSOs by a defined deadline for each timeframe. That deadline shall be such that TSOs are able to reassign unused capacity for reallocation in the next relevant timeframe, including intra-day sessions (paragraph 2.11).

In the case of gas, the capacity allocation problem is not confined to the cross-border pipelines, but also to the national systems. Moreover, in some cases, contractual pipeline congestion is not indicative of physical congestion, with the result that capacity allocated for the execution of long-term contracts is left unused. The main issue in the gas sector is therefore not only the efficient use of the available capacity, but also the maximisation of capacity availability, to give shippers access to surplus/unused capacity. For this purpose, it is of critical importance:

- To define harmonised capacity sales mechanisms and procedures;
- To implement “bundled capacity products” (on both sides of the same border) at the major IPs;
- To develop secondary capacity markets, through day-ahead auctions and common trading platforms;
- To integrate primary and secondary capacity markets.

ERGEG's principles on Capacity Allocation Mechanisms (CAM) and Congestion Management Principles (CMP) can be seen as the first steps towards developing a reference model for the gas sector. The work is designed to result in a draft framework guideline on CAM and a proposal for revising the annex to the Regulation 1775/2005 on CMP. The focus of ERGEG's work is on developing compatible rules on the two sides of interconnection points, including the same products and the same allocation procedures, which are designed to create bundled products at all the IPs. The ultimate aim is to develop a small number of capacity products that can be applied across Europe with coordinated and converging allocation mechanisms. For further detail see Section 6.3.3.1.

In addition to ERGEG's work, the NW Region, the most interconnected of the three Regions, has made progress in identifying and testing, through pilot projects, feasible solutions to: a) maximise capacity at IPs; and b) re-allocate "unused capacity" on the secondary market, making it available to all market participants under transparent and non-discriminatory conditions. The experience acquired and the reports published could provide a good starting point for developing full-scale congestion management guidelines. However, in general the progress achieved across Europe is at its infancy when compared to the electricity sector.

6.1.3 Balancing

Balancing markets in the electricity sector have so far being mainly national in scope, with only few notable exceptions¹⁷⁹. The regional integration of national balancing markets requires a high degree of cooperation between ISOs/TSOs in real-time management of the system and therefore should probably be considered as a later (and possible last) step in the creation of regional or EU-wide internal energy markets.

For the electricity sector, at a general level, three cross-border integration models are possible:

- Extension of the geographical scope of participation in a national balancing mechanism;
- TSO-TSO¹⁸⁰ arrangements to exchange balancing resources; and
- Common balancing mechanism.

Both the TSO-TSO arrangements and the common mechanism may be bilateral or multilateral. The extension of the geographical scope of participation in a national balancing mechanism requires the direct involvement of the ISO/TSO of the control area in which the participating resource is located. At that point, this model may easily converge towards the TSO-TSO arrangement.

Additionally, the extension of the geographical scope of participation is complex to implement. First, the time required to nominate production and cross-border exchange programmes might go beyond the balancing timeframe. Second, the extension of

¹⁷⁹ Nordpool being the main example of regional balancing mechanism. See Section 3.1.2.2. of this report.

¹⁸⁰ Or ISO-ISO.

geographic scope requires the parties to identify the optimal allocation of their services between their own and the other control areas, creating conflicting situations¹⁸¹.

The TSO-TSO arrangement may, in fact, be the most likely to be achievable, even in the medium-/long-term at the EU-wide level. It does not require the harmonisation of the constituent (national) balancing mechanisms, but rather that appropriate “products” are defined to be exchanged between ISOs/TSOs. This model is therefore also the most flexible¹⁸². It allows closer integration within a subset of the participating jurisdictions, through common balancing markets which require the definition of identical products in all the jurisdictions involved and the definition of common merit orders.

Therefore a possible “vision” for the electricity balancing market is one in which the minimum standard for integration is the multilateral TSO-TSO arrangement, while common balancing markets may developed where conditions allow. At the same time gate closure harmonisation will avoid asymmetric market opportunities and different imbalance exposures on different sides of the same border¹⁸³.

In the case of the gas market, since gas demand and supply may change more quickly than the time span in which commercial action can be taken, gas markets may experience imbalances. A variety of causes can produce an imbalance: an upstream shortage, a pipeline disruption, an abrupt change in demand, or a downstream interruption.

Keeping the system balanced imposes costs on the TSO. Therefore, the system benefits where market participants have incentives to hold a balanced portfolio.

In Europe there are differences in national arrangements for accessibility and use of sources of flexibility, which in general terms can be grouped into market-based and non market-based approaches¹⁸⁴. These differences together with the existence of a significant amount of small market or balancing zones make difficult the exchange of balancing services among countries.

Harmonising the balancing regimes within and across the regions thorough the implementation of market-based mechanism would significantly aid liquidity and market functioning¹⁸⁵. This harmonisation has to be aligned to the ultimate target of allowing regional operators to reserve bundled capacity across Europe through a common platform. How this harmonization can be achieved is further explained in Section 6.3.3.4.

¹⁸¹ Revised ERGEG Guidelines of Good Practice for Electricity Balancing Markets Integration (GGP-EBMI). ERGEG. September 2009.

¹⁸² The new arrangements agreed between Britain and France, as part of the work of the FUI Region, are of the TSO-TSO type.

¹⁸³ An advanced stage of balancing market integration will also require harmonisation of technical characteristics of balancing services, such as activation time and time to full activation.

¹⁸⁴ While in the British market there is access to all types of local flexibility, some other countries rely on the amount of linepack as the main tool for balancing, as in the Swedish market. Other countries rely on other sources like underground storage to complement linepack. Additionally, some countries Slovenia, rely on neighbouring countries or balancing zones. For a comprehensive review of differences between national approaches see “Study on methodologies for gas transmission network tariffs and gas balancing fee in Europe”. KEMA. December 2009.

¹⁸⁵ This is coordinated with the reference to regional integration of Directive 2009/73/EC. Se Art. 21 (4).

6.2. A reference model for congestion management in the Internal Electricity Market

The definition of a reference model for congestion management in the electricity sector comprises not only the mechanisms that should be implemented, but also the institutional and governance implications as well as the level of harmonisation required.

6.2.1 A detailed model for congestion management

The provisions contained in the Guidelines and highlighted above are sufficient to define, in some detail, a “reference model” for congestion management for the future EU single internal electricity market. Before this is done, a number of considerations are useful:

- In the Guidelines, the term “implicit auctions” is used in a general sense, to indicate congestion management mechanisms in which the interconnection capacity is not allocated as a separate product/service, and includes several variants, such as:
 - “Market splitting”, in which the markets in different zones separated by congested interconnectors are managed by the same market operator and the available capacity on these interconnectors is used to support trading between the different zonal markets (as in the case of Nordpool or MIBEL);
 - “Market coupling”, which is a relatively new term¹⁸⁶ and indicates a mechanism similar to market splitting, with the main difference being that the markets in the different zones are managed by different market operators cooperating through a common coupling algorithm. So far two market coupling variants have been identified:
 - Volume-based market coupling, in which the coupling algorithm uses the (net) bids and offers submitted in the different zones to determine the flows between these zones, but the market price in each zone is then defined by the local market operator, taking into account the locally submitted bids and offers and the cross-border flows resulting from the coupling algorithm¹⁸⁷;
 - Price-based market coupling, in which the coupling algorithm uses the bids and offers submitted in the different zones to define both the flows between the different zones and the market price in each of them¹⁸⁸.
- The implementation of congestion management solutions based on the implicit allocation of cross-border capacity requires that organised electricity markets (Power Exchanges or trading hubs) operate in all involved jurisdictions, or at

¹⁸⁶ It was first used in the early years of this century in the context of the work which led to the 2004 joint paper by ETSO and EuroPEX on “flow-based market coupling”.

¹⁸⁷ In this way, the coupling algorithm does not need to incorporate all the details of the pricing rules in each jurisdiction. Separate pricing algorithms continue to operate in the different coupled zones.

¹⁸⁸ Therefore, a single pricing mechanism operates and, in this sense, price-based market coupling becomes equivalent to market splitting, except for the governance arrangements.

least on one side of every congested inter-connector. The establishment of organised electricity markets has not been mandated by any of the three electricity Directives (96/92/EC, 2003/54/EC and 2009/72/EC). In fact, until recently, no reference to the existence of such markets has been made in Directives or Regulations¹⁸⁹. Despite this absence, Power Exchanges now operate in all Western and Central European jurisdictions and in many others in Eastern Europe, even though the institutional/ownership and regulatory arrangements vary significantly between the different existing Power Exchanges;

- Implicit allocation of cross-border capacity, relying on organised electricity markets, operates on a short-term basis – day ahead and, possibly, intra-day. Over longer-term horizons, the use of market-based mechanisms implies the explicit allocation of physical or financial rights;
- Continuous trading of electricity across congested inter-connectors requires the adoption of a chronological criterion (first-come-first-served) for capacity allocation, departing therefore from the requirement to use market-based solutions.

With respect to the choice, for short-term congestion management, between explicit auctions and market based implicit allocation of cross-border transmission capacity, it is undisputable that implicit allocation is better able to guarantee the efficient use of capacity. This conclusion is supported by evidence related to several interconnectors, where explicit auctions have led to power flows frequently moving in the wrong direction (that is, from the higher-price side of the inter-connector to the lower-price side)¹⁹⁰.

Experience also shows that volume-based market coupling may as well lead to serious inefficiencies in capacity allocation, again with inconsistency between flows and price differentials between different zones¹⁹¹. Therefore, price-based market coupling should be used whenever there is uncertainty about the direction of the flows on the interconnector(s)¹⁹².

Moreover, it is clear that explicit and implicit allocations of capacity on the same interconnectors can coexist:

- Over different timeframes, for example with explicit methods allocating long-term capacity and implicit allocation used in the day-ahead (and intra-day) timeframe;

¹⁸⁹ The first such reference appeared in Article 3.2. of the revised Congestion Management guidelines. Regulation 2006/770/EC. 9 November 2006. amending the Annex to Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity

¹⁹⁰ EMCC market coupling between Denmark and Germany was initially launched on the basis of volume-based coupling and had to be suspended due to technical problems.

¹⁹¹ This was in fact the outcome in some of the hours in the first day of operation, on September 29th, 2008, of market coupling between the Nordpool area and the EEX area operated by EMCC.

¹⁹² When no uncertainty exists on the direction of such flows, no coupling algorithm is probably needed, as flows can just be assumed and used to determine the market price in the different zones.

- Or even on the same short-term timeframe, in the sense that an implicit allocation mechanism may be able to accommodate “bids” for the use of the cross-border interconnection capacity to support bilateral contracts.

On the basis of the requirements contained in the current Congestion Management Guidelines and the above considerations, a “reference model” can be identified according to the following characterisation:

1. The available capacity on all cross-border interconnectors is allocated, financially or physically, over several timeframes, from annual to day-ahead and intra-day;
2. All allocations for timeframes other than day-ahead and intra-day are carried out by coordinated explicit auctions of price-zone-to-price-zone Financial Transmission Rights (FTRs). More specifically, FTRs can be allocated on an annual, quarterly and monthly basis, with cascading of longer-term FTRs as they enter into their exercise period. In order to allow netting of FTRs on different directions on the same interconnectors, FTRs should be defined as rights/obligations, rather than purely rights. The allocation of FTRs for each timeframe should be supported by and conditional on a simultaneous feasibility test (SFT) to ensure that the allocated FTRs, albeit not involving physical rights, are consistent with the available transmission capacity on the interconnectors;
3. Allocated FTRs can be offered back in the market by their assignees/holders at subsequent allocations;
4. All physical capacity in the interconnectors is allocated in the day-ahead timeframe;
5. Congestion in the day-ahead timeframe is managed through market-based implicit allocation. Market participants are allowed to submit bids for price-zone-to-price-zone capacity in terms of zonal price differentials, including bids “at market prices”¹⁹³;
6. Congestion beyond the day-ahead timeframe is managed through intra-day capacity allocations based either:
 - a) On intra-day markets operating much in the same way as the day-ahead market; or

¹⁹³ These bids do not specify a price (differential). This means that the agents submitting them are willing to pay any price (differential) resulting from the market. These bids may be of interest to participants holding FTRs on the same zone pairs which cover them from any market price risk. Note that bidding for the capacity “at market prices” is equivalent to submitting offers at zero price and bids “at the market” for an equivalent volume of energy in the origin and destination market zones. Instead, agents who do not hold FTRs and want to execute cross-border bilateral contract are interested in submitting capacity bids with a limit to the price (differential) they are prepared to pay.

- b) On the chronological criterion (first-come-first-served) which support continuous trading up to gate closure¹⁹⁴.

This model can be considered as a medium/long-term target (“vision”) for an efficient single internal market, as it requires:

- A EU-wide network model which is able to represent the main nodes in the European grid and the load-flows (and loop-flows) between these nodes in a sufficiently accurate manner;
- Organised markets to operate in all involved jurisdictions (or at least on one side of every cross-border interconnector);
- A single pricing algorithm, which encompasses all the algorithms currently used in the different organised markets. Eventually, a single market splitting/coupling approach covering the whole of the European Union may be implemented; and
- The consequent standardisation of products, procedures and timelines of organised markets in the different jurisdictions.

These requirements involve technical, institutional, regulatory and governance challenges which can only be successfully addressed in the longer run.

6.2.2 The institutional implications

The implementation of a single allocation/matching/pricing algorithm does not require a single EU-wide TSO or a single EU Regulator. National TSOs will continue to operate the national systems and to have primary responsibility for this. They will need to cooperate on cross-border trading, but such cooperation is already envisaged by Directive 2009/72/EC, including with the establishment of ENTSO-E. Similarly, NRAs will continue to exercise their powers, as enhanced by Directive 2009/72/EC, in their respective national jurisdictions. The cooperation among NRAs will be enhanced by the new Agency (ACER)¹⁹⁵.

The future role of national Power Exchanges is however less well-defined; it will depend on their ability to establish effective ways of cooperating, in similar ways to those envisaged for TSOs and NRAs by the 3rd Package, but on a purely voluntary basis, since at the moment nothing about this cooperation is said in the 3rd Package. In this respect different scenarios are possible, ranging from strong cooperation¹⁹⁶ to a progressive process of mergers of the national Power Exchanges into regional and eventually EU wide operators¹⁹⁷.

¹⁹⁴ Therefore, beyond the day-ahead timeframe, the objective of promoting trading may prevail on the objective of efficient allocation of any remaining cross-border capacity which, if still available after the day-ahead implicit allocation, is likely to have a low value.

¹⁹⁵ Regulation 713/2009 establishing an Agency for the Cooperation of Energy Regulators. European Parliament. 13 July 2009.

¹⁹⁶ Feasibility of future market coupling between OMEL, EPEX Spot and Nordpool is currently considered.

¹⁹⁷ Initial signs of this process are already evident with the takeover of both UK PXs by APX and the merger between the spot business of EEX and Powernext into EPEX, even though the different ownership structure of some PXs – including State ownership – may slow the integration process down.

There is however an additional issue affecting the future of Power Exchanges: their current regulatory status varies significantly, and some Power Exchanges are not subject to electricity sector regulation. If organised electricity markets become the platform on which congestion is managed in an efficient way through implicit allocation mechanisms, a consistent regulatory framework should be established for these markets. Currently, EU legislation does not currently provide for this outcome.

Moreover, the coordinated explicit auction of FTRs and the day-ahead and intra-day implicit allocation of cross-border capacity requires new institutions and/or arrangements to be developed. A Central Auction Office¹⁹⁸ (CAO) may be established and given responsibility for managing the explicit FTR auctions. It will have to be supported and work in close coordination with ENTSO-E and all national ISOs/TSOs. In fact, since, as already mentioned, the FTR allocation will have to satisfy the SFT, it will have to be run on the basis of a EU-wide network model¹⁹⁹.

Day-ahead and intra-day implicit allocation will have to be eventually managed through a single “pricing/matching algorithm” (implementing the market splitting/price-based market coupling approach). Two possible schemes appear to be possible for the operation of this “common pricing algorithm”:

- One in which the algorithm is run in parallel by the participating Power Exchanges, with close cooperation between them. This solution will be the easier to implement – given that it would require little institutional innovation – and would automatically provide the necessary back-up redundancy;
- Another in which the algorithm is run by a central entity (which could be the same as the one performing the role of the CAO or a joint venture of participating Power Exchanges). The individual Power Exchanges and organised market operators will be responsible for collecting the bids and offers in the different markets and for managing the front-ends *vis-à-vis* market participants²⁰⁰. Individual Power Exchanges will also maintain the confidentiality of bids and offers submitted by market participants transferring the information to the centralised pricing algorithm in an anonymous form.

Governance and regulatory settings for both the CAO and the central entity responsible for running the common pricing algorithm needs to be defined. For example:

- The CAO may be owned jointly by all ISOs/TSOs (and Power Exchanges/organised market operators involved);

¹⁹⁸ Until now, in the context of the RIs, reference has been made to Coordinated Auction Offices. The CAO proposed here will be a single one for the whole EU-wide market and therefore will take a “central” role.

¹⁹⁹ The explicit FTR allocation, being performed on annual, quarterly and monthly timeframes, does not impose strict requirements in terms of performance time (i.e. the time it takes to obtain the allocation outcome on the basis of the bids submitted by the participants and the network constraints as defined in the network model). A more demanding performance time is required for the implicit day-ahead and intra-day allocations.

²⁰⁰ An alternative scheme, which avoids the reliance on a central entity, would envisage the same pricing algorithm to be operated by all Power Exchanges. However, this solution would appear inefficient unless the algorithm is run only by one Power Exchange.

- The central entity running the common pricing algorithm, unless it coincides with the CAO, may be owned by all the Power Exchanges/organised market operators involved; while
- The new network codes elaborated by ENTSO-E according to the provisions in Article 8.1 and 8.2 of Regulation 714/2009 would need to contain the rules for the operation of both the CAO and the central entity running the common pricing algorithm²⁰¹.

ACER may be assigned regulatory oversight responsibilities on the CAO and the central entity running the common pricing algorithm²⁰².

6.2.3 Harmonisation and convergence

As already highlighted, the harmonisation requirements of this reference model for congestion management – including a EU-wide network model, a single pricing algorithm and the standardisation of products, procedures and timelines of organised market – are demanding and therefore can only be achieved in the long-term. However, a vision of this kind, even if it cannot be implemented immediately, is nonetheless essential if the process of approximation of the different RIs is to proceed in a consistent way.

In this respect, the convergence process can proceed in stages, with:

- Regional markets based on tighter coupling (price-based market coupling or market splitting) developing according to certain common standards related to products (with focus on the hourly product), pricing algorithms (especially for “singularity points”) and timelines;
- Cross-border congestion between Regions initially managed through explicit auctions of physical capacity allocation/transmission rights (PTRs) over the full spectrum of time horizons (from annual to day-ahead PTRs²⁰³) with tighter coupling²⁰⁴ being progressively introduced; and
- A network model which may proceed in stages of increasing sophistication, from an ATC-based approach to a flow-based approach to a fully-fledged representation. In fact, it is also possible to envisage several mutually consistent models used in different Regions, each of them characterised by a more detailed representation of the network for the Region in which they are used.

²⁰¹ In fact, according to Article 8.6 of Regulation 714/2009, the network codes to be developed by ENTSO-E should cover, *inter alia*, capacity-allocation and congestion-management rules. This however implies that Power Exchanges do not have any defined role in defining these rules.

²⁰² This would represent an “extension” of the responsibilities assigned to ACER as defined in Regulation 713/2009, even though it will be consistent with the general mandate of the Agency.

²⁰³ It is debatable whether explicit auctions of PTRs should extend also to the intra-day timeframe, given the coordination requirements of explicit auctions.

²⁰⁴ It is debatable whether the loose (volume based) coupling should appear as an intermediate step in this process, given the serious inefficiency that it can generate and the “damage” that it can create to the overall process.

Agreed guidelines would have to be established to define the common standards so that regional market integration proceeds in a consistent manner in all Regions, to facilitate the progressive coupling of the Regions in a single internal market.

Governance and regulatory aspects would have to be defined for the interim period (until the final model structure is established). However, the proposed model for the long-term vision can provide some guidance on the interim arrangements. In particular, it appears appropriate that the CAO and the central entity running the pricing mechanism are established, with the CAO being responsible for running the explicit auctions between regional markets.

As indicated in Chapter 2.1, significant progress in the integration of national market at regional level has already been achieved over the last five years (for example, through the development of MIBEL, SEM and TLC). These developments, while occurring independently of each other and in many cases independently of the RIs process, have many similar characteristics so it should not be too difficult, if the move can be initiated soon, to bring them into line with the agreed guidelines. In fact, this can happen anyway, as there are already plans to integrate MIBEL and TLC, with the extension of the latter to include the German market (PLEF) and Nordpool. At that point, the resulting “model” would represent the reference for further integration of other Regions, and the search of a reference model for the Internal Electricity Market would be superseded by events.

6.3. An implicit internal gas market model

In line with the priorities identified in the Consultation Paper which defined the GRI, the main rationale behind the adopted geographical structure of the Regions was the location of existing gas hubs or locations where progress in the establishment of a gas hub was most advanced. In effect a form of implicit market model was adopted. The immediate priority was to take the necessary steps to promote liquid and competitive trading, and the GRI was expected to concentrate on two aspects of market development:

- Trading at hubs within the regional market; and
- Hub-to-hub trading within and between regional markets.

Developing the market in these two ways requires that the means to facilitate trading and to unlock liquidity at hubs are set out, and that approaches to remove trading barriers between hubs and Regions are developed. Some of the identified barriers to trade include a lack of a market for tradable long term contracts for gas pipeline capacity; a lack of third party network access, a lack of transparency and a lack of market-wide rules on tariff and balancing²⁰⁵.

Therefore, the prevailing situation in continental Europe is characterised by a lack of liquidity, so that it is often impossible to buy or sell a large quantity of gas at a traded

²⁰⁵ According to the response to questionnaires submitted by participants at the APX Energy Trading Symposium. Brussels, 22 April 2009.

market price, whether via a broker or on a gas exchange. Moreover, there are no reliable and transparent spot gas prices in most European gas markets. If wholesale markets are not liquid:

- New entrants find it difficult to source gas to supply their retail customers or to balance their portfolios, which creates significant commercial risk;
- Prices are less likely to reflect fundamentals and are less transparent;
- It becomes more difficult to plan investments in new supply sources; and
- As a whole the benefits of a liberalised market are reduced.

Both organised exchanges and bilateral or over-the-counter trading contribute to liquidity, and both are important in well-functioning commodity markets.

Hubs are real or virtual points (also known as notional points) within a network at which it is convenient to locate traded gas volumes. Standardising the location in this way contributes greatly to liquidity because without a standard location, the total volume of gas traded may be spread over many different locations in the network (or at its entry/exit points), and the volume of gas at different locations is not equivalent because of the need to arrange for transportation rights between locations. Both organised (exchange based) trading and OTC trading can take place at hubs.

6.3.1 The North America (USA and Canada) example

The North American market has undergone a rapid process of evolution over the past 20 years. The markets has not only grown substantially, but has also experienced radical changes. Liberalisation has forced market participants to compete in the wholesale, industrial and commercial sectors, and in some states, at the residential level. Hence, the North American experience serves as an interesting case study for liberalisation of European gas markets.

By the end of the 1980s and beginning of the 1990s, the Federal Energy Regulatory Commission (FERC) issued several orders to liberalised pipelines operations, which were constrained by existing take-or-pay (ToP) arrangements. Some of the provisions established by these orders included the following clauses:

- Sharing of ToP contract costs, including contract renegotiations, buyouts or buy-downs among producers, pipelines and pipelines customers²⁰⁶; and
- Unbundling of pipelines sales and transport services and resale of any firm capacity held by their customers²⁰⁷.

²⁰⁶ Order N° 500, issued in 1987. This order essentially encouraged interstate pipelines to buy out the costly take-or-pay contracts. Thanks to an *Equitable sharing mechanism* access to pipelines were open. The pipeline companies in turn agreed to an equitable sharing of take-or-pay costs by permitting them to recover costs over a specified amortization period, such as five years. In fact, take-or-pay credits provided by Order No.500 allowed the pipeline to credit a quantity of gas it transports against its obligation to take a similar quantity of gas under a take-or-pay contract.

Therefore, pipelines companies moved from “merchant” to “transit” pipelines, and ToP contracts tended to disappear. Pipelines companies now have strong incentives to operate pipelines at full capacity, and many are willing to reduce rates to do so. This in effect paved the way for greater competition among third-party service providers and also resulted in an active transportation-capacity trading market (capacity brokering)²⁰⁸.

Natural gas can now be traded or priced at almost any location in North America. Over time, a number of these pricing points, typically at the junction of multiple pipeline interconnections, have transformed into physical exchanges or trading hubs where gas can be easily traded. Frequently hubs are connected to gas storage facilities, which permit the hub operator to offer balancing services.

Currently, there are 38 different hubs in North America (29 in US and 9 in Canada). Alongside the essential gas transportation and ownership transfer services, hubs provide a number of technical and commercial ancillary services which make the North American region a single market. As a result of sufficient capacity being available to transport gas between hubs, price differentials between hubs represent the marginal transportation costs between the different locations. If structural capacity congestion arises, systematic price differentials provide pipeline companies a clear incentive to build new connections between hubs.

6.3.2 The European specificities

The North American model may serve as a useful reference for the European internal gas market, since the basic functioning of the former relies on the trading at hubs and between hubs²⁰⁹. However, structural conditions and the historical legacy in Europe requires different policy approaches and measures to achieve the necessary level of competition. Of these European peculiarities, two appear to be of critical importance:

- An oligopoly of exporting countries outside Europe, which accounts for nearly half of total European supply (and which is likely to grow in the next decade), compared with North America which was almost self-sufficient at the time of reform and where no single producer had a dominant position;
- The still insufficient network interconnection in various areas of Europe, which is made worse by the contractual congestion at some key interconnection points caused by long-term contracts²¹⁰. This produces a sort of “vicious cycle”. In an efficient market, all technically available capacity would be used and demand

²⁰⁷ Order 436 in 1985 made the unbundling of pipeline services possible. Order N° 636, issued in 1992, completed the final steps towards unbundling by making it a requirement. This was the culmination of deregulating the gas industry allowing the customer to choose the most efficient method of obtaining its gas.

²⁰⁸ A market to buy and sell various types of transport capacities has developed. This market can be used to manage existing transport commitments, and for price discovery and hedging when making capital investment decisions.

²⁰⁹ For a more detailed description see “Development of Competitive Gas Trading in Continental Europe: How to achieve workable competition in European gas markets?”, IEA Information Paper May 2008, on which this section is based.

²¹⁰ There are basically two types of congestion. Contractual congestion occurs when capacity is fully reserved through contracts but a proportion of capacity remains unused and there remains unmet demand. Physical congestion occurs where parts of the network flow at their maximum technical capacity and no further flows can be accommodated but there is still demand for extra flows. It has to be noted that the former could be solved by appropriate regulation, without large scale changes in the market framework.

for additional capacity would signal the need for investment. However, while market signals may be expected to drive infrastructure investment, these signals will more clearly emerge if multiple players operate along the value chain in a market environment; but these participants can only be present if there is sufficient capacity that can be contracted.

Moreover, there are also differences in the institutional and regulatory regimes. European governance does not allow for as strong a centralised regulator that could coordinate the process of market reform, in a similar manner to FERC and the National Energy Board in North America. However, with the establishment of ENTSOs and ACER, harmonised market codes at the European level have become possible.

The US system of competing pipelines, which connect production fields with consumption centres, has proved to work well. However, in Europe the most appropriate option in the immediate future is to keep the regulatory approach for the current natural monopolies. Moreover, virtual hubs, which are more common in the European market, could eventually prove to be more effective in terms of competition and liquidity over physical hubs.

In conclusion, the aforementioned key differences make the US model unsuitable for direct implementation into Europe. Nonetheless, the US may offer some interesting insights on how the coordination between long-term and spot market for gas transactions can weaken the impact of long-term contract clauses in the market²¹¹.

6.3.3 Building blocks for a gas reference model

Due to the legacy of interconnecting national markets across the EU and different stages of development between Regions, it may be too early to define a comprehensive reference model for the gas market in the same way as it is possible for the electricity sector. However, a broad vision for market development should be created for various reasons. Facilitating gas movements throughout the EU without barriers is crucial for both a competitive market and security of supply. Differences between national and regional markets may cause both inefficient use of the European grid at cross-border points.

Regulation 715/2009 already suggests a long term vision for the gas market formed by decoupled entry-exit systems. This vision has been expanded in the recently published ERGEG principles on Capacity Allocation Mechanisms (CAM) and Congestion Management Procedures (CMP)²¹². These principles state that the EU gas market should become “*a set of entry/exit market zones with their own virtual hubs connected through a limited number of bundled capacity products identical all over the EU and allocated via actions*”. What seems clear is that a reference model would greatly help to avoid the risk of divergence between the Regions and facilitate the integration towards a single

²¹¹ The deregulation allowed the creation of well-functioning spot markets, altering in turn the economics of contracting. Although long term contracts remain they are now indexed to spot prices and often allow for termination on a relatively short notice.

²¹² ERGEG Principles: Capacity allocation and congestion management in European gas transmission network. Ref: E09-GNM-10-03. 10 December 2009.

EU gas market, although it should be noted that this risk is lower than in electricity due to the different level of market development at this time.

Therefore, the definition of a reference model for the EU gas market at this stage should focus on the establishment of a set of building blocks. Work undertaken by the GRIs and ERGEG provides a good starting point to identify these key building blocks and basic features of a gas reference model. The following interrelated “ingredients” appear to be necessary in order to move from several interconnected national markets to a single market made up of a set of interconnected entry-exit zones:

- Efficient capacity allocation and congestion management;
- Cooperation between TSOs and well designed transmission tariffs;
- Promotion and support of cross-border and inter hub connection investment;
- Standardisation of operational procedures and harmonisation of balancing regimes;
- Harmonisation of hubs operation; and
- Development of regional gas price indexes.

6.3.3.1. Efficient capacity allocation and congestion management

While the majority of firm capacity is allocated to long-term contracts, it is critical that any remaining capacity is made available to market participants to ensure that the infrastructure is used in an optimum way, thereby balancing the need for long-term capacity reservation and short-term optimisation.

DG Competition’s (DG Comp) 2007²¹³ sector inquiry concluded that new entrants are unable to secure primary capacity at key IPs due to long-term contracts signed between incumbent TSOs and, typically, supply affiliates²¹⁴. Moreover, the inquiry concluded that there is still insufficient secondary capacity that can be accessed.

Current gas contracts typically allow the historic capacity holder to re-nominate its capacity up to two hours before the relevant gas flows are to commence. Therefore, capacity that is not used by incumbents is either not released on the secondary market or released only on a very short term and interruptible basis.

To avoid capacity hoarding and to free up unused physical and contractual capacity there is a need to design CAMs and CMPs that are capable of ensuring that an adequate amount of capacity is made available on a regular basis (for example, on a daily, monthly or longer-term basis)²¹⁵. As already mentioned, ERGEG has initiated work on this issue with the publication of its principles on CAM and CMP. This work, along

²¹³ DG Competition report on energy sector inquiry, Final Report, 10 January 2007.

²¹⁴ Contractual congestion at IPs remains a major obstacle for international trading. Note that in recent years the severity of the problem has been eased due to a reduction in gas demand, but reductions in demand are likely to be temporary.

²¹⁵ If the mechanisms are well-designed, they should provide appropriate signals in case of insufficient capacity.

with any other work developed prior to the entry into force of the 3rd Package, may serve as an input for ACER to develop the Framework Guidelines that, later on, will be the basis of the Network Codes that ENTSO-G is required to prepare.

In order to make capacity available on a regular basis, the elements defined in ERGEG principles on CAM and CMP can be summarised as follows:

- Capacity at interconnection points (firm and interruptible) between entry-exit systems to be sold through bundled capacity products. Selling capacity through bundled products should significantly reduce cross-border transaction costs and promote liquidity on both sides of the interconnection points;
- Limited number of capacity products, with different duration, and products that distinguish between firm and interruptible capacity. Provided that the products are carefully selected, a high degree of harmonisation and the avoidance of unnecessary dispersion of capacity can be achieved;
- Auctions to allocate scarce capacity or re-allocate freed-up unused capacity. However, and as pointed out by ERGEG, where some participants are able to take advantage of a strong dominant position²¹⁶ a pro-rata mechanism of allocation may be preferable to an auction. The establishment of joint and anonymous web-based platforms can promote transparency and reduce transaction costs.
- Maximisation of the firm capacity offered and release by shippers of unused capacity. On the one hand, as suggested by ERGEG, the offer of firm capacity could be increased by adopting a dynamic approach with regard to the calculation of technical capacity (i.e. regular re-calculation on the basis of the actual current technical conditions) and by strengthening cooperation between adjacent TSOs. On the other hand, firm short-term UIOLI and long-term UIOLI procedures are suitable and effective solutions to mitigate capacity hoarding and allow new entrants to get access to capacity.

6.3.3.2. TSOs cooperation and Transmission tariffs

Efficient cross-border trade can also be promoted through greater cooperation between adjacent TSOs. TSOs should cooperate not only at a technical and operational level through appropriate information exchange, but also in relation to CAM and CMP.

National regulators could establish appropriate incentives for TSOs to maximise available and technical capacity and actively manage network congestion demand. A well-designed incentive scheme can promote the joint maximisation of available capacity through the coordination of the calculation of available capacity and enhance the system of capacity allocation and congestion management²¹⁷.

²¹⁶ Not to be measured exclusively through a market share index.

²¹⁷ An example of an incentive scheme could be the purchase of system energy or capacity buy-back. See “ERGEG principles Capacity allocation and congestion management in European gas transmission network”, Ref: E09-GNM-10-03, 10 December 2009.

In the case of transmission tariffs over the European transport networks, the replacement of the current system of separate entry- and exit- tariffs at each (administrative) border by an Inter-TSO Compensation Mechanism, as suggested by KEMA²¹⁸, deserves further consideration.

6.3.3.3. Promotion and support of cross-border and inter hub connection investments

In an integrated European market, investors will no longer rely on recovering costs from a small critical mass of customers.

However, several markets in Europe are not sufficiently interconnected and there is no responsibility for cross-border regulation which provides incentives to individual country TSOs to promote greater interconnection. The idea is that market-based mechanisms will drive investment between hubs, but the hubs have not yet developed sufficiently to allow this. Therefore the investment is not forthcoming. But without cross-border investment, hubs will not develop, or at least not in an optimal way and in a reasonable time frame.

To address the impasse in hub development and to promote the infrastructure investment required to increase liquidity and, therefore, strengthen security of supply at European level, a European coordination body to promote and support investment is required. The role of the coordination body is broadly envisaged to be performed by ENTSO-G, following the adoption of the 3rd Package. The proposed 10-year network development plans should identify interconnection needs in collaboration with the TSOs and NRAs, while an OS process could be introduced to discover and aggregate shipper interest²¹⁹. The joint financing of corresponding projects in combination with the introduction of an ITC mechanism, as reflected by KEMA²²⁰, could be further studied.

OS processes and capacity auctions will be able to split the cost and share the risks of substantial infrastructure investments among many companies (of different sizes), and determine the appropriate size for expansion of new projects.

6.3.3.4. Harmonisation of balancing regimes

As previously discussed there are costs to TSOs in keeping gas systems balanced. Therefore, if market participants have appropriate incentives to hold a balanced portfolio, the overall system should benefit. The development of incentive schemes is most consistent with the adoption of market-based balancing rules. Although there are differences in balancing arrangements across Europe, they should not be an obstacle to access the networks, *“regional integration of balancing mechanisms and an increased compatibility of the arrangements for imbalance settlement would be decisive in*

²¹⁸ “Study on methodologies for Gas Transmission Network Tariffs and Gas Balancing Fees in Europe”, KEMA, December 2009.

²¹⁹ However, other mechanisms may be able to lead to the same outcome as an OS. For example, market needs could be identified via regular consultations with users –but this does not enforce parties to make firm commitments- or through regional planning, where financing of new infrastructures by the European Bank of Investments could be further considered –but this does not ensure a market for the new infrastructure.

²²⁰ “Study on methodologies for Gas Transmission Network Tariffs and Gas Balancing Fees in Europe”, KEMA, December 2009.

reducing overall costs to European consumers and in facilitating efficient use of the gas transmission networks”²²¹.

Thus, although there does not seem to be a need for a full harmonization of balancing across Europe, balancing services in neighbouring countries should be standardised at least at a regional level over time²²². This regional integration could be applied to markets for both balancing and intra-day trading.

Given the differences and complexity of this regional integration, a first step could be the gradual integration of balancing services between national systems. The corresponding steps could be²²³:

- Promoting day-ahead and intra-day markets across borders;
- Increase the use of short-term and intra-day markets for balancing; and
- Ensuring compatibility and harmonization of balancing services employed by the different TSOs.

6.3.3.5. Harmonisation of hubs operation

Gas trading hubs are anticipated to be the centrepiece of the integrated market. Indeed, a key objective of the GRI was to promote liquid and competitive trading at and between hubs. Nevertheless, the emergence of liquid hubs should be the natural consequence of a number of preconditions since the timing for progress on hubs development is to a large extent dependent on progress achieved for other issues.

The maturity of gas markets differs significantly. Therefore, moving directly to a EU-wide approach may result in an inferior outcome in comparison to regional solutions. Moreover, there are many aspects of hubs development that can proceed prior to the development of a reference model, while leaving significant scope for regional-specific solutions to be adopted at this stage. Therefore, the creation of a set of minimum requirements will assist in allowing each hub to develop according to regional specific needs.

Progress on hubs development can be promoted by the introduction of standard trading contracts and standard traded products, which could be harmonised in accordance with guidelines being developed by EFET. Common hubs services (for example, matching, wheeling and title transfer services) can also promote trade. At a regional level, the relevant Governments within each Region can introduce regulation to support the expansion in traded volumes, for example through the obligation to release at the hub a given percentage of long-term contracted gas.

²²¹ As reflected in “Study on methodologies for Gas Transmission Network Tariffs and Gas Balancing Fees in Europe”, KEMA, December 2009.

²²² As pointed out in “ERGEG principles Capacity allocation and congestion management in European gas transmission network”, Ref: E09-GNM-10-03, 10 December 2009, “*the challenge of building the EU gas market consists of moving from several interconnected national markets to a single market made of several interconnected balancing zones*”.

²²³ As described in “Study on methodologies for Gas Transmission Network Tariffs and Gas Balancing Fees in Europe”, KEMA, December 2009.

6.3.3.6. Regional gas price index

Once there is a successful implementation and integration of the previous building blocks, a regional gas price index can be developed.

In Europe there are currently a number of connected physical markets, with discrete pricing zones separated by physical or contractual congestion, or even by non-harmonised transportation access terms which prevent the free flow of gas between neighbouring networks.

However, putting in place the aforementioned building blocks would strongly favour the development of a fully liquid and robust ring of regional hubs. As a consequence, a wholesale reference price (or a gas price index) for the EU or for the region would emerge. Experience from the US and UK shows that a regional price index is likely to provide a significant boost to the trading activity by raising the interest of international financial, trading and energy companies. Moreover, a price index could provide strong signals for infrastructure and interconnection investment. In other words, the emergence of a regional price index at one or more fully developed hub(s) can lead to a number of positive, mutually-reinforcing, effects. This would be the true sign of an integrated European gas market.

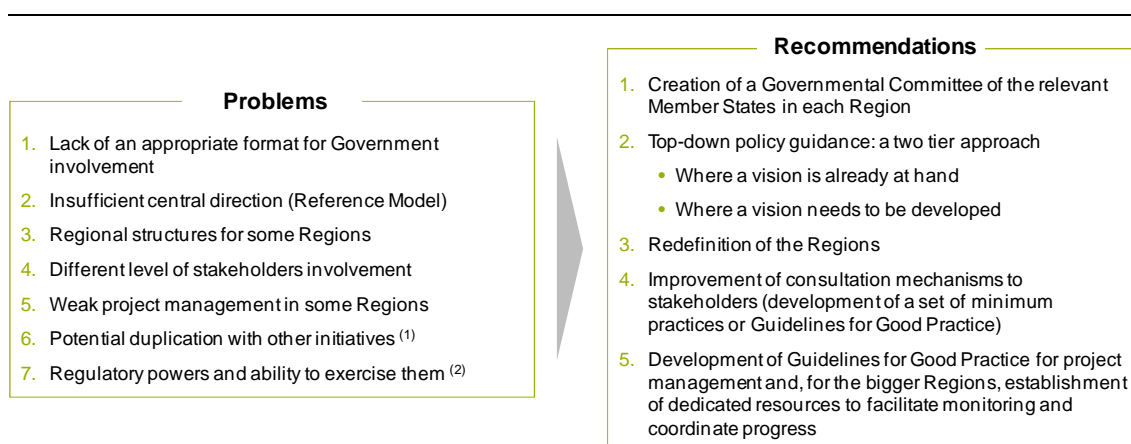
7. Recommendations

Section 4 and 5 analysed the Strengths and Weaknesses of the RIs and identified Best Practices. The key conclusions of these Sections were that changes could be considered in the following areas:

- The Governance of the RIs, and in particular the role of Governments and the European Commission,
- The policy guidance that should be provided to the RIs,
- The regional structure of the RIs, and
- Project Management and Stakeholder involvement.

This Section presents our recommendations, which are summarised below:

Figure 42. Summary of Recommendations for each of the problems identified.



⁽¹⁾ This problem is addressed in recommendation 1: creation of a Governmental Committee for each Region

⁽²⁾ This problem is addressed thanks to the implementation of the 3rd Package

Source: everis and Mercados EMI

7.1. Governance: Role of Governments and the Commission

A Governmental Committee of the relevant Member States should be established in each Region, which will meet in advance of the RCC meeting to discuss the broader strategic and policy issues.

A weakness of the RIs has been the lack of a clearly identified role for Government.

Governmental involvement is critical for the development of a single internal market in two key respects. On one hand National Governments should play a key role in setting policy criteria and priorities, in particular for issues where an underlying vision has not been developed. On the other hand, even where a reference model has been established, the RIs will require the support of National Governments in changing national rules and/or primary legislation to ensure smooth implementation of the key features of the model.

The most appropriate format for the involvement of Government in both of these roles is at a higher level than the current RIs institutional structures. Although good examples of high level involvement can be identified in some Regions, like the S GRI where Ministries and DGTREN representatives have participated in high level meetings, RCC, IG and SG without a need of complex arrangements, this has not been the case for the majority of Regions. To achieve the desired aims, a devoted forum for policy discussion should be established to complement the RCC, IG and SG. The successful examples of some existing initiatives, like the Ministerial Meetings of the NW GRI and the PLEF have been structured along these lines. Therefore, we recommend that this model is extended across all the RIs and that a Governmental Committee of the relevant Member States of each Region is established. This Committee will meet in advance of the RCC to discuss the broader strategic and political issues, including political issues associated with RIs agenda topics, and provide recommendations to the RCC.

The European Commission is best placed to coordinate the work of the Governmental Committee, in various respects, including:

- Coordinating the broader policy dimension of Government decisions;
- Promoting active participation and commitment of Member State representatives in the Governmental Committee;
- Endorsing regional action plans; and
- Ensuring progress within the Regions according to the defined action plans.

The suggested role of the European Commission in coordinating the policy dimension of Government decisions is designed to ensure that the decisions of different regional groupings of Governments are neither in conflict with the overall aim of the legislation, nor inconsistent with the approach adopted in other regions. Although Governments cannot be required to be actively involved in the proposed regional Governmental Committee, the European Commission is in a much stronger position than the NRAs in promoting Government involvement.

In addition, there is a role for the European Commission in endorsing regional action plans and establishing the mechanisms by which the RIs can report back on achieved progress. The European Commission already runs the Madrid and Florence Fora, which provide opportunity for the gas and electricity RIs respectively to report on progress achieved. We do not see any need to change the structure of these fora.

We believe that the Governmental Committee will have an important role in developing the 3rd Package framework and in the subsequent period when the Network Codes are in place. During the introduction of the 3rd Package framework the Governmental Committee will allow Governments to be more actively engaged in the process of defining the Framework Guidelines and the Network Codes, rather than simply waiting for the Comitology process. It is our view that, as Governments have an important role in agreeing binding rules, they should be involved in the development of these rules as they are best placed to assess the political implications of provisions contained in the Network Codes²²⁴. Moreover, even once the Network Codes are in place there will continue to be important policy issues in the energy sector, including regarding implementation of the Codes at a national level.

7.2. Policy guidance

Issues of European wide concern, and for which a harmonised approach across Regions is required should be subject to greater Top-down guidance.

However, there are other issues for which there is a lesser need for harmonisation and for which policy guidance can be left to the Regions under a Bottom-up approach.

The need for greater policy guidance has been a common theme of consultations. However, the required level and form of policy guidance will vary depending on the degree of harmonisation required by the different issues.

More specifically, for many key areas of market integration European-wide Top-down guidance is essential for two key reasons:

- The issues are European-wide in nature, and therefore there are benefits from developing policy at a European-wide level, and
- The costs of divergent approaches may be significant in that they may ultimately impede the move towards a single European market.

Within the sub-set of issues where Top-down guidance is required, the form of that guidance will vary depending on whether a clear vision has been articulated for the issue at question or not. In the former case the required guidance will primarily relate to implementation issues, while in the latter case a policy vision or goal will need to be first developed.

The rest of this sub-Section considers the distinction between issues that warrant a Top-down and those that can be progressed through a Bottom-up approach, and then the appropriate policy guidance for the various issues where a Top-down approach is warranted. However, it should be noted that the various categories developed are not

²²⁴ In other words, they need to know in advance “how the codes/guidelines help meet political objectives, the costs and benefits, the impact on their national markets, etc”. “Third package regional cooperation obligations of Member States – political relevance and urgency of issues in the regions – a Member State perspective”. RIs Annual Conference. Brussels, 17 November 2009. Sue Harrison, UK Department of Energy and Climate Change.

mutually exclusive. Even for issues that are generally regional in nature, development of some EU-wide minimum standards may still be appropriate.

7.2.1 Categorisation of the issues

Transparency for both electricity and gas and Congestion Management, Balancing, ITC and Tarification for electricity are all issues of European-wide concern that should be subject to greater Top-down guidance and for which a detailed reference model should be developed.

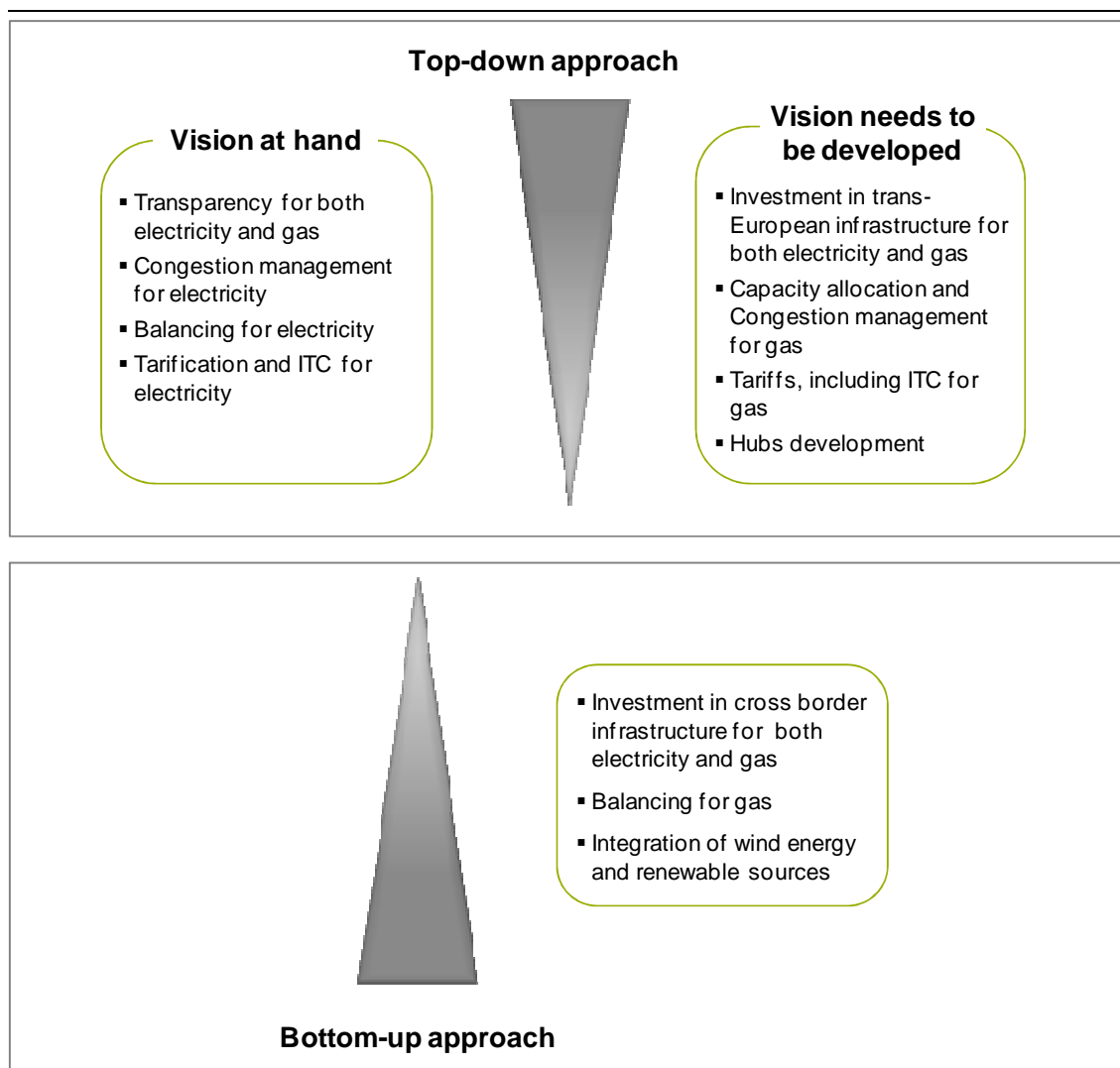
A reference model should ultimately be developed for Investment in Trans-European Networks in gas and electricity, and for Capacity Allocation and Congestion Management, Tarification (including ITC) and Hubs development in the gas sector, but at this stage a vision still needs to be developed.

Issues that can be generally left to a Bottom-up approach, at least at this stage include incentives for Investment in cross-border infrastructure for both electricity and gas, Balancing for gas and Wind generation.

Figure 43 categorises key issues associated with the European energy market under three headings:

- Whether these should be tackled from a Top-down perspective;
- If so whether a broad policy vision already exists;
- Whether a Bottom-up approach to policy development is applicable.

Figure 43. Issues to be tackled according to a Top-down or a Bottom-up approach.



Source: everis and Mercados EMI

7.2.2 Implementing Top-down policy guidance: A two-tier approach

Providing greater policy Top-down guidance to the RIs for key topics identified above is now essential. However, key legislative documents that define the framework for market integration are not always prescriptive enough as to the way in which they are to be implemented²²⁵.

The 3rd Package may provide policy guidance and direction to address some of the issues identified by the RIs. Regional cooperation will be framed within a Top-down

²²⁵ The lack of prescription is not simply limited to congestion management, but also other issues of importance for market integration, including inter-TSO compensation, incentives for investment, the setting of cross-border tariffs and capacity release in the gas sector.

approach, where many key aspects of the internal market – including network access and congestion management – are governed by the provisions of the network codes. In this respect, ACER and the ENTSOs will have clear leadership roles. However, it is unlikely that the first network codes will be in place before the second half of 2012. Therefore, the risk is that, absent appropriate policy guidance, RIs or parallel developments may, in the meantime, proceed in diverging ways, jeopardising convergence towards the Single Internal energy market.

A lack of prescription in the legislation need not necessarily be a problem where there are secondary rules that set out how the legislation should be implemented or there is a general consensus, or a commonly-shared vision already exists, as to the appropriate minimum principles governing the issue. For example, in the case of congestion management in the electricity sector the work of the PCG, which built on extensive debate over the past decade, has started to develop consensus in key areas.

However, for other topics, such as capacity allocation in the internal gas market, there has been little progress achieved and little consensus on the steps that are required to achieve broader market integration. In cases of this kind, there is a need to develop some form of vision or reference model against which stakeholders and the RIs can work.

In general, therefore, for many key issues of European-wide significance some form of reference model is required to ensure that different Regions converge or at least move forward towards an internal energy market in a consistent manner. The development of the reference model with respect to the different aspects of the internal market is itself a stepwise approach where consensus is built over time on an increasingly detailed approach. So far, the debate and therefore the level of consensus achieved, has progressed to a different stage on the different aspects.

Differences in the stage of development of a vision on the various aspects of the Internal Energy market calls for involvement and action by different institutions. In this regard, we propose a different approach where there is general consensus over the required vision and other issues for which a vision has not yet been developed.

7.2.2.1. Issues where a vision is already at hand

For issues, in which a common vision exists, a sufficiently detailed Reference Model needs to be urgently defined and endorsed.

Regions should focus in implementing and adapting the reference model to their regional specificities. While Regulators, both ERGEG and NRAs, with the European Commission supervision, should ensure that no project proceeds in ways that is incompatible with this model.

Where a vision has already been developed and agreed upon, this vision should be turned into a reference model, which can guide the process of regional integration and can be implemented relatively easily, thereby ensuring consistency and convergence towards the Internal Energy market.

Once a reference model is developed, the Regions should focus on implementing and adapting the reference model to their regional specificities. At the same time both ERGEG and NRAs, with the European Commission supervision should ensure that no project proceeds in ways that is incompatible with this model.

The exact form of the reference model will vary depending on the issue highlighted in Figure 43.

Significant effort has been devoted to **congestion management in electricity**, to define the key criteria for efficient cross-border capacity allocation. Following the work of the PCG, an agreed vision seems to be at hand. So far, market integration has progressed without an over-arching reference model. But while until now few, if any, of the existing market integration projects have been potentially damaging to the overall goal of market integration, the next stage of development is likely to determine the future shape of the Internal Energy market. There is a clear risk therefore that, if no reference model is promptly defined and endorsed, future developments may steer the whole process in a direction which may eventually turn out to be inconsistent with an efficient Internal market²²⁶.

In the framework of the 3rd Package, the almost-agreed vision could be defined in the Framework Guidelines that ACER is required to develop and the corresponding reference model introduced through the Network Codes that ENTSO-E will prepare on the basis of these Guidelines. However, as indicated above, there is an urgent need for a reference model in electricity congestion management which calls for action even before ACER is established. The decision to commission an AHAG that will develop draft Framework Guidelines that will be endorsed by ERGEG may allow the required vision to be developed earlier. Once endorsed new developments arising prior to 2012 can be assessed against the Guidelines for consistency. It would then be up to NRAs and the European Commission to ensure that developments in the different regions are in line with such a reference model.

In the case of **transparency in electricity**, Directives and Regulations in the 2nd Package already provided several elements of a vision. On the basis of these elements, a reference model was developed in the ERGEG's GGPIMT and the Regions have been working on their implementation. Moreover, a more advanced model, in the form of legally binding transparency guidelines, is being developed by ERGEG, which the Commission intends to pass through Comitology at the end of 2010.

Similarly, for **transparency in the gas sector**, the 2nd Package, and Regulation 1775/2005 in particular, already provided some elements of the common vision. However Regions have been working on implementing transparency requirements at various different levels, with progress differencing between Regions. Therefore, at this point in time the development of a comprehensive vision, under the legally binding guidelines being developed by ERGEG may provide the basis for standardised and

²²⁶ For example, any approach to market coupling between MIBEL, TLC (CWE) and Nordpool would inevitably impose itself as "the model" for the future internal market and other regions would have no options but to subscribe to it. At that point it might be more difficult and costly to redirect the process, if so needed. It is therefore essential that such integration proceeds in line with the vision for the internal energy market.

harmonised definitions, and understanding of key transparency elements, as well as providing the opportunity to include additional binding requirements.

As described in Section 6, a possible vision for **balancing in the electricity sector** is one in which the minimum standard for integration is the multilateral TSO-TSO arrangement, while common balancing markets may develop where conditions allow. At the same time gate closure harmonisation will avoid asymmetric market opportunities and different imbalance exposures on different sides of the same border.

A vision is developing for **tarification** and the **ITC mechanism for electricity**. After a long debate over the most appropriate methods for compensating costs that transit is causing to new and existing infrastructure, the European Commission is now close to issuing Guidelines on ITC that can act as an appropriate reference model²²⁷. In the case of tarification, the purpose is to ensure that national approaches do not unduly distort competition throughout the EU. The form of the reference model need not be as detailed as for other topics as the key need is for a set of common standards.

7.2.2.2. Issues where a vision needs to be developed

Where there is at present no consensus, a vision needs to be developed.

Developing a vision requires the identification of the main issues to be addressed and providing minimum requirements according to the best solution identified. This task could be performed by Governments under the coordinating leadership of the European Commission, supported by NRAs and the RIs.

For these issues the Regions will work in pilot testing projects and, subsequently, in implementing the defined model.

For those issues where a consensus has not yet been reached as to the appropriate policy and/or implementation direction, it is not yet possible to develop a detailed reference model. Instead, a vision, including the minimum principles of harmonisation, should be defined first. This might include identifying the main issues to be addressed and designing possible solutions.

In order to develop the common vision, the leading role should be taken by Member States, with the European Commission playing a coordinating role. The proposed Governmental Committee may provide a suitable forum for discussion of issues of this nature at regional level, but strong central direction from the European Commission is required.

The RIs will also have an important role on pilot testing projects according to the potential solutions defined and, subsequently, in implementing the defined model.

²²⁷ Draft Commission Regulation of laying down guidelines establishing a mechanism for the compensation of transmission system operators for the costs of hosting cross-border flows of electricity and a common regulatory approach to transmission charging. The European Commission, December 2009.

The nature of the required vision will vary by the topics identified under this heading in Figure 43.

Regarding **investment in trans-European infrastructure for electricity**, the 3rd Package establishes that investment should be coordinated at a European level through the adoption of a TYNDP²²⁸. This plan is envisaged to be the most up-to-date European-wide reference for the transmission network and to highlight where investment in the European power grid is most required. Apart from promoting the Internal Energy Market by alleviating congestion on the transmission network, this TYNDP, is intended to ensure security of supply and system reliability. Work is already being developed on this issue as ENTSO-E recently published the pilot TYNDP, which is currently open to public consultation²²⁹. The pilot TYNDP could be considered the first step towards an agreed vision on investment in trans-European infrastructure, which can serve as a reference for new infrastructure developments.

Similarly to electricity, coordination of **investment in trans-European infrastructure for gas** is included in the 3rd Package²³⁰. Indeed, ENTSO-G has already started work on this issue by publishing the first TYNDP for gas transmission systems²³¹. The TYNDP provides the first pan European view of supply, demand and capacity development from the perspective of European TSOs. This plan aims to establish a long term vision of the European gas transmission networks, which will contribute to harmonise the development of the single liquid internal European gas market as well as to improve security of supply for Europe.

There is currently no consensus on the solutions to be adopted for **capacity allocation and congestion management for gas**. As already mentioned, the 3rd Package requires the adoption, by ENTSO-G, of Network Codes for capacity allocation and congestion management, which will be based on Framework Guidelines developed by ACER. During the interim period before the entry into force of the 3rd Package, there is the potential to facilitate progress by developing and testing possible solutions which may serve as an input for the Framework Guidelines. Indeed, there is already work ongoing in this regard by ERGEG, which has recently published its position on CAM and CMP²³², which could be considered as a starting point to reach an agreed vision on this issue. Taking into account the progress made by the PCG for electricity congestion management, the creation of a similar group for gas to faster an agreed vision on this topic should be considered.

A Top-Down approach is appropriate for **tariffs (including ITC) for gas** as has been mentioned in Section 6.3.3.2. Nevertheless, there is currently no consensus on the

²²⁸ According to Regulation (EC) 714/2009 Article 8.3 (b), “ENTSO-E shall adopt a non-binding Community-wide ten-year network development plan, including a European generation adequacy outlook, every two years”.

²²⁹ ENTSO-E published the pilot TYNDP for electricity on 1 March 2010. The consultation period ends on 11 April 2010.

²³⁰ According to Regulation (EC) 715/2009 Article 8.3 (b), “ENTSO-G shall adopt a non-binding Community-wide ten-year network development plan, including a European supply adequacy outlook, every two years”.

²³¹ ENTSO-G published the first TYNDP for gas on 23 December 2009. It contains European demand and supply scenarios as well as information on network development and investment projects received from 58 TSOs, Ministries and project sponsors of 33 European countries.

²³² “ERGEG Principles: Capacity allocation and congestion management in European gas transmission network”, Ref: E09-GNM-10-03, 10 December 2009.

approach to be taken. The substitution of the existing system of separate entry- and exit- tariffs at each border by an ITC mechanism, as suggested by KEMA²³³, should be further studied.

In some respects the treatment of **Hubs development** will need to be consistent with the proposed development of a reference model for gas congestion management. However, there are many aspects of Hub development that can proceed prior to the development of a reference model with significant scope for regional-specific solutions to be adopted. Therefore, the creation of a set of minimum requirements will assist in allowing each Hub to develop according to regional specific needs.

7.2.3 Issues where primary reliance can be placed on regional solutions

Where it is less essential to develop a common policy approach across the whole of the EU, primary reliance can be placed on developing regional solutions. In some cases primary reliance on regional solutions may require some common consistency standards at the EU-level.

Various issues falling into this category were highlighted in Figure 43.

Promotion of **investment in cross-border transport infrastructure** among countries within each Region requires coordination between the jurisdictions involved in each project. The issue is not entirely Bottom-up in nature as investment planning will have a clear EU-wide dimension, through the European TYNDP to be developed by ENTSO-E/G under the 3rd Package²³⁴, which is envisaged to support the decision making process at both European and regional level. Regional coordination can also benefit security of supply, for example allowing investment in reversing gas flows at interconnection points.

As described in Section 6.3.3.4 there is no need to full harmonization of **gas balancing** across Europe. However, a regional harmonization of balancing together with the promotion of the use of day-ahead and intra-day gas trading at regional level for balancing is desirable.

The integration of wind energy, and more generally, renewable supply sources in the electricity system has many important regional aspects. For example, the impact of wind developments on network arrangements primarily has cross-border implications, affecting network connection criteria and authorisation procedures that do not need to be harmonised at an EU level. However, there are aspects of the development of wind energy that have EU-level impacts, but in general these are market specific aspects that should be covered by the broader reference models for Congestion Management and

²³³ "Study on methodologies for Gas Transmission Network Tariffs and Gas Balancing Fees in Europe", KEMA, December 2009.

²³⁴ As already mentioned, ENTSO-E published the pilot TYNDP for electricity on 1 March 2010 and ENTSO-G published the first TYNDP for gas on 23 December 2009

Balancing (for example, cross-border market integration, balancing and reserve markets²³⁵).

7.3. Redefinition of the Regions

The geographical structure of the Regions could, in principle, be redefined into one that most closely reflects the process of market integration. Redefinition along these lines should enable the streamlining of the number of ERIs.

In general, we do not see any significant benefit from having countries being included in more than one Region, as is currently the case with the ERIs. In practice where a NRA has been a member of more than one Region, it has focused its effort primarily in just one of these regions. Moreover, the intended effect of overlapping membership – namely that of ensuring coordination between geographical regions – should not be left to individual countries, but should be a core requirement of the RIs as a whole. The coordination role may be best provided by a combination of the following:

- The development of reference models, which should provide a detailed common framework for all regions;
- A more pro-active approach by the gas and electricity coordinators appointed by ERGEG, including at RIs meetings, and
- Active involvement of neighbouring Regions in the key work streams of other Regions: for example, by presenting the work of one Region to the meeting of another Region, and/or by participating in discussions on issues of cross-region relevance.

If the geographical structure of the ERI were to be defined anew now, it would probably be sensible to have non-overlapping zones, reflecting the areas where market integration is more advanced (Iberian Peninsula, Continental Europe from France to Germany, Central Eastern Europe). The Regions would in this case promote deeper market integration within their borders and then cooperate towards inter-regional integration, at which point the ERI regions could merge.

However, we do not think that fundamentally restructuring the geography of the regions at this stage will necessarily deliver benefits. Instead, we propose that parallel structures are established for different issues:

- For issues where a Bottom-up approach is recommended (incentives for efficient investment in cross-border transport infrastructure, interoperability in the gas sector and wind integration) the current structure could be maintained; while
- For issues where a Top-down approach is recommended, the different regions should merge as soon as their respective regional markets integrate. For example, at present the CASC-CWE manages explicit auctions in the CW

²³⁵ “Regulatory aspects of the integration of wind generation in European electricity markets”. Ref: C09-SDE-14-02a 10-December-2009.

region; but there are also plans for the CASC-CWE to manage explicit auctions on the Northern Italian border. If this were to happen, it would be sensible to merge the CW and the CS ERI Regions. In the same way, if the “price coupling of regions” between MIBEL, TLC and NordPool proceeds, it may be sensible to couple the SW, CW and N ERI Regions.

Although we concur with the broad support for maintaining three gas Regions, the SSE Region may be too large in some respects, since the national markets within this Region differ significantly. Therefore, it may be useful to establish specific sub-groups for some of the issues in this Region. Each subgroup could include those national markets which are at a similar state of market development, share the same set of priorities and/or are adjacent to each other. For example, a possible sub-group for security of supply and interoperability could be Greece, Bulgaria and Rumania, while another potential grouping could be the more similar markets of Austria, Italy and Slovenia.

7.4. Recommendations to improve project management and stakeholder involvement

Various improvements to project management practices and stakeholder involvement can be introduced, building on Best Practices in particular Regions.

In general, we recommend that ERGEG develops Guidelines for Good Practice for the enhanced consultation of stakeholders and project management. The Guidelines should set out a minimum set of practices that can be introduced in a common manner across all Regions, including:

- Key features of the Regional Action Plan and systems of reporting against these Action Plans;
- Actions to improve the effectiveness of meetings, which may include:
 - Providing a draft agenda to all invited participants of the meeting two weeks in advance of the meeting;
 - Ensuring that written consultation documents are provided one week ahead of SG, RCC and IG. These documents should outline the issue or theme subject to consultation and the involvement sought of stakeholders;
 - A defined timeframe for circulating minutes that reflect the outcome of the meeting. A format for these minutes should be developed, which identifies critical points and key agreed actions;
 - Defining how relevant stakeholders will be involved on open issues discussed at the meetings. This should include setting out formal procedures and time frames for feedback on these issues.
- Actions to be taken to facilitate the supervising role of Governmental Committee:

-
- Establishing the format of status/monitoring report(s) to be sent to the Governmental Committee. This report should outline key progress and required actions; and
 - Compile and update a list of open issues in which policy intervention by the Governmental Committee may be required.

All these tasks could be developed by the Lead Regulator of each Region if the foreseen burden is small. For the bigger Regions, a Programme Office to deal with the daily project management could be established, as has been the case with the NW GRI Region where one person acts as Programme Manager. Under this option the costs of running the Programme Office should be shared among NRAs.

8. Roadmap definition

The key recommendations in the previous Section should all be implemented as soon as is practical. However, the time required to implement these changes depends on various factors, including:

- The lead time necessary to take the necessary decisions and implement the agreed outcomes; and
- The priority of the issue, whereby the necessity for urgent progress in some issues is extremely critical, while others either have to be undertaken sequentially or have a lower priority.

The required steps or Roadmap can be defined at three levels:

- Governance;
- Electricity; and
- Gas.

8.1. Governance

The most critical component of the Governance recommendations is the formation of a Governmental Committee. Given the pivotal role that the Governmental Committees will have in providing policy guidance to the RIs, we recommend that the European Commission takes the steps needed to convene these groups as soon as is practically possible. In this sense, the most important aspect is the development of a Memorandum of Understanding between Ministers for the proposed Governmental Committee. Therefore, we recommend that European Commission urgently drafts and circulates a first MoU version for the discussion among the Ministers of each Region.

With respect to the proposed changes to Project Management processes, these are largely independent of the formation of a Governmental Committee. Hence, we recommend that ERGEG starts work on developing Best Practice Guidelines at the earliest possible opportunity. However, the publication of these Guidelines may have to wait until the Governmental Committee is formed as the working relationships between the Governmental Committee and the RCC may have flow-on impacts on how the RCC interacts with the IG and the SG.

Finally, as described in the previous Section, the ideal geographical structure of the ERI would possibly cover three regions (Iberian Peninsula, Continental Europe from France to Germany, Central Eastern Europe), reflecting the areas where market integration is more advanced. However, as already pointed out, due to practical reasons changes to the geographical structures of the RIs can wait for two key reasons. First, the input of Governments will be important in any review of regional structures, so the restructuring would only make sense once the Governmental committees are up and running. Second, changes to the regional structure of the RIs will be most needed as progress towards

single market is more advance, which may require that other more pressing aspects are introduced first (for example, price coupling of different regions according to the reference model). In other words, the different regions should merge as soon as their respective regional markets integrate.

8.2. Roadmap for Electricity

The Roadmap for electricity distinguishes between topics at two levels:

- Those where a Top-down approach is required; and
- Those where the current Bottom-up approach of the RIs can be maintained.

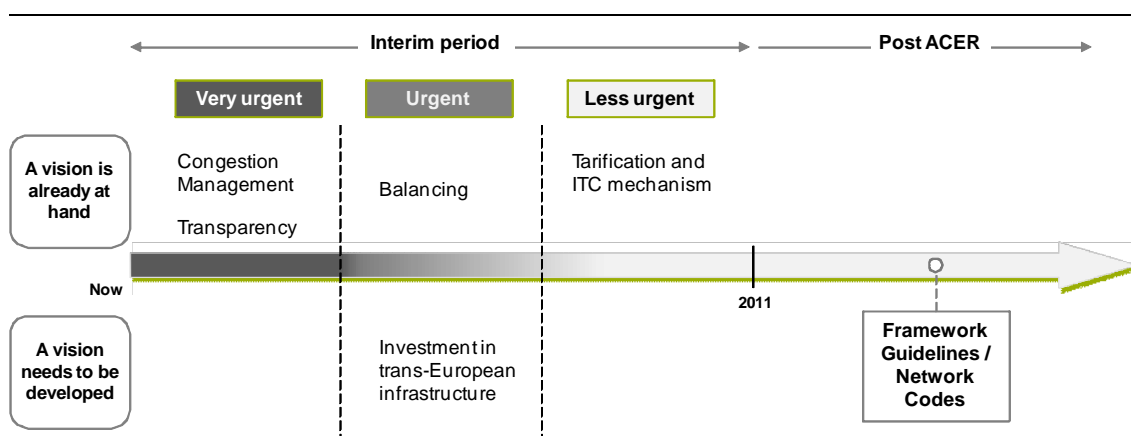
In the case of topics where a Bottom-up approach can be maintained (for example, wind integration) we do not envisage a need to prescribe a Roadmap. Instead the pace of development can generally be left to the concerned parties, including the Governmental Committee for each Region.

In the case of those issues where Top-down guidance is required, the urgency depends on various factors, including:

- The necessary sequencing of market reforms so as to reach a single electricity market;
- Whether it is critical to make progress now, or the topic can wait until the formation of ACER and/or the development of Network Codes; and
- Related to the previous point, the risk of developments to diverge if Top-down guidance is not provided.

Our proposed Roadmap for electricity is set out below:

Figure 44. Roadmap for the electricity sector.



Source: everis and Mercados EMI

The most urgent issue in the electricity sector is the development of a reference model for **congestion management**. Due to the risk of diverging developments, the definition of a reference model, and in particular the development of a model for long term, day-ahead and intra-day capacity allocation, cannot wait until the formation of ACER.

This recommendation on the urgent development of a reference model is consistent with the conclusions of the Florence Forum of December 2009, including the decision to expand the work already developed according to the following projects that will commence in January 2010:

- European capacity calculation model based on a common grid model and flow based calculation (to be lead by ENTSO-E);
- Model for intra-day trade and its implementation (to be lead by ENTSO-E); and
- Price-coupling model for a European day-ahead market and its implementation foreseen by 2015 (to be lead by the Commission).

Additional work streams to be implemented in the near future include a reference model on forward market and a project to improve liquidity in spot markets across Europe through the development of services provided by power exchanges²³⁶.

Ensuring the full implementation of the legally binding rules for **transparency** is also critical to provide market credibility and confidence. Once these binding rules have been approved through Comitology, NRAs, supported by ERGEGs must ensure that proper implementation is carried out according to a specific timeframe.

Balancing would largely benefit from the development of congestion management solutions. In fact volumes activated on balancing markets could be a residual feature of intra-day market volumes, if the latter work correctly. Hence, this issue could be dealt at a later stage, once progress has been achieved in other areas of congestion management.

The priority for work on **Tarification and the ITC mechanism** is low. Temporary ITC solutions have been in place since 2002 and they have not impeded the integration of markets. Once transit tariffs were abolished, the role of the ITC mechanism involves the reallocation of costs among TSOs, without a direct impact on the functioning of the internal market. The only aspect which may create greater urgency for establishing a long-term ITC mechanism is related to incentives for efficient capacity expansion. If the approach to these incentives were to envisage an allocation of the costs of new infrastructures through the ITC mechanism, then progress on this mechanism would have to be timed in a consistent way with development on efficient investment incentives.

Investment in trans-European infrastructure is an urgent issue, but a vision still needs to be developed. As already mentioned, there is currently work on this issue as

²³⁶ As already mentioned, AHAG will continue the work carried out by the PCG. This includes providing solutions to issues hindering the progress. See "Conclusions XVII European Electricity Regulatory Forum". Rome, 10-11 December 2009.

ENTSO-E recently published the pilot TYNDP, which is currently open to public consultation.

8.3. Roadmap for Gas

Similar to the electricity sector a roadmap for the gas sector can be divided in two levels:

- Issues where a Top-down approach is required; and
- Issues where the current Bottom-up approach of the RIs can be maintained.

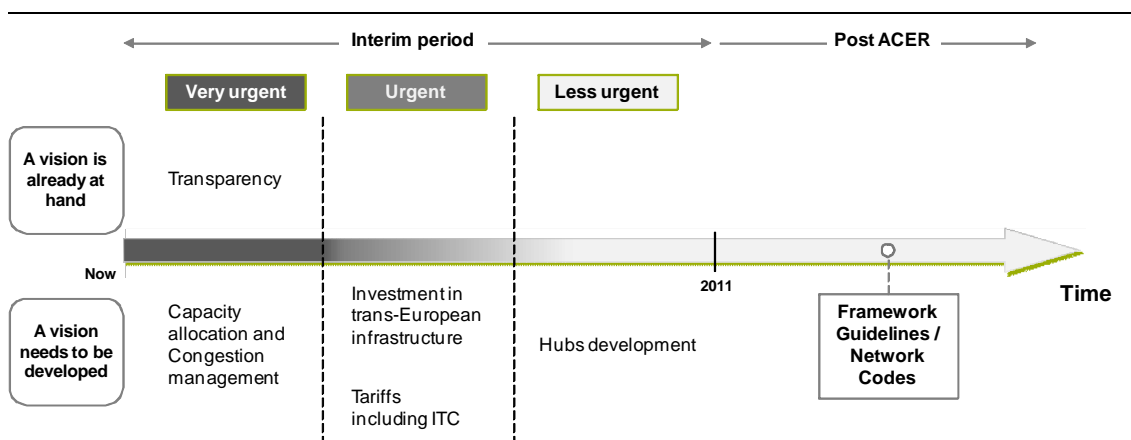
For those issues in which a bottom-up approach is more suitable, for example promotion and support of new interconnection capacity, interoperability and small-scale operations to enhance the flexibility of gas flows and security of supply, the speed of development can be decided by the relevant stakeholders of each Region. The Governmental Committee should play a key role in determining the priorities for each Region. For instance, while actions to improve security of supply within the SSE Region are very high in the agendas of the governments in the Region, the same issue has a lower priority for the other two Regions.

For those issues where Top-down guidance is more appropriate, the urgency to address the issue can be established according to:

- The necessary sequencing of market reforms so as to reach a single gas market;
- Whether it is critical to make progress now, or the topic can wait until the establishment of ACER and/or the development of Network Codes; and
- The risk of diverging developments if Top-down guidance is not provided at this point. However, unlike the case of electricity, this risk is low in gas as most of the issues are still at a stage where a vision needs to be developed.

According to the first two factors, the proposed Roadmap for gas is as follows:

Figure 45. Roadmap for the gas sector.



Source: everis and Mercados EMI

As in the case of electricity, issuing and implementing legally binding rules for **transparency** is critical to provide market credibility and confidence. This work is being progressed through the transparency guidelines being developed by ERGEG that the Commission intends to pass through Comitology in late 2010.

Efficient use of existing capacity is the most urgent matter. There is a need to improve capacity allocation and congestion management, and primarily smooth the current “contractual congestion” associated with long-term import contracts. Since long-term contracts are likely to predominate in the medium term, there is a need to ensure that unused capacity is made available and capacity hoarding avoided. In other words, the need for long-term capacity reservation has to be balanced with short-term optimisation.²³⁷ In this sense, ERGEG is currently developing proposals for modifying the annexed guidelines to the current Regulation 1775/2005²³⁸. This work can be considered the stepping stone to develop a common vision. Meanwhile, the Regions should trial the proposed solutions and, once an agreed vision is settled, implement the defined model.

As is the case with electricity, there is an urgent need to reach an agreed vision concerning **investment in trans-European infrastructure** for gas. In this regard, as already mentioned, there is already work ongoing developed by ENTSO-G, which has recently published the first TYNDP²³⁹. The TYNDP outlines investment needs from the point of view of European TSOs and, thus, may serve as a reference to coordinate

²³⁷ As described in the previous section the current contracts allow the historic capacity holder to re-nominate typically until two hours before the relevant gas flows are to commence. Thus, capacity not used by such historic players is either not released on the secondary market or if it is, then only on a very short term and interruptible basis.

²³⁸ “ERGEG Principles: Capacity allocation and congestion management in European gas transmission network”, Ref: E09-GNM-10-03, 10 December 2009.

²³⁹ Regulation (EC) 715/2009 states the adoption of a non-binding TYNDP by ENTSO-G every two years. Indeed, ENTSO-G has published the first TYNDP for gas on 23 December 2009. It contains European demand and supply scenarios as well as information on network development and investment projects received from 58 TSOs, Ministries and project sponsors of 33 European countries.

investment in new capacity at a European level over the medium to long-term, since short-term investment is in the process of being approved or has already been agreed.

According to the building blocks for a gas reference model developed in Section 6.3.3, the adoption of a Top-down approach for transmission **tariffs (including ITC)** over the European transport networks requires further study before a consensus is reached and an agreed model can be implemented. In addition, the harmonisation of capacity allocation and congestion management across Europe may affect transmission tariffs and, therefore, the urgency to find an agreed solution on tariffs is lower than it is for a common vision on the efficient use of existing capacity.

Finally, the timing for progress on **hubs development** is to a large extent dependent on progress of the above mentioned issues. However, progress can be promoted by the introduction of standard trading contracts and standard traded products, which could be harmonised in accordance with guidelines being developed by EFET. The development of common hubs services (for example, matching, wheeling and title transfer services) would be beneficial. At a regional level, regulation can be introduced aimed at supporting the expansion in traded volumes, for example, the obligation to release at the hub a given percentage of long-term contracted gas.

9. Annex

9.1. Glossary

ACRONYM	MEANING
ACER	Agency for the Cooperation of Energy Regulators
AEEG	Authority for the Electrical Energy and Gas (“Autorità per l’energia elettrica e il gas”)
AHAG	Ad Hoc Advisory Group
ATC	Available Transfer Capacity
CASC-CWE	Capacity Allocating Service Company for Central West Europe
CAM	Capacity Allocation Mechanisms
CDG	Gravity Center (“Centro de Gravedad”)
CE	Central East
CEER	Council of European Energy Regulators
CEGH	Central European Gas Hub
CM GL	Congestion Management Guidelines
CMP	Congestion Management Procedures
CRE	Energy Regulatory Commission (“Commission de Régulation de L’énergie”)
CS	Central South
CW	Central West
DG TREN	Directorate General Transport and Energy
EASEE	European Association for the Streamlining of Energy
EC	European Commission
EFET	European Federation of Energy Traders
EG	Enablers Group
ENTSO-E	European Network of Transmission System Operators for Electricity
ENTSO-G	European Network of Transmission System Operators for Gas
ERGEG	European Regulators Group for Electricity and Gas
ERI	Electricity Regional Initiative
ETSO	European Transmission System Operators
EU	European Union
FUI	France-UK-Ireland
GGPIMT	Guidelines for Good Practice on Information Management and Transparency
GGPLNG	Guidelines for Good Practice for TPA to LNG facilities
GIE	Gas Infrastructure Europe
GRI	Gas Regional Initiative

ACRONYM	MEANING
GSE	Gas Storage Europe
GTE	Gas Transmission Europe
GTF	Gas Transfer Facility
IFIEC	International Federation of Industrial Energy Consumers
IG	Implementation Group
IP	Interconnection Point
IPA	Interconnection Point Agreement
IT	Information Technology
LNG	Liquefied Natural Gas
MIBEL	Mercado Ibérico de la Electricidad
MIBGAS	Mercado Ibérico del Gas
MoU	Memorandum of Understanding
N	Northern
NBP	National Balancing Point
NW	North West
OBA	Operational Balancing Agreement
OS	Open Season
OSP	Open Subscription Procedure
PEG	Gas Exchange Point (“Point d’Exchange de Gaz”)
PLEF	Pentalateral Energy Forum
PSV	Virtual Exchange Point (“Punto di Scambio Virtuale”)
RCC	Regional Coordination Committee
REM	Regional Energy Market
RI	Regional Initiatives
RTE	Network Operator in France (“Réseau de Transport d’Electricité”)
S	South
SAP	Strategic Advisory Panel
SBB	Standardised Bulletin Board
SEM	Single Electricity Market
SG	Stakeholders Group
SSE	South-South East
SW	South West
TIGF	Total Infrastructures Gaz France
TLC	Trilateral Market Coupling
ToP	Take or Pay
TPA	Third Party Access
TSO	Transmission System Operator
TTF	Title Transfer Facility

ACRONYM	MEANING
TYNDP	Ten Year Network Development Plan
UCTE	Union for the Coordination of the Transmission of Electricity
UG	Users Group
UIOLI	Use it or lose it
UK	United Kingdom
UIOSI	Use it or sell it

9.2. References

This study has drawn heavily from material in ERGEG's website, including guidelines, position papers and documents issued by the RIs. The documents considered not only state ERGEG's views on the different topics but also provide an insight into stakeholders' views through their responses to the different consultation papers.

Another important source of information for our analysis has been the documentation included in DG TREN's website, including minutes of the Florence and Madrid fora.

In addition, various other papers have been reviewed as part of the Study, including the following that provide a good point of reference for the different issues:

- "Inquiry into competition in gas and electricity markets". COM (2006) 851 final. January 2007.
- ETSO and EuroPEX, "Flow-based Market Coupling: A Joint ETSO-EuroPEX Proposal for Cross-Border Congestion Management and Integration of Electricity Markets in Europe", September 2004.
- ETSO and EuroPEX, "Development and Implementation of a Coordinated Model for Regional and Inter-Regional Congestion Management", January 2009.
- "Management and Use of Electric Interconnections in 2008". Commission De Régulation De L'Energie: ", July 2009.
- "Economic Assessment of Different Congestion Management Methods". Report for the Federal Network Agency. November 2006.
- "Study of the interactions and dependencies of Balancing Markets, Intraday Trade and Automatically Activated Reserves", Ref: TREN /C2/84/2007, 2009. Leuven & Tractebel Engineering.
- EURELECTRIC Position Paper Towards Market Integration of Reserves & Balancing Markets. SG Balancing & Intra-day Markets. July 2008.

- “Benefits and practical steps towards the integration of intraday electricity markets and balancing mechanisms”. A report prepared for the European Commission. Frontier Economics / Consentec. December 2005.
- “Development of a common Nordic balance settlement”, NordREG, 2006.
- Review and analysis of EU wholesale energy markets. Evaluation of factors impacting on current and future market liquidity and efficiency”, July 2008. Work carried out for the DGTREN by Moffat Associates.
- “European gas market liberalisation: Are regulatory regimes moving towards convergence?”, Nadine Haase, May 2008.
- “Development of competitive gas trading in continental Europe”, International Energy Agency, May 2008.
- “Study on methodologies for Gas Transmission Network Tariffs and Gas Balancing Fees in Europe”, KEMA, December 2009.

9.3. Stakeholder involvement

This study has been developed taking into account the views of many organisations involved in the European electricity and gas sectors. As part of our assessment of the RIs a questionnaire was submitted to the Lead Regulator in each RI, for which a response rate of 100% was achieved. In addition, face-to-face interviews were held with many key stakeholders, including Governments, Regulators and Industry Associations:

- Regional Initiative Group;
- Electricity/Gas RI Task Force;
- The Netherlands Government/Energiekamer;
- Eurelectric;
- ENTSO-E;
- Eurogas;
- GIE;
- PCG;
- Swiss Government;
- UK Government;
- Ofgem;

-
- French Government;
 - IFIEC;
 - German Government;
 - ERGEG; and
 - EFET;

Early findings of the study were presented to the Regional Initiatives conference of 17th November 2009 in Brussels, while the Draft Findings of this study were presented to the Florence Forum in Rome on 10th December 2009 and the Madrid Forum on 15th January 2010. The EU circulated the Draft Report to stakeholders in December 2009 with many comments received from stakeholders.

Everis and Mercados EMI wish to thank all those organisations and contributors who provided input to this study.

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