

**MEMORANDUM OF UNDERSTANDING
OF THE
PENTALATERAL ENERGY FORUM
ON MARKET COUPLING AND SECURITY
OF SUPPLY IN
CENTRAL WESTERN EUROPE**

The Ministers of the Pentalateral Energy Forum and the High Level representatives of the Regulatory Authorities, Transmission System Operators (TSOs), Power Exchanges (PXs) and the Market Parties Platform of the Central Western European (CWE) region (Belgium, France, Germany, Luxembourg, the Netherlands), herinafter referred to as the „signatories“,

Considering

- 1 cross-border grid capacities in the region of Central Western Europe are not sufficient to allow all cross-border trading interests to be realised at every point in time. Limitation of cross-border exchange of electricity leads to a limitation of market functions in the region and instead of one homogeneous wholesale market price for the whole region, congested borderlines define smaller market regions with converging but still different prices;
- 2 security of supply is a key issue in the long run, because of the need for substantial reinvestments in infrastructure and to meet an increasing demand, and in real time, because the operation of the grid becomes more and more complex with the increase in cross border flows and the development of intermittent production such as electricity from wind;

Reaffirming

- 3 the pentilateral initiative to improve cooperation in the field of cross-border exchange. This initiative aims to give political backing to a process of regional integration of electricity markets towards a European energy market in compliance with Directives 2005/89 and 2003/54 and Regulation 1228/2003;
- 4 following this initiative, the installation and regular meetings of Support Groups consisting of representatives from TSOs, Regulators, PXs, Market Parties Platform and Governments. All participants agree to make their best efforts to share their experience in order to come up with concrete steps for a more integrated market;
- 5 the Regional Action Plan, published by the Regulators of CWE on the 12th of February 2007, constituting an important step towards regional market integration. It is the intention of all signatories to provide all reasonable resources and support to facilitate its full implementation;

Express

- 6 the commitment of all signatories – the region's TSOs, Regulators, PXs, the Market Parties Platform and Governments - to provide the reasonable resources and support to achieve the objective set forth in the following, with the overall aim of enhancing market integration and security of supply in the CWE region. The signatories enter into this Memorandum of Understanding in order to state general principles that they will endeavour to implement into legally binding undertakings with the concerned parties. Based on the general principles, the relevant signatories of this Memorandum of Understanding will translate these principles into more detailed Terms of Reference, one concerning market coupling and a second concerning security of supply by Autumn 2007;

Set as an objective

- 7 the analysis, design and implementation of a flow-based market coupling between the five countries of the CWE region with January 2009 as a target date as well as the achievement of further steps in the field of security of electricity supply, as detailed in the annexes which make an integral part of this Memorandum of Understanding. The achievements should support wider European integration;

Welcome the following organisation

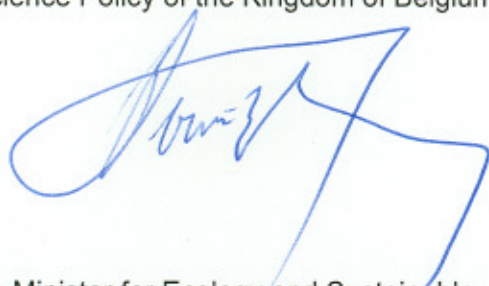
- 8 the Pentalateral Energy Forum, comprising the TSOs, Ministries, Regulators, PXs and Market Parties Platform in the CWE region, as the prime vehicle to support and review the general progress of the objectives of this Memorandum of Understanding. It will help to resolve upcoming issues and any issue hindering the timely progress of the Memorandum of Understanding projects;
- 9 the Ministries will regularly review and support the process and help resolve upcoming issues, especially as regards legal or regulatory obstacles;
- 10 in accordance with their legal competencies, the Regulators will monitor the ongoing development at the technical and regulatory level in particular as follows from the Regional Action Plan. They are committed to a joint and efficient decision-making procedure notwithstanding national obligations and will assist wherever possible and appropriate.

Signed at Luxembourg on 6 June 2007

The Secretary of State of the Ministry for Economics
and Technology of the Federal Republic of Germany



The Minister of the Economy, Energy, Foreign Trade
and Science Policy of the Kingdom of Belgium



For the Minister for Ecology and Sustainable
Development of the French Republic



The Minister of the Economy and Foreign Trade
of the Grand-Duchy of Luxembourg



For the Minister of Economic Affairs
of the Kingdom of the Netherlands



For the Regulatory Authorities

Jacques A. Truvel
Mathias Lalle
Lorenzen

MP
[Signature]

For the Transmission System Operators

[Signature]

Wolfgang Kellner
offd.

[Signature]
Tobey

Tilman Thiele
Marion Fuchs
Barbara Busch

For the Power Exchanges

Hans-Bendjuntel

C. Faudou bone

Mirind houste

Reest du Arden

For the Market Parties Platform

Annex 1

MARKET COUPLING

- 11 This part of the Memorandum of Understanding details the objective of the analysis, design and implementation of a flow-based market coupling between the five countries of the CWE region with January 2009 as a target date. Such a flow-based market coupling should support wider European integration.

Conditions for flow-based market coupling

- 12 The flow-based market coupling model must support reliability of the system and increase economic efficiency for the region.
- 13 The market coupling design will address the following issues:
- i.* A non-discriminatory, coordinated capacity determination method;
 - ii.* A harmonization of power exchange gate closure times. In particular, after consultation of the Market Parties Platform and other relevant parties on the coherence with related processes e.g. Virtual Power Plants, an agreement between TSOs and PXs about gate closure times will be reached before the end of 2007. Resolution of this issue will be a particular concern of the Pentalateral Forum;
 - iii.* The coherence with ongoing projects between the Netherlands and Norway as well as between Germany and Denmark. Stakeholders from Norway and Denmark will be involved by the signatories of this Memorandum of Understanding on the working and administrative level wherever necessary to reach compatible solutions. This will not unduly delay progress in the CWE region.
- 14 Signatories acknowledge the fact that Germany and France are each part of 4 different regions which should be taken into account in order to arrive at coherent solutions.
- 15 A flow-based market coupling is the sole acceptable enduring solution, considering the neighbouring regions as stated. Only if a resolution of the associated issues proves to take too long may the parties examine a less sophisticated market coupling as a first step towards the enduring solution. This staged implementation will be analysed during the design phase of the project if there is clear evidence that this first step can be implemented without unduly delaying - and is easily transferable into - the enduring flow-based solution.

Governance structure flow-based market coupling

- 16 A pragmatic and fair governance structure for the ongoing operation and development of the solution will ensure a balance between the needs and interests of the different PXs and TSOs:
- i.* Allocation of capacity is a regulated activity, and TSOs must have appropriate control in this respect;

- ii. Power Exchanges products, services and prices fixing are an exchange responsibility, and PXs must have appropriate control in this respect;

The governance structure will be demonstrably independent, non-discriminatory and transparent.

- 17 The flow-based market coupling model will provide for an effective framework enabling sufficient and adequate monitoring of market behaviour by the appropriate authorities.
- 18 There should be fair and reasonable treatment of costs, liabilities and property rights.
- 19 Trading conditions will be fair, transparent, efficient, secure and non-discriminatory.

Organisational structure

- 20 A Working Group comprised of TSOs and PXs is responsible for analysis, design and implementation of the flow-based market coupling and will form the basis for the necessary negotiations, steering and decision-making. TSOs and PXs will coordinate their work in respective common organisational structures.
- 21 TSOs and/or PXs will also examine the opportunity in setting up a joint-TSO and/or PX company, which would be in charge of the relevant market issues within the CWE area.

Time frame

- 22 The project will be divided into 5 project phases, along a timeline which could be as follows:
 - i. Memorandum of Understanding to be accomplished in June 2007
 - ii. TSOs and PXs project plan by July 2007
 - iii. Analysis of relevant options by TSOs and PXs by 1st of November 2007 :
 - (a) Preliminary results of an Orientation study of priority topic 2 of the Regulators' Action Plan to be presented in a Regional Coordination Committee (RCC) Implementation group meeting in July 2007;
 - (b) Proposal of TSOs and PXs for a common gate closure time and preliminary results of the Implementation study for the 1st of September 2007, to be discussed in an RCC Stakeholders group meeting in September 2007;
 - (c) Final report of Orientation study of priority topic 2 of the Action Plan to be submitted on the 1st of November 2007. This will support the agreement to be taken by the Pentalateral Forum in the same month concerning the most viable path to be taken;
 - (d) Final Implementation study of priority topic 2 of the Action Plan to be submitted on the 1st of January 2008;
 - iv. Implementation measures subject to appropriate regulatory comfort beginning in January 2008
 - v. Regulatory approval phase to be accomplished no later than July 2008 :
 - (a) Implementation phase to be accomplished in Q4 2008
 - (b) Operational phase starts with January 2009 as a target date

Annex 2

SECURITY OF SUPPLY

- 23 This part of the Memorandum of Understanding details the objective of the achievement of further steps in the field of security of electricity supply.

System adequacy forecast (SAF)

- 24 The concerned signatories, as defined by national legislation, intend to elaborate an improved regional system adequacy forecast based on all available data. The SAF 2008-2015¹ will take into account network extension planning, generation planning and forecast of load based on commonly defined scenarios.
- 25 A TSO working group of experts will deliver a road map by the end of 2007. This road map will include firstly a list of the input data needed for each TSO and secondly a new methodology for establishing an improved regional SAF. All involved signatories will provide the necessary data - e.g. generation and demand data - and support, aiming at the fulfilment of this report. Confidentiality of the data should be appropriately ensured.

Harmonised incidents classification scale

- 26 A harmonised incidents classification scale should enable those relevant to have a common view and a common assessment of the incidents affecting the system reliability. It should help to define corrective actions and to monitor their efficiency and increase transparency by identifying the main sources of incidents.
- 27 A harmonised incidents classification scale could cover different types of grid incidents according to their origin.
- 28 A first draft of a harmonized incidents classification scale will be finalised by TSO experts by the end of 2007.

TSO Cooperation Platform

- 29 The TSOs commit themselves to improving their broad existing cooperation.
- 30 The TSOs intend to establish an adequate framework for the TSOs to analyse and compare their respective information systems. This analysis will focus on the establishment of:
- an emergency communication platform;
 - a future unique TSO platform of TSO experts for communication and cooperation on a daily basis to share common non real time studies by the end of 2008.

¹ As defined in Directive 2003/54/CE

Regional Transmission Capacity Plan (RTC)

- 31 Signatories intend to develop a regional transmission capacity plan for the region to show structural bottlenecks in a transparent and coherent way and to help identify investment projects in a regional perspective.
- 32 As a first step, the regional capacity plan will consist of an assessment of existing national capacity plans. This assessment will be completed no later than October 2007. In a second phase, the concerned signatories will then finalise a "common Regional Transmission Capacity plan" no later than March 2009.

Annex 3

33 This Memorandum of Understanding does not create any rights or obligations under international law.