

# Unbundling of spot exchanges and associated clearing houses

When they are engaged in market splitting or market coupling

## 1. Introduction

The terminology and acronyms used in this document are explained in the appendix.

As a part of establishing a well functioning Single European Electricity Market, market splitting and/or market coupling will become the day-ahead congestion management system.

This paper explains a consequence of this development: the spot exchanges and the clearing houses engaged in market splitting or market coupling must unbundle<sup>1</sup>.

This unbundling must be done, as soon as a spot exchange or a clearing house becomes engaged in market coupling or market splitting. However, for simplicity, this paper discusses the issue in a future scenario, where market splitting has been established for a large part of Europe.

In this paper, “price coupling” and “market splitting” are synonymous.

## 2. Scope

The scenario **only** describes the framework for spot trading of electrical energy.

Hence, the scenario **does not** try to describe the future framework for other types of exchange trading.

For example, the scenario does not try to estimate the future exchange framework for the following types of trading:

- \* Intra-day trading of electrical energy.
- \* Financial electricity contracts.
- \* Trading with other raw materials (for example: gas, coal, uranium or other metals).

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<sup>1</sup> Unbundling means an organisation having a monopoly task cannot have any other business than the monopoly task. Hence, cross-subsidising is automatically prevented. The regulators can focus on controlling the organisation does not charge too high fees for carrying out the monopoly task.

Geographical, the scenario covers a part of Europe. The scenario abstains from precisely specifying the geographic area.

### **3. Scenario assumption: market splitting**

The scenario assumes we have price coupling: for the geographical area concerned, there is a single spot price calculation. Therefore, the area is described as “the price coupling area”.

The single calculation is done by the market coupler. Please refer to fig. 1.

In addition to calculating the day-ahead prices, the market coupler also calculates the day-ahead plans for the cross-border energy flows in the price coupling area (market splitting)<sup>2</sup>.

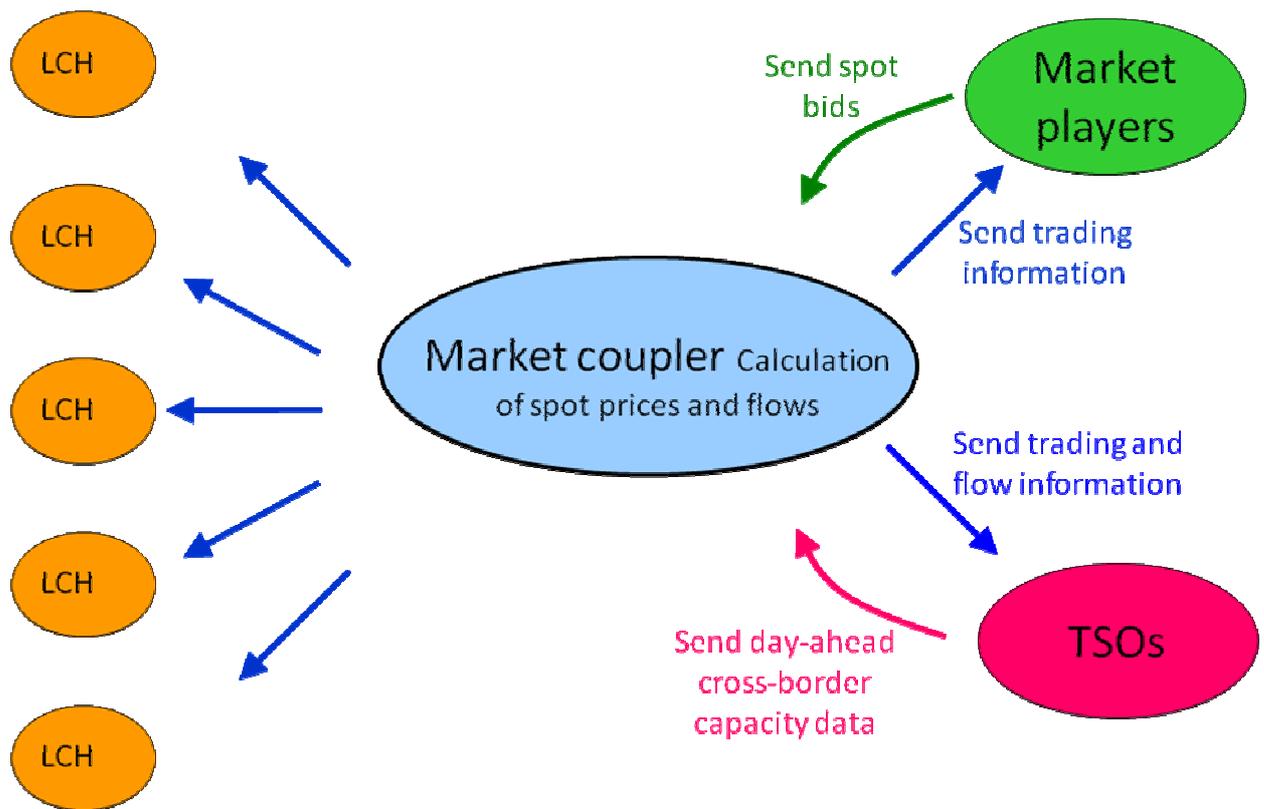
On some borders inside the price coupling area, there may be explicit month-ahead and year-ahead auctions. Hence, on these borders, the commercial players can themselves carry out cross-border energy trading. Every morning, capacity bought at the explicit auctions – but not used by the buyers – is given to the market splitting system.

Due to the price coupling, the set-up is the following: the market coupler calculates the spot prices and the day-ahead plans for the cross-border energy flows. In addition, there are local clearing houses (LCHs), which perform the clearing & settlement for the spot trading. Please refer to fig. 1<sup>3</sup>.

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<sup>2</sup> In this document, cross-border energy flow is the flow on the power lines connecting two neighbouring price zones. Thus, the “border” need not be a border between two countries. It may be a border between two price zones inside a country.

<sup>3</sup> Between the price coupling area and other European countries, there may be coupling with forms of market coupling, which are not price coupling. However, this is not considered in the scenario.



LCH: Local Clearing House – settlement of the spot trading

**Fig. 1**

#### 4. Where can you use market splitting (or market coupling)?

On a given border, market splitting (or market coupling) will only be a good day-ahead congestion management system, if there is good liquidity at the spot exchange(s) on both sides of the border.

Otherwise, the spot prices may not truly reflect the local value of electrical energy. Hence, with insufficient liquidity, market splitting and market coupling may create energy flows in the wrong direction.

On the other hand: market coupling (or market splitting) can be used to create liquidity. This is because (most of) the cross-border energy flows are traded via the spot exchanges, when you introduce market coupling or market splitting. This is how liquid spot exchanges were created in Belgium and the Nordic area, respectively.

## 5. Scenario: the exchange and the LCHs are unbundled quasi-monopolies

In each region inside the price coupling area, there is only one LCH for the spot trading.

Therefore, for each region, the LCH is a quasi-monopoly. Also, the market coupler is a quasi-monopoly. The term "quasi-monopoly" is used to describe the following:

- \* The LCHs are not exposed to competition from other LCHs. Also, the market coupler is not exposed to competition from other market couplers.
- \* By and large, the bilateral trading only exposes the market coupler and the LCHs to local competition: the commercial players have no possibility – or only limited possibility – to carry out cross-border trading with each other. This is because all the cross-border capacity – or a large part of the cross-border capacity – is reserved to market splitting.

Due to the quasi-monopoly, the market coupler and the LCHs can not engage in other activities – such trading & clearing of other commodities or trading & clearing of financial power contracts. This unbundling from other activities prevents cross-subsidising<sup>4</sup>.

In this respect, the market coupler and the LCHs are to some extent similar to the TSOs: *the market coupler and the LCHs become part of the price coupling area's infra-structure*, as they have a crucial, special role for the day-ahead congestion management.

Still, the market coupler and the LCHs are only **quasi**-monopolies, as they are exposed to competition from the local, bilateral trading.

The market coupler's fees and the LCHs' settlement & clearing fees are surveilled by ACER and the national energy regulators.

## 6. Why not competition between the LCHs?

For a given hour of operation of the next day, assume a price zone Z has a price of 40 EUR/MWh. For simplicity, assume the market splitting creates no net

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<sup>4</sup> Note that this means the market coupler and the LCHs cannot be engaged in intra-day trading either. As experience has shown, this leads to cross-subsidizing between spot trading and intra-day exchange trading.

exchange of energy between Z and other price zones (ie, the spot sale in Z equals the spot purchase in Z).

Assume there are two LCHs in Z: LCH<sub>1</sub> and LCH<sub>2</sub>. With two LCHs, the problem is the following: LCH<sub>1</sub> will collect money from buyers in Z and pay money to sellers in Z. However, at the price 40 EUR/MWh, the amount of money collected by LCH<sub>1</sub> from the buyers will probably not match the amount of money, LCH<sub>1</sub> must pay the sellers.

At the extreme, all the sellers may choose to clear at LCH<sub>1</sub>, whereas all the buyers may choose to clear at LCH<sub>2</sub>. In this case, LCH<sub>1</sub> is not collecting any money at all from the buyers – and can therefore not pay the sellers!

Hence, the concept of a single spot price per hour per price zone necessitates a single LCH per price zone: if there are two or more LCHs, the individual LCH cannot be expected to have a sales volume equal to the purchase volume at this spot price.

Therefore, we arrive at this picture:

- A. In order for the Single European Electricity Market to work efficiently, we need a single day-ahead congestion management system (price coupling).
- B. Price coupling requires a single market coupler – setting a single spot price per hour per price zone.
- C. In turn, the single spot price per hour per price zone necessitates a single spot clearing house per price zone.

## **7. Regulation**

Currently, the European price coupling project is played out in a legal vacuum.

With market coupling/splitting a monopoly is introduced for the day-ahead congestion management. However, neither on the EU-level nor nationally is there a clear legal foundation for the regulation of this monopoly.

Both on EU-level and nationally, clear rules must be established requiring the day-ahead congestion management is done with costs as low as possible and quality as high as possible.

## **8. Consolidation of the LCHs**

Naturally, just by looking at fig.1, the question pops up: why not consolidate the LCHs into one spot clearing house?

Eventually, this must be done, as it provides the players with a great advantage: towards the common spot clearing house, a player can net his position, if he's a spot buyer in one price zone and a spot seller to in another price zone.

However, as of today, in most European countries, there is a LCH offering cross-clearing between the spot trading and other types of exchange trading.

As mentioned above, this cross-clearing must be terminated, when implicit auction becomes the day-ahead congestion management system: cross-clearing would be a cross-subsidising from a quasi-monopoly activity to fully commercial activities.

However, it'll probably take time, before the ACER and/or the national regulators breaks this cross-subsidising. It will be a great leap forward, if we in the first instance can establish market splitting as the day-ahead congestion management system with a single market coupler.

## Appendix – Terminology and Acronyms

*ACER* Agency for the Cooperation of Energy Regulators. An EU body established in 2010.

*Border* means a border between two price zones. Hence, it need not be a border between two countries. It may be a border between two price zones inside a country.

*Double auction* A calculation method whereby an exchange's price is set by calculating the intersection between the exchange's supply curve and the exchange's demand curve.

*EU* European Union.

*Implicit auction* The common term for market coupling and market splitting.

*Market coupling* A day-ahead congestion management system, you can have on a border, where two spot exchanges meet. The day-ahead plans for the cross-border energy flows are calculated using the two exchanges' bids and information on the day-ahead cross-border trading capacity.

*Market splitting* A day-ahead congestion management system, you can have on a border, where you have the same spot exchange on both sides of the border. The day-ahead plans for the cross-border energy flows are calculated using the exchange's bids and information on the day-ahead cross-border trading capacity.

*Price coupling* In this document, this is a system, where there is one, single body calculating the spot prices and the day-ahead plans for the cross-border energy flows. No local calculations or re-calculations are taking place.

*Price zone* means a geographical area, within which the players can trade electrical energy day-ahead without considering grid bottlenecks.

*Spot bid* A purchase bid or a sales offer submitted to a spot exchange.

*Spot exchange* In this document, a spot exchange is an exchange where

- \* Electrical energy is traded day-ahead.

- \* The day-ahead prices are calculated by means of double auction.

Note: this document strongly recommends the price calculation is outsourced to a market coupler. The market coupler will calculate the spot prices and the day-ahead plans for the cross-border energy flows for the price coupled region.

*Spot price* A price calculated by a spot exchange. Either by a calculation performed by the spot exchange itself, or by a calculation performed by a body, to which the calculation has been outsourced.

*TSO* Transmission System Operator.