

Introduction

- **In the appendix, you'll find a list of the terms and acronyms used in this PowerPoint presentation.**
- **This PowerPoint presentation is animated**
 - ✓ **It's recommended to run the animation when viewing the presentation.**
- **On most computers, you can start the animation by pressing F5.**
 - ✓ **Now the presentation moves one step forward, when you press Page Down. It moves one step backward, when you press Page Up.**

Good governance for the market coupling

- **There is an awful lot of money involved in making the right day-ahead plans for the cross-border energy flows**
 - ✓ **As wrong energy flows will inflict huge socio-economic losses.**
- **Also, there is an awful lot of money at stake, if the spot prices are unreliable**
 - ✓ **As we saw when the local re-calculations of the spot prices failed spectacularly**
 - **In Eastern Denmark for 1 December 2009.**
 - **In Central Western Europe for 28 March 2011.**
 - **In Eastern Denmark for 12 October 2011.**
- **Therefore, we need good governance for the European market coupling.**

Requirements to the governance

- The market coupling governance must satisfy the following four demands:
- **Fair influence for each country** participating in the coupling
 - ✓ ie., national influence.
- **Fair influence for the users** of the market coupling
 - ✓ The users are the producers, consumers, traders and TSOs.
- **Regulatory oversight**
 - ✓ Both nationally and on the EU level.
 - ✓ Thereby ensuring the **rule of law** is applied.
- **Democratic oversight**
 - ✓ Firm regulation is part of this, as the politicians eventually control the authorities.

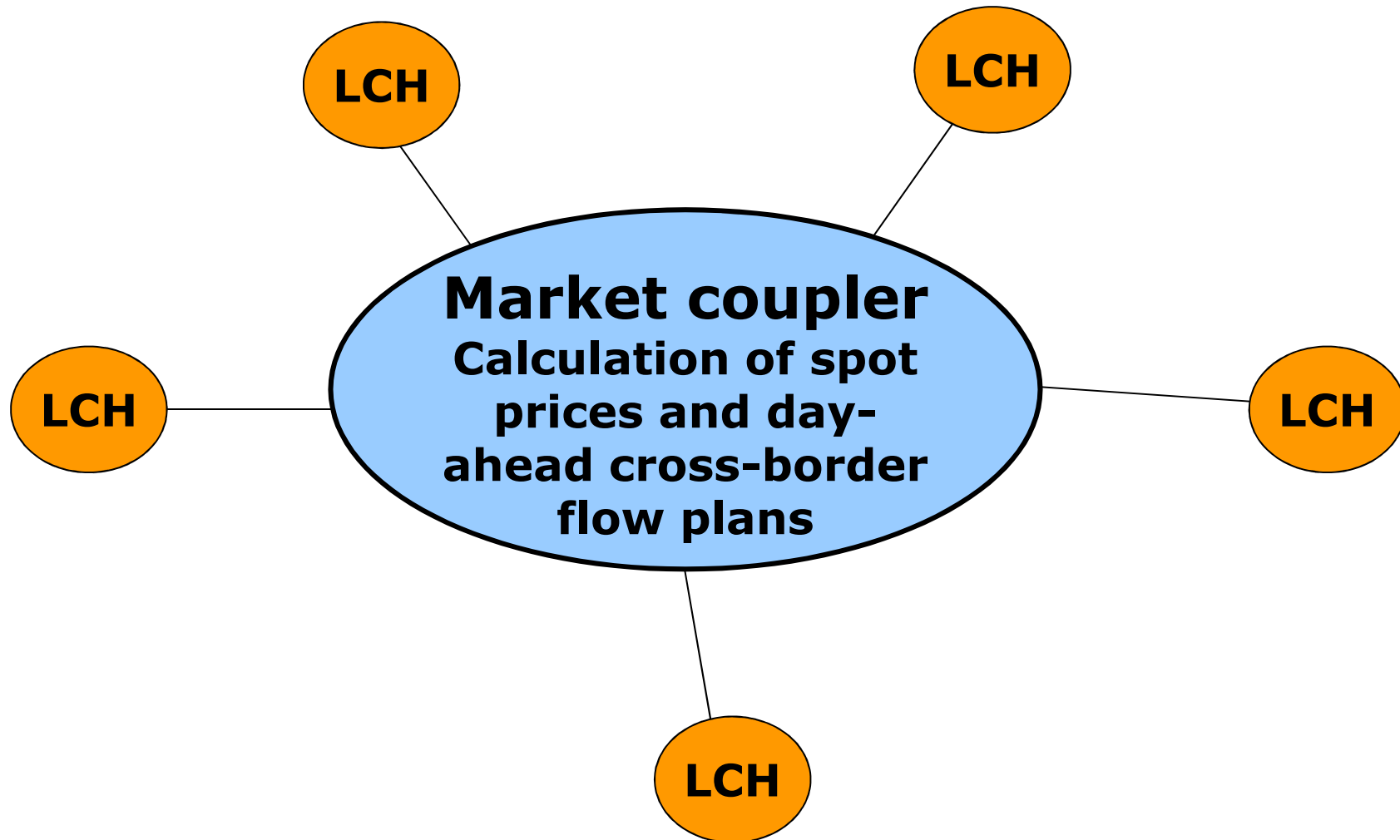
Unbundling

- **The spot exchanges must unbundle**, when implicit auction becomes the day-ahead congestion management system
 - ✓ **As they get a monopoly**: Only the spot exchanges can carry out day-ahead cross-border power trading
 - Naturally, you may install a system granting the players the opportunity to compete with the spot exchanges for cross-border capacity
 - However, even with such a system in place, the spot exchanges are granted a special status.
 - ✓ Hence, **the spot exchanges become regulated entities** (like the TSOs).

Technical requirements

- **To have reliable spot prices, we need true price coupling**
 - ✓ **A central computer's calculation is the only calculation.**
 - ✓ **No local calculations or re-calculations**
 - **As the practical experiences have proven this is risky and costly.**
 - **Local calculations do have an added value**
 - **But the added value is negative and can be numerically huge.**
- **The Single European Electricity Market requires a single spot price calculation.**
- **With good governance.**

Technical organisation – 1



LCH: Local Clearing House – settlement of the spot trading

Technical organisation – 2

- **With this design, the calculation is outsourced to the market coupler.**
- **For the governance, the following two issues are important:**
 - **The specifications for the calculation software.**
 - **The procedures used in the daily calculation**
 - ✓ **For example: the emergency procedures applied when something does not work out as planned.**

National influence

And democratic oversight

- **Every country participating in the coupling must own a share of the market coupler**
- **For example, the shares can be allocated in accordance with the Lisbon treaty's voting weights.**
- **Each national government will decide who will represent the country in the market coupler's board**
 - ✓ **Subsidiarity principle: the different countries will make different decisions.**
- **This ensures national influence and democratic oversight.**

Influence for the users

- **The users of the market coupling are TSOs, consumers, producers and traders.**
- **In order to ensure user influence, a Price Coupling Council must be set up, where these stakeholders are represented**
 - ✓ **With formal influence granted to the Price Coupling Council**
 - **It's not just an advisory body.**
 - ✓ **To some degree, this may reflect the German rules for an exchange council (*Börsenrat*).**

Regulatory oversight

- **Decisions taken in the market coupler's board and in the Price Coupling Council must be approved (or rejected) by the regulators.**
- **When the board and/or the Council are split in slim majorities and big minorities, the decisions will in effect be taken by the regulators.**

Governance structure

ACER and national regulators

**Market coupler
Board
National representation**

**Market coupler
Administration**

**Price Coupling
Council
User representation**

Further rationalization

- **Referring to the slide illustrating the technical organisation:**
- **Naturally, the spot settlement must also be consolidated into one clearing house eventually**
 - ✓ **Thereby enabling the players to net their spot positions over a large, geographical area.**
- **However, in order to keep things simple, it'll probably be easier first to start using the market coupler's prices in the spot settlement**
 - ✓ **Doing just this will be a huge leap forward towards The Single European Electricity Market.**

A technical issue

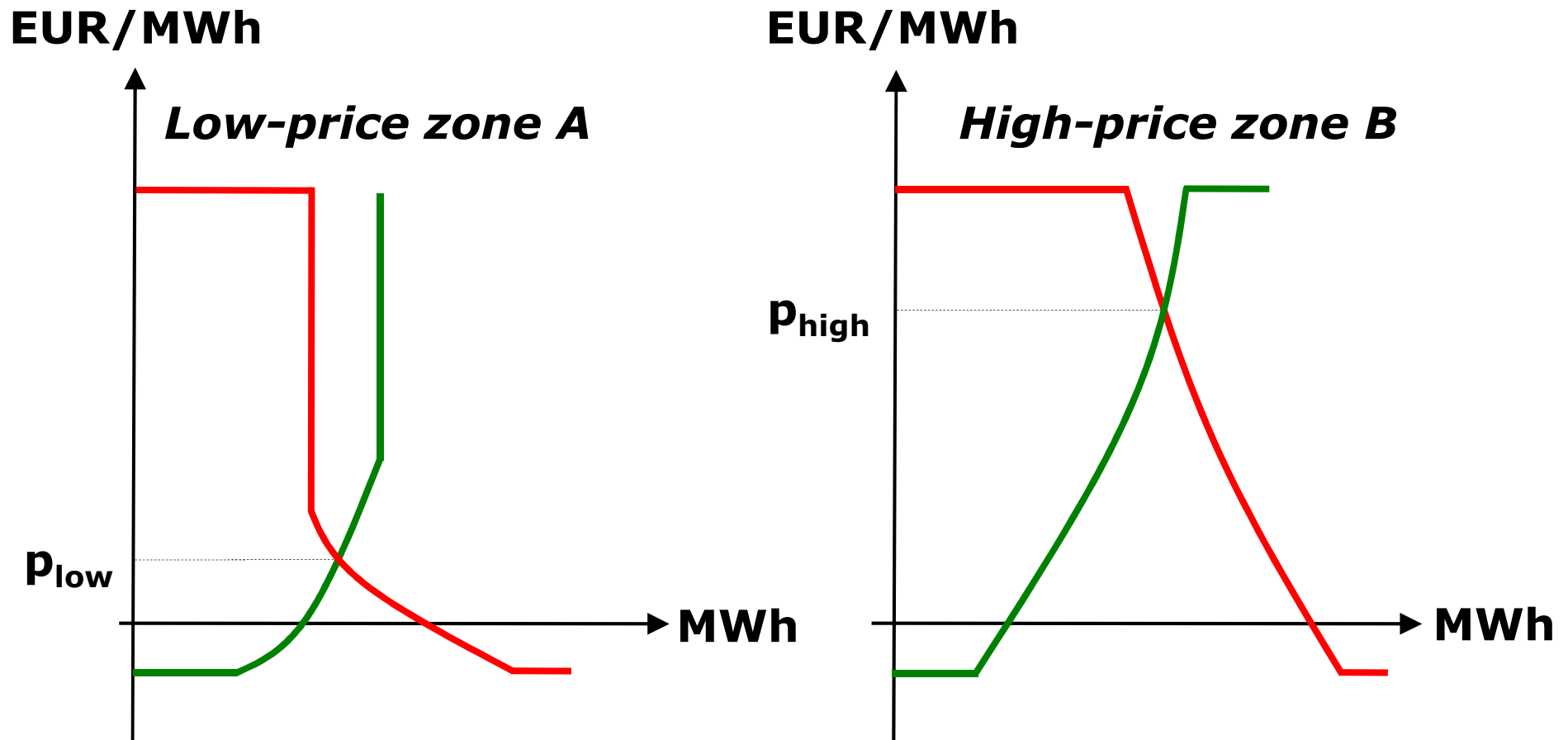
**Example of an issue to be discussed
in the Price Coupling Council:
an element of the specifications for
the market coupler's software**

Context

- **For the calculation of the European spot prices, the next slides present a technical issue**
 - ✓ **Which has serious economic consequences for consumers and producers.**
- **The point is to illustrate, we need the European price coupling council, which will take decisions on how European spot prices are calculated.**
- **And both a national and pan-EU regulatory oversight over the spot price calculation.**
- **For the next slides, we are considering day-ahead congestion management done by means of market coupling.**
- **Meaning: there is a market coupler calculating the spot prices and buying in the low-price zone and selling in the high-price zone.**
- **For simplicity, we are considering a system with two price zones only.**

Two price zones A and B

No exchange of energy. Prices p_{low} and p_{high}

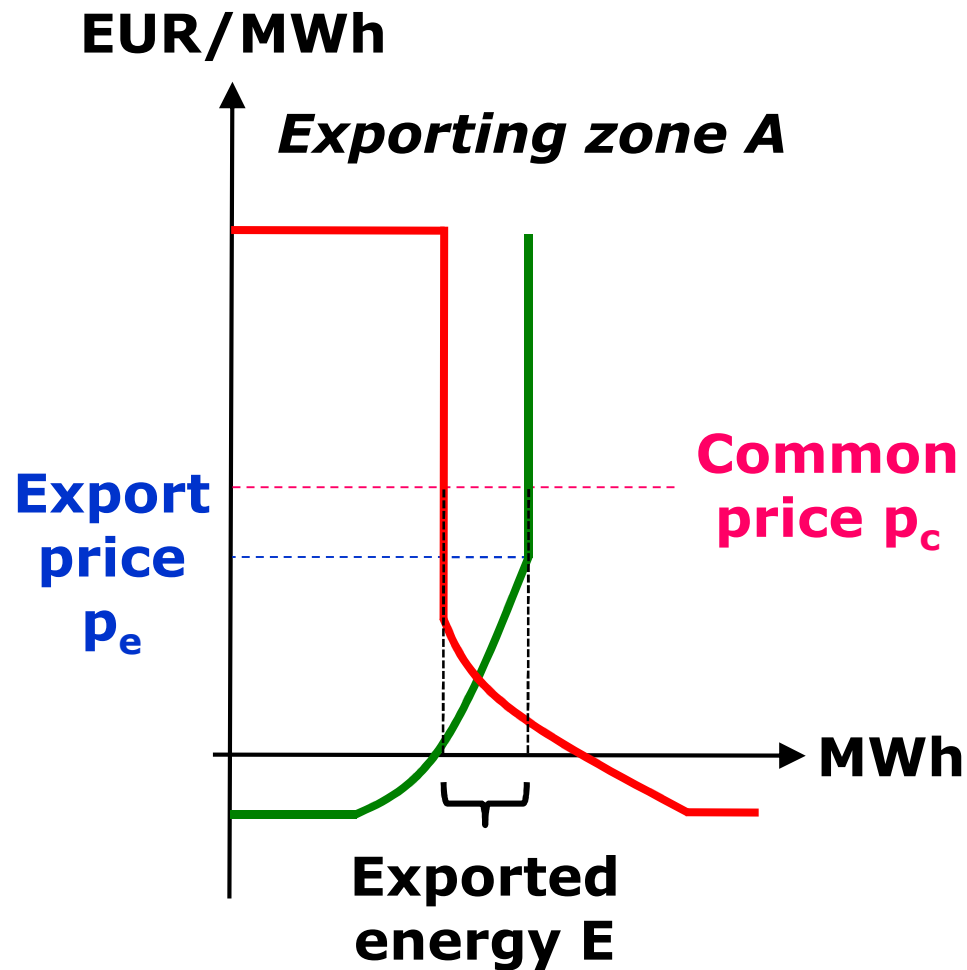


Red curves: demand

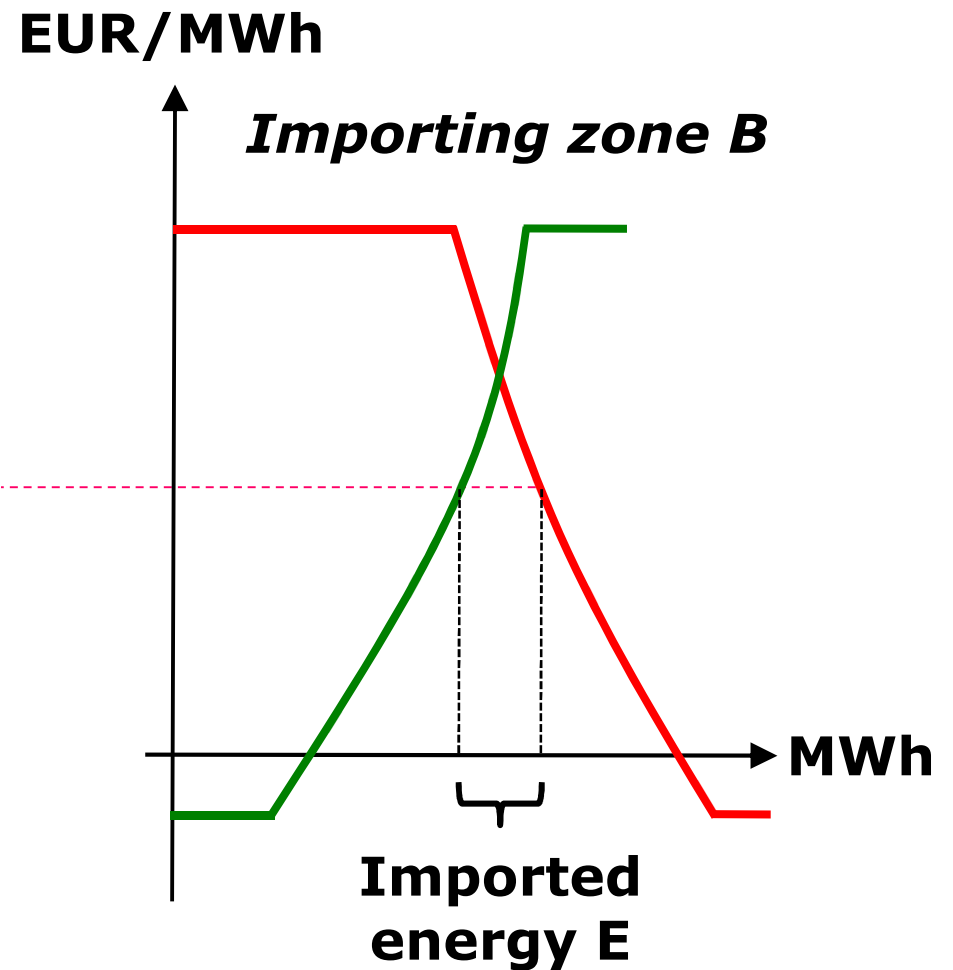
Green curves: supply

Two price zones A and B

Exchange of energy E



E must be exported, as E is the difference betw. the market coupler's purchase and sale in A



E must be imported, as E is the difference betw. the market coupler's sale and purchase in B

Comments – 1

- Referring to slide no. 15:
 - ✓ In the low-price zone A, there is limited excess production capacity
 - This is seen from the fact that the supply curve turns vertical shortly after the intersection of the demand curve and the supply curve.
 - ✓ The high-price zone B may have a bigger surplus of production capacity
 - However, this production capacity is expensive.
- Referring to slide no. 16:
 - ✓ For the high-price zone B: with an import of E, the price must be set to p_c in order to create a balance between demand and supply.
 - ✓ For the low-price zone A: the maximum export from this zone is E.
 - In order to create an export of E, the price in the zone A must at least be set to p_e
 - However, you can choose any higher price. For example, you can choose the price p_c .

Comments – 2

- **For the exporting zone A – which price should you choose?**
- **Argument for choosing the common price p_c :**
 - ✓ ***“This is how market economy works. For example, for other commodities such as apples or pens, if the price is very high in a country, this high price will establish itself in the neighbouring countries, if the transport lines are uncongested”.***
- **In line with this: in the calculation of the spot prices, an unconstrained application of the so-called welfare criterion will give the price p_c .**

Comments – 3

- For the exporting zone A – which price should you choose?
- Argument for choosing the export price p_e (the lowest possible price):
 - ✓ *“The electricity market does not work as the market for pens or apples. You can not freely establish new production facilities. On the contrary, plans for building new production facilities always trigger a contentious and highly political process*
 - *Causing some countries ‘not to do their homework’*
 - *ie, winding up with too few reasonably priced production facilities.*
 - *By choosing price p_c the high prices from countries ‘not doing their homework’ is artificially imposed on end users in neighbouring countries*
 - *And the end users in neighbouring countries have no influence on the political processes blocking the building of new facilities in the high-price country”.*

Comments – 4

- **Note: even if there were no block bids, it's not self-evident two biddings zones should have the same price just because their interconnector is uncongested!**

The problem

- **This choice for the spot prices has never been discussed openly and transparently among market players, TSOs and regulators!**

Introducing a well-organised, transparent decision process

- **Issues like this must be discussed and decided upon in the Price Coupling Council**
 - ✓ **With user representatives from the whole, coupled region.**
- **The regulators must approve (or reject) the decisions taken in the council**
 - ✓ **Note: the council will sometimes be split into a majority and a big minority – in effect leaving the decision to the regulators.**
 - ✓ **Probably, the regulators will be spearheaded by ACER.**

Appendix

Terms and acronyms

Terminology and acronyms – 1

As used in this presentation

- **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.
- **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.

Terminology and acronyms – 2

As used in this presentation

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

Terminology and acronyms – 3

As used in this presentation

- ***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.
- ***Welfare criterion*** A criterion used when the spot prices and the day-ahead plans for the cross-border energy flows are calculated
 - ✓ The criterion states the preferred solution must be the solution maximizing the economic value of the spot trading.
- ***Spot trading*** Trading with a spot exchange.
- ***TSO*** Transmission System Operator.

Thank you for your attention!

Anders Plejdrup Houmøller
Houmoller Consulting
Tel. +45 28 11 23 00
anders@houmollerconsulting.dk
Web houmollerconsulting.dk