

EU COMMODITY MARKETS AND TRADING

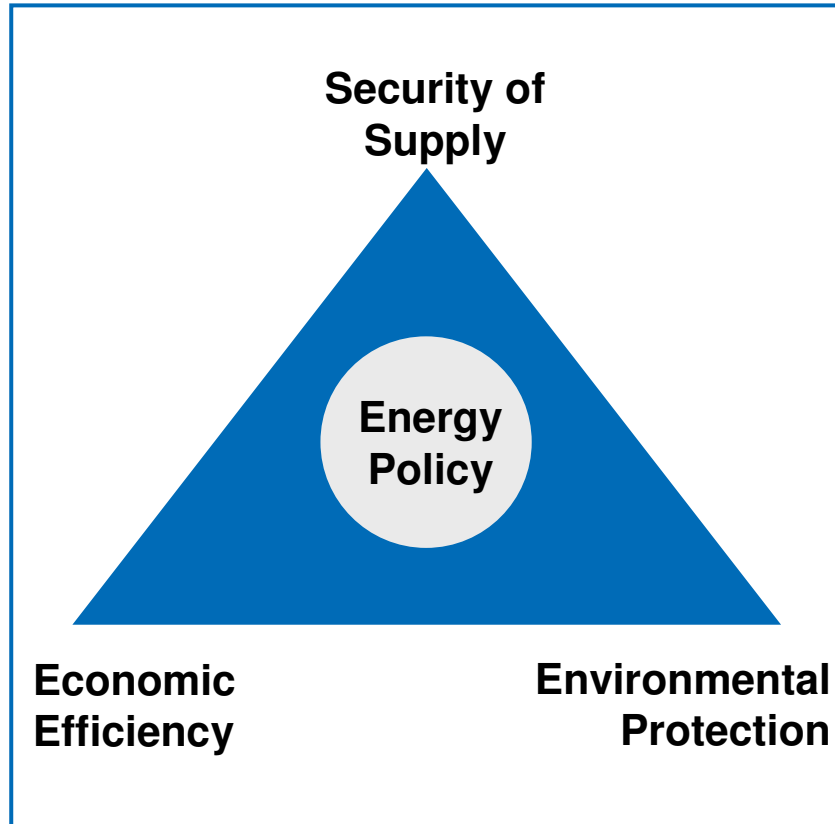
Liberalisation of the European Internal Energy Market - Power

Matthias Dürr

29/09/2006



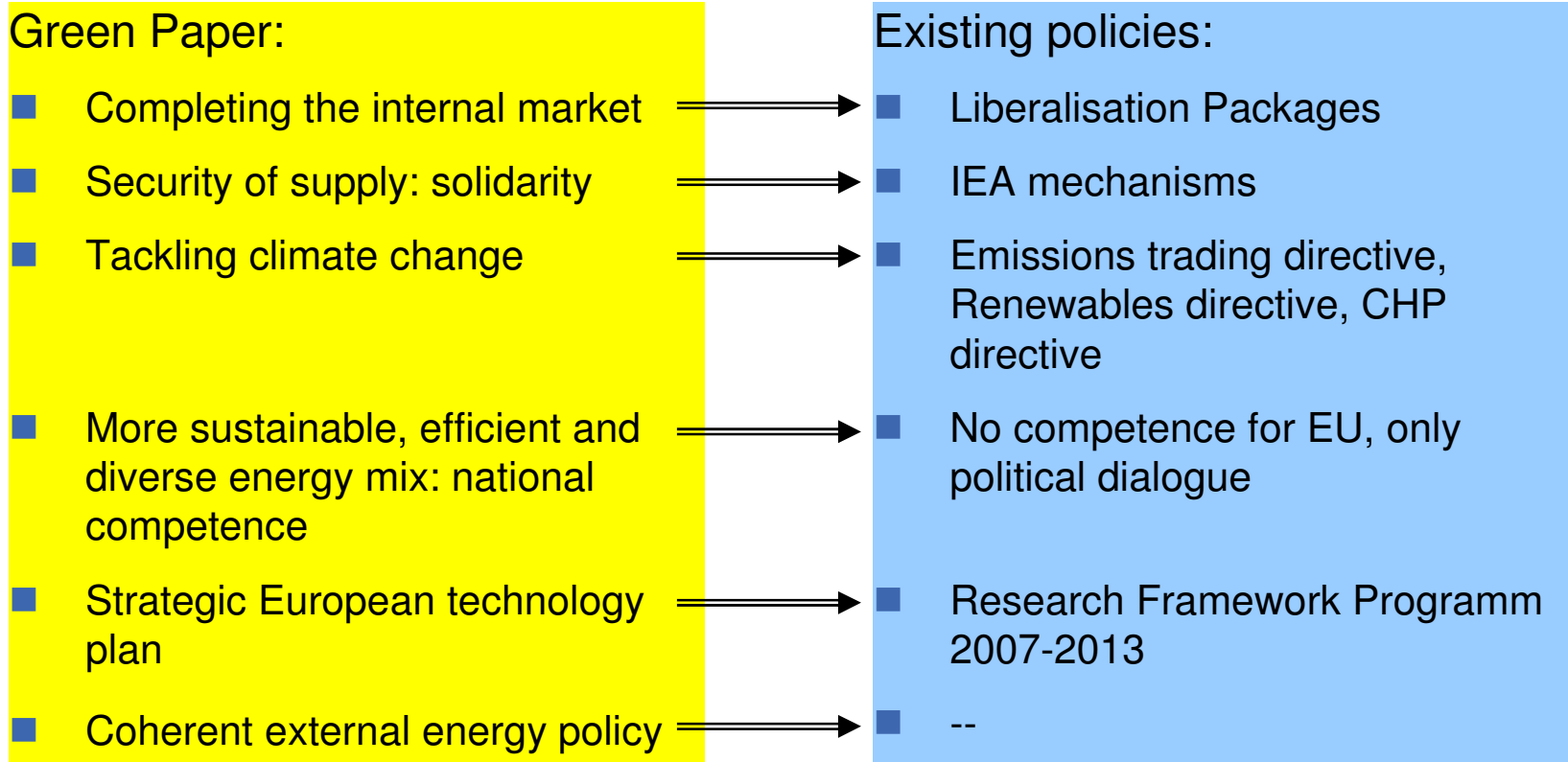
What is European energy policy for the general public?



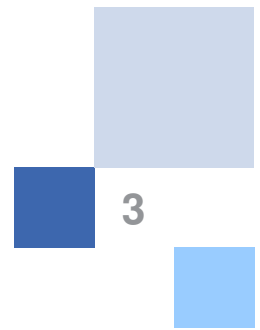
- EU-Lisbon Agenda is focussed on jobs and growth taking energy policy as an important instrument.
- The Commission is looking for areas of action to justify its work. It picks up popular challenges for energy policy:
 - Protection of consumer rights
 - Limiting energy prices
 - Ensuring security of supply
 - Taking action on climate protection
- However, the Commission still lacks technical competences in that field.

What is needed is an approach for energy policy achieving a balance between all three objectives without a dogmatic focus on a single one

EU-Green paper proposes Common European Energy policy: Top priority for German presidency



- Up to now, the Green paper represents a list of policy measures but no consistent concept.
- Issued in March 2006, the measures of the Green paper will be further evaluated in 2007 under the German EU-presidency

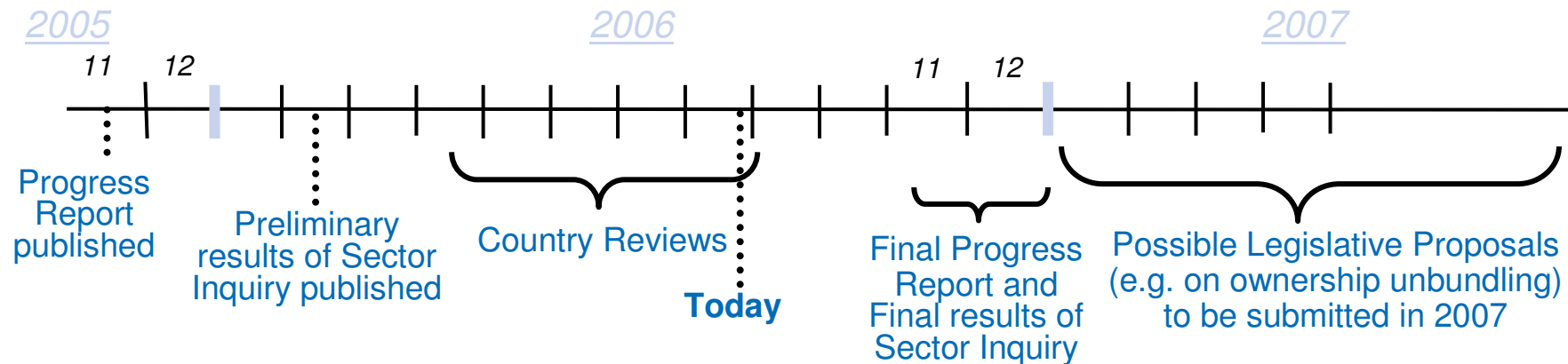


Focus on better functioning energy markets



- In November 2005, Commissioner Piebalgs presented a **progress report** on the state of play of the internal energy market
- In parallel, Commissioner Kroes launched a **sector-related inquiry** into the functioning of the European electricity and gas markets
- One main preliminary conclusion of these actions is the **failure of Member States** to fully implement the Directives with sufficient determination
- **Five broad categories of impediments** for fully functioning energy markets were identified

Ongoing discussion on liberalisation: Actions expected by the Commission



What the Commission requires:

- Legal Unbundling must be implemented efficiently
- Integrate regional markets
- Increase market transparency
- Improve capacity management
- Enhance interconnection capacities

Five broad categories where progress is needed



1. **Market concentration**

... is still considered very high within the EU. This creates scope for incumbents to influence prices and dominate national markets.

2. **Vertical foreclosure**

... supposed to cause limited liquidity in many Member States, further strengthening of the incumbents and makes market entry difficult.

3. **Lack of market integration**

... is allegedly caused i.e. by an inadequately interconnecting infrastructure.

4. **Lack of transparency**

...is believed to benefit incumbents and undermines the position of new market entrants.

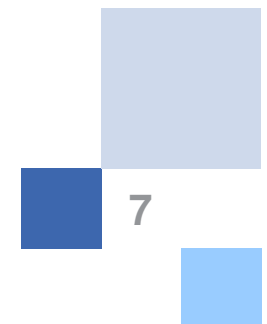
5. **The price formation mechanism**

... is believed to be influenced by incumbents – leading to mistrust and doubt on the demand side (industry and consumers).

Market concentration I



- **Level of concentration in Germany is rather moderate:**
In 2004, the four leading energy suppliers in Germany only had 22.3%, 22.1%, 13.9% and 13.5%.
- **Level of concentration is considerably higher in Belgium, France, Denmark.**
- **Almost 50% of the planned new generation capacities until 2011 in Germany will be built by companies other than the „big four“ leading to a further decrease in market concentration.**
- **RWE position:**
 - **The national price level for electricity depends mainly on the national fuel mix, not on market concentration or regulation (example UK: regulated as well as mainly ownership unbundled grid → nonetheless high electricity prices).**
 - **Wholesale markets prices are therefore determined by the supply-demand margin and the particular merit-order: who is the marginal supplier?**
 - **RWE-market shares in Germany (retail) are decreasing:**
local/regional distribution companies: from 28 % (2001) to ca. 20 % (2004) and Industrial customers: from > 30 % (2000) to < 20 % (2004).



Market concentration II



- Only the right price levels in wholesale markets incentivise new entrants to build new power stations as observed lately in Germany.
- Almost 50% of the planned new generation capacities until 2011 in Germany – 24 power stations with 18.000 MW – will be built by companies other than the „big four“, leading to a decrease in market concentration, e.g.:
 - Statkraft: 800 MW CCGT (2007), 400 MW CCGT (2007; joint project with Mark-E (municipal utility))
 - Trianel: 800 MW CCGT (2007)
 - Concord Power: 1.200 MW CCGT (2007)
 - STEAG: 750 MW Hard coal (2010; joint project with Austrian EVN), 750 MW Hard coal (2011)
 - Various municipal utilities: 45 MW Pump storage (2010, Ulm), 800 MW Hard coal (2011, Bremen), 1.100 MW Hard coal (2011, EWMR (Ruhr region)), 750 MW Hard coal (Mainz-Wiesbaden)
 - Norddeutsche Affinerie (copper industry): 100 MW Waste (2008), 600 MW Hard coal (2010/11; joint project with Electrabel)

Functioning wholesale markets I

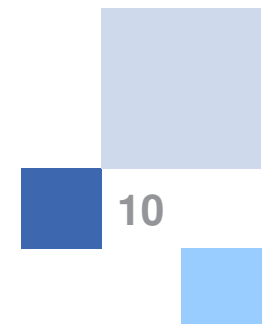
- **A functioning wholesale market is of prime importance for competitive markets.**
- **The German wholesale market is liquid, transparent and significantly growing (between June 2005 and Mai 2006, the volumes traded were 10 times the power consumed in Germany).**
- **Most of the 150 traders at the EEX in Leipzig are from banks, insurance companies and other – non electricity related – firms.**
- **German wholesale market prices are lower than the ones in UK, the Netherlands and France (lowest price level : Nordpool due to hydro energy).**
- **Internal transfer prices of vertically integrated companies are based on wholesale market prices (make or buy-decision).**
- **The effective implementation of the unbundling requirements of the Directive does already ensure non-discriminatory behaviour of grid operators monitored by the Federal Network Agency (“Bundesnetzagentur”).**

Functioning Wholesale Markets II



- **Power exchange EEX ensures an open, transparent and trustworthy price formation process.**
 - **Highest number of participants of all power exchanges within the EU (150 local and international participants). More than half of the participants are from abroad.**
 - **High diversity of traders (utilities, industry, banks, oil companies). The large number of non-electricity related traders is a good indication of fair competition on the German wholesale market, because they would not engage in it if the price formation process were not based on fundamentals.**
 - **Great variety of products**
 - **The intense supervision by independent regulatory authorities (BaFin) guarantees a fair price formation process.**

- **High market liquidity as an indication of functioning competition**
 - **Since the market liberalisation the traded volumes at the EEX have increased rapidly reaching 15% of the total electricity consumption of Germany in 2005. (In the German bond market only 10% of all transactions are made at the German stock exchange.)**
 - **The traded volume at the EEX is the second largest within Europe. Since 2001 the traded volume has increased tenfold.**
 - **International traders account for over half of the volume traded at the spot market of the EEX.**



Market integration



- **Germany takes a leading position with 16 % interconnection capacity.**
- **RWE actions:**
 - **Since 2000, RWE has increased the interconnection capacity towards France and the Netherlands by 40%.**
 - **New interconnector project planned with TenneT. Major obstacle: the lengthy administrative procedures.**
 - **There is no link between grid infrastructure investment and ownership unbundling!**

 - **Active participation in the implementation of the upcoming Congestion Management Guidelines and further refinement of already existing market-based congestion management mechanisms including intra-day allocation of available transfer capacities.**
 - **Support for initiatives to enhance physical interconnection capacities (system optimization process headed by UCTE, taking into account the need to integrate increasing amounts of wind power).**
 - **Market access for new entrants is guaranteed by the Federal Network Agency.**

Market transparency I

- **Delivering relevant information and thereby increasing market transparency promotes market liquidity, enhances market efficiency, facilitates new entry and creates market confidence as far as required or allowed by national laws and regulations.**

- **RWE position:**
 - **RWE is fully committed to open and transparent markets to promote efficiency and market confidence.**

 - **In determining transparency requirements, an informed and balanced assessment should be carried out as to the level of market transparency needed and useful for particular markets due to their nature and specific market design.**

 - **However, market participants must be able to operate in wholesale markets without revealing commercially sensitive information.**

 - **Transparency requirements must be tailored on a regional markets approach using standardised definitions, formats and time horizons. The natural tool to co-ordinate activities taking into account national laws and regulations are the regional Mini-Fora in which we want to participate actively (Pentalateral Forum: D/F/Be/Ne/Lux).**

Market transparency II

- **RWE actively contributed to and supports Eurelectric's proposal for a list of information to increase market transparency.**

- **This includes:**
 - **Transmission and access to interconnectors,**
 - **Forecasts of available capacity on cross-border transmission lines, capacity for intra-day allocations**
 - **Prices and volumes of explicit auctions**
 - **Generation,**
 - **Installed as well as available generation capacity by fuel type ex ante**
 - **Actual hourly aggregated generation**
 - **Ex post information on unplanned loss of generation capacity**
 - **Load, forecasts and actual system load,**
 - **Balancing and reserve power**
 - **Prices and volumes for balancing power,**
 - **System balancing status and actual use of secondary and tertiary reserve**
 - **Wholesale markets, prices and volumes on power exchanges or by OTC standard contracts by brokers (day-ahead, intra-day, forward and derivatives)**

The price formation mechanism

- **Even in liberalised and competitive markets, prices can rise due to fundamental changes in the market. Since 2003, electricity prices have risen Europe-wide due to a surging inelastic demand, a slow reaction of supply, the adjustment from short-term to long-term marginal costs, a sharp rise in fuel prices and the introduction of emissions trading. Short-term fluctuations are caused by variation in the availability of power stations.**

- **RWE position:**
 - **All over Europe wholesale prices are moving in the same direction (“island”-argument), but on different price levels due to the different national fuel mix.**
 - **Wholesale prices are used as a benchmark for e.g. industrial customer prices because of arbitrage between both markets.**
 - **If markets were manipulated by oligopolists, non-electricity related traders would not take part in the wholesale markets.**
 - **Wholesale markets are intensively supervised by independent regulatory authorities, e.g. in Germany by the Federal Agency for Financial Market Supervision (BaFin).**

RWE and the industry: a common destiny



- **High electricity prices put pressure on energy-intensive industries. However, the liberalisation of electricity markets has implemented market mechanisms. This means that prices are generated by market force.**
- **To secure long-term sales, it is in our own interest that the products of European energy-intensive industries are competitively priced and to prevent customers relocating their plants.**
- **Together with our customers, we design innovative, market-oriented and flexible solutions, e.g. auctioning of virtual power plants (300 MW), portfolio management, placing contracts of about 56 TWh in 2005, e.g.:**
 - **Aluminium industry (TRIMET, Norsk Hydro)**
 - **Steel industry (ThyssenKrupp)**
 - **Chemicals (Akzo Nobel, Innovene, Infracor (Degussa), Celanese, Infracor Knapsack, Solvay)**
 - **Industrial Gases (Air Liquide)**
 - **Refineries (BP, Shell)**
 - **Paper mills (Metsä Tissue)**