



***Institute of Energy  
for South East Europe***

***Current Status of the Electricity  
Market in Bulgaria and Plans for  
further development in compliance  
with ENTSO-E Policy***

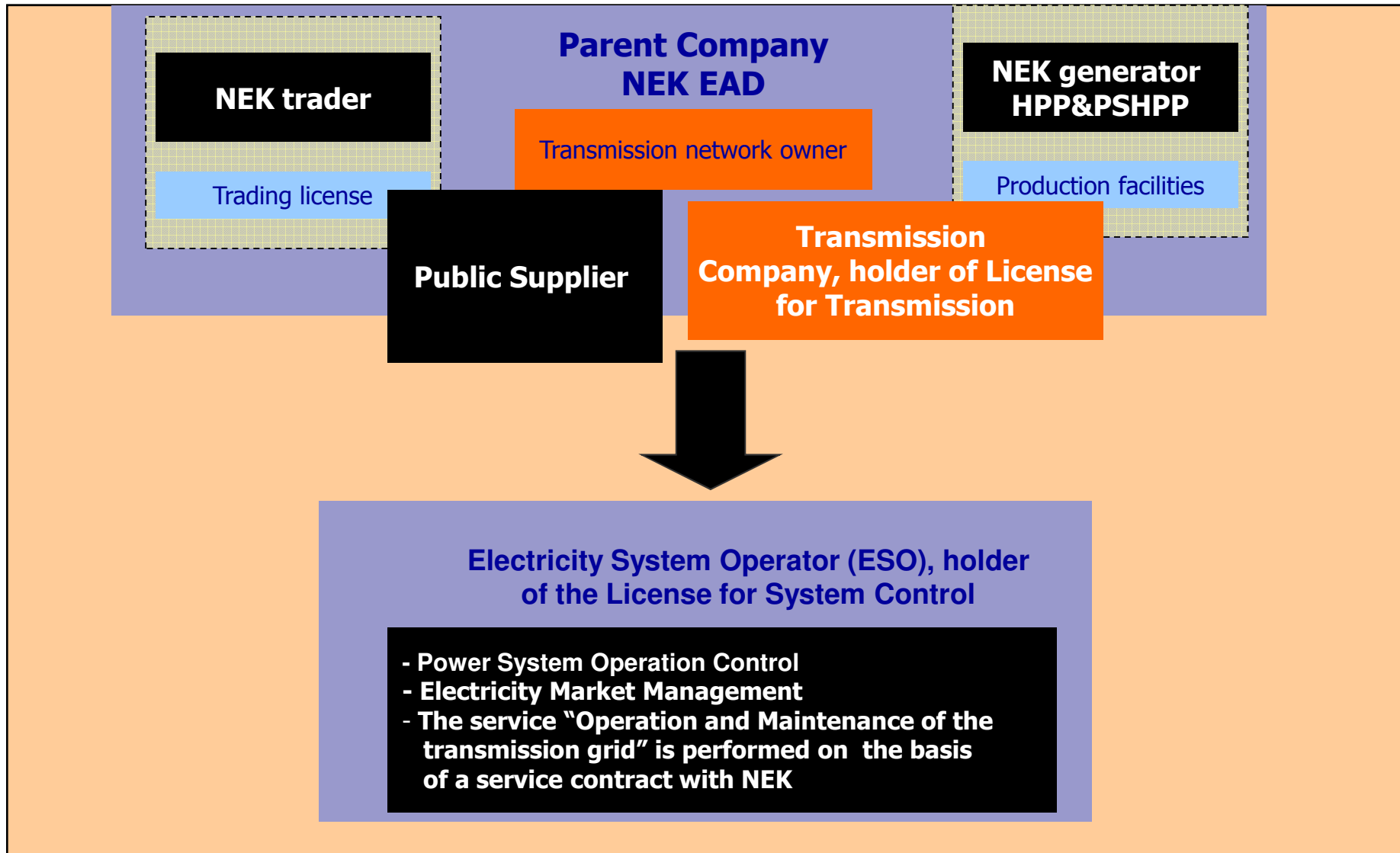
***Viktoria Popovska  
Head of Electricity Market Division  
National Dispatching Center  
Electricity System Operator***

***29 April 2010***

## **H I G H L I G H T S**

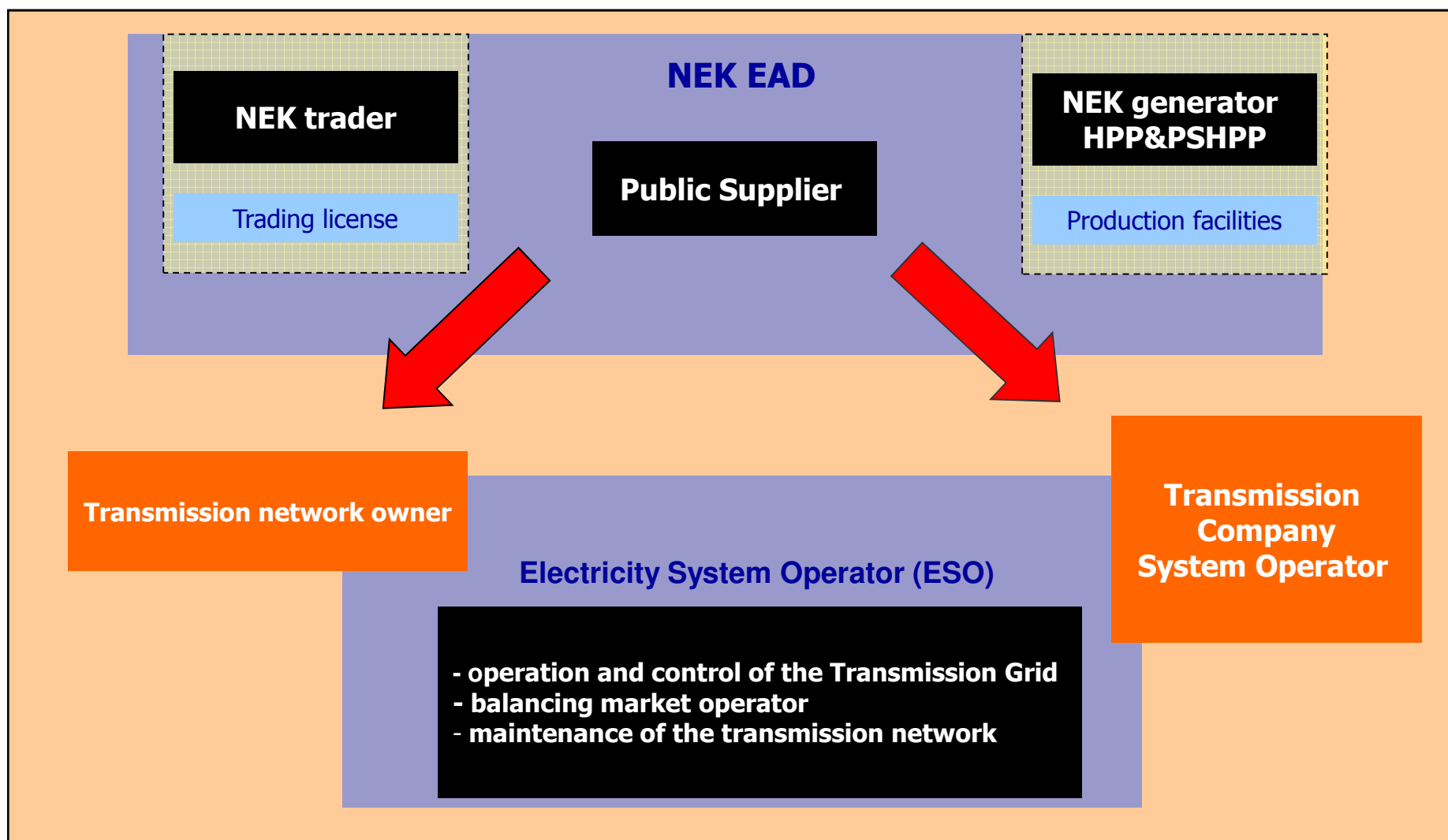
- ❖ **Electricity System Operator – Roles and Activities.  
Further unbundling in compliance with the  
requirements of the 3d Energy Package**
- ❖ **Current Status of the Electricity Market**
- ❖ **Plans for Further Development**
- ❖ **ENTSO-E Structure and Policy for establishment of  
operational regional markets toward more integrated  
European Energy Market**

# BULGARIAN ELECTRICITY SYSTEM OPERATOR



# **BULGARIAN ELECTRICITY SYSTEM OPERATOR**

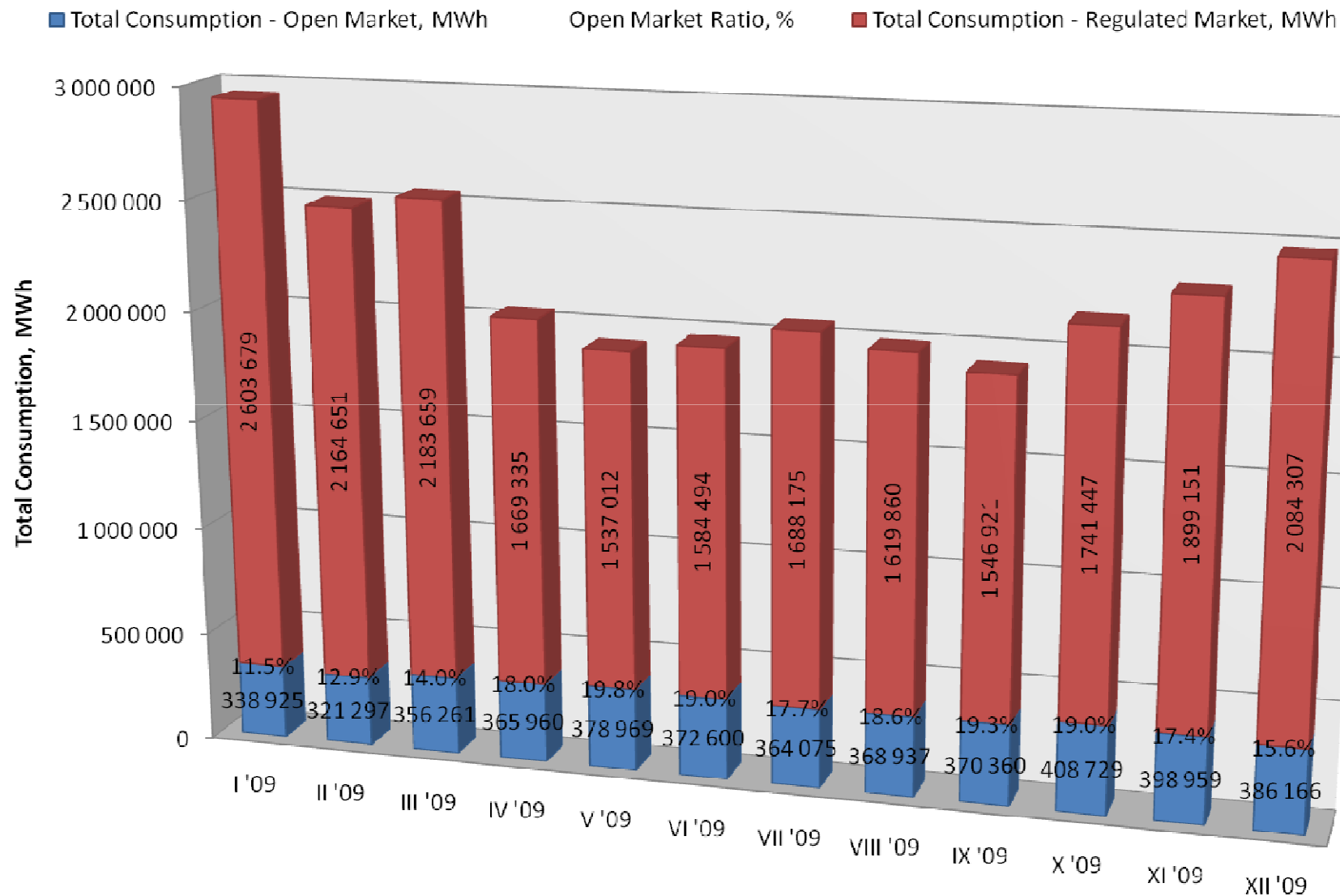
## **– further unbundling**



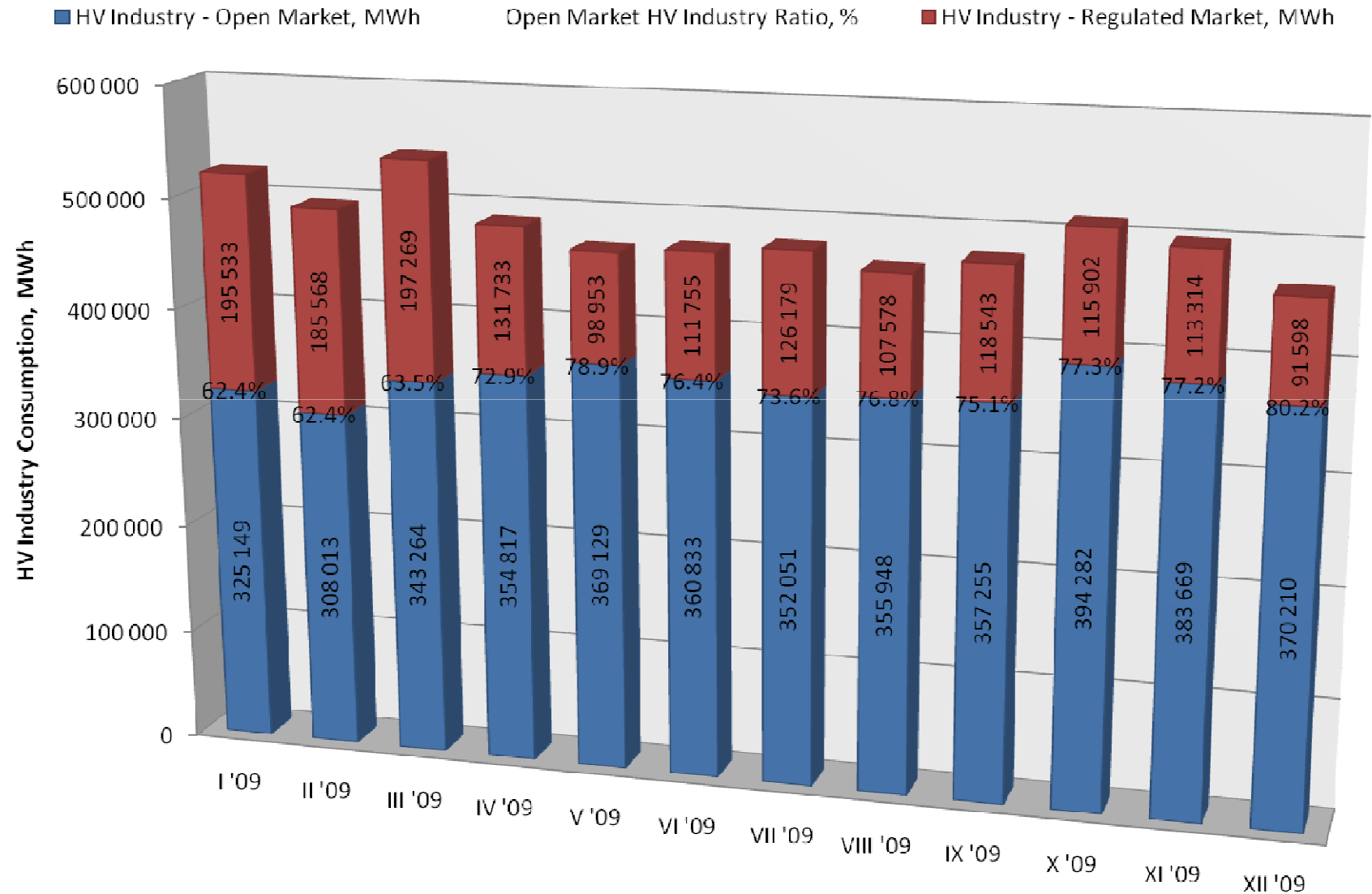
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- ❖ **Electricity System Operator – Structure and Activities**
- ❖ **Current Status of the Electricity Market**
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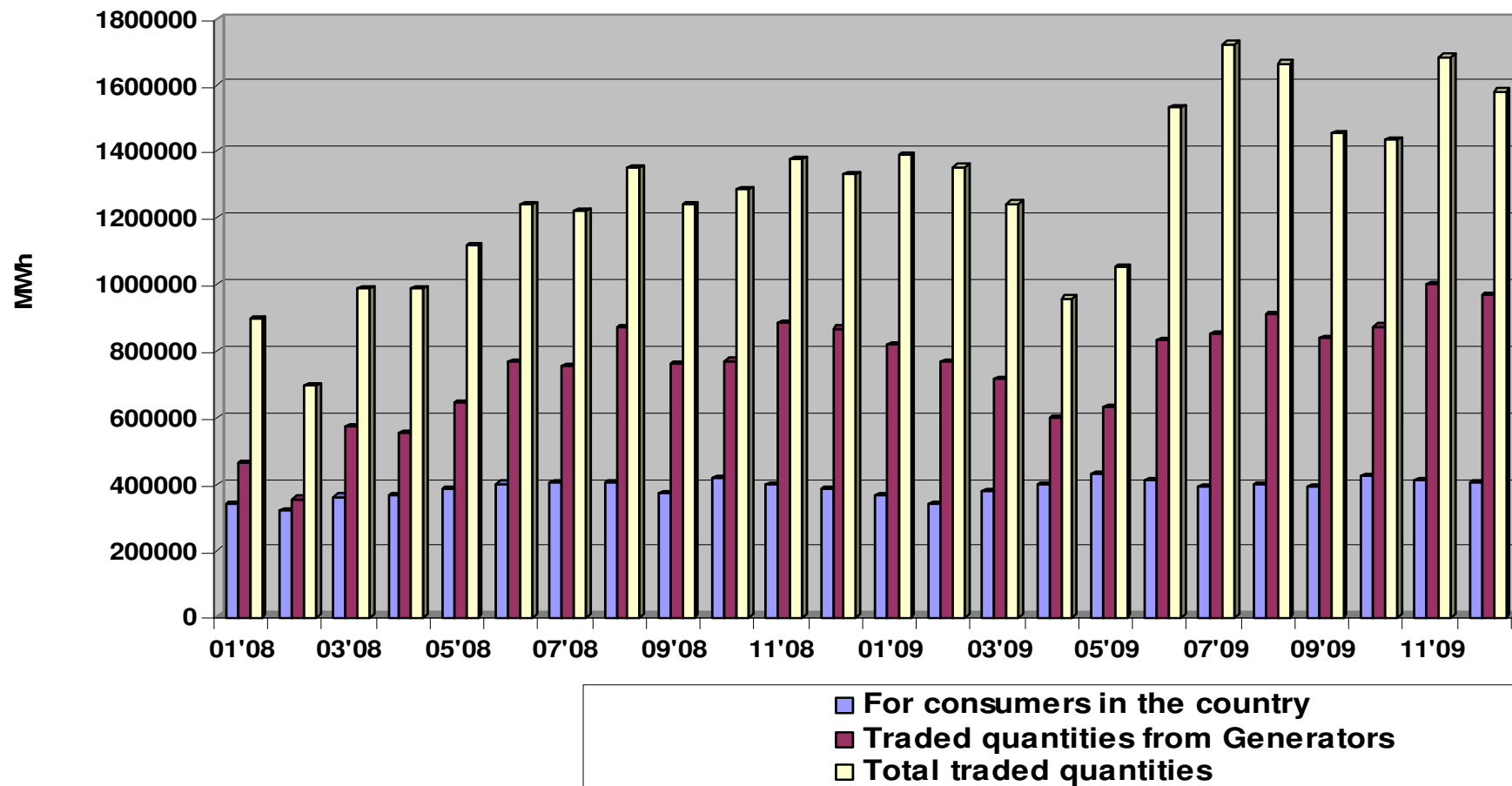
## 2009 Final Consumption - Open And Regulated Market, MWh/month



## 2009 HV Industry Consumption - Open And Regulated Market, MWh/month



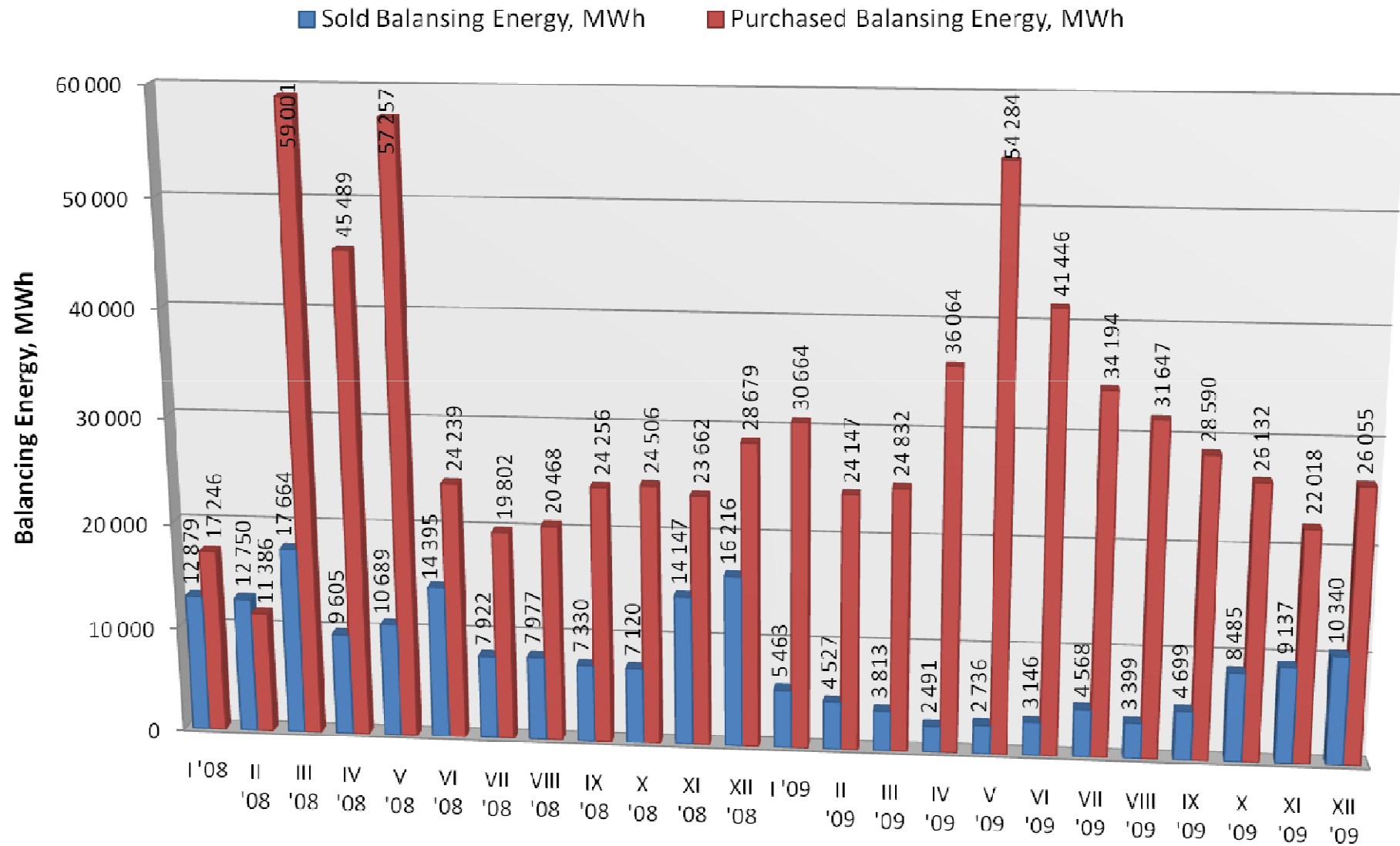
## Monthly contracted quantities of electricity in 2008 and 2009



## **CURRENT BALANCING MECHANISM**

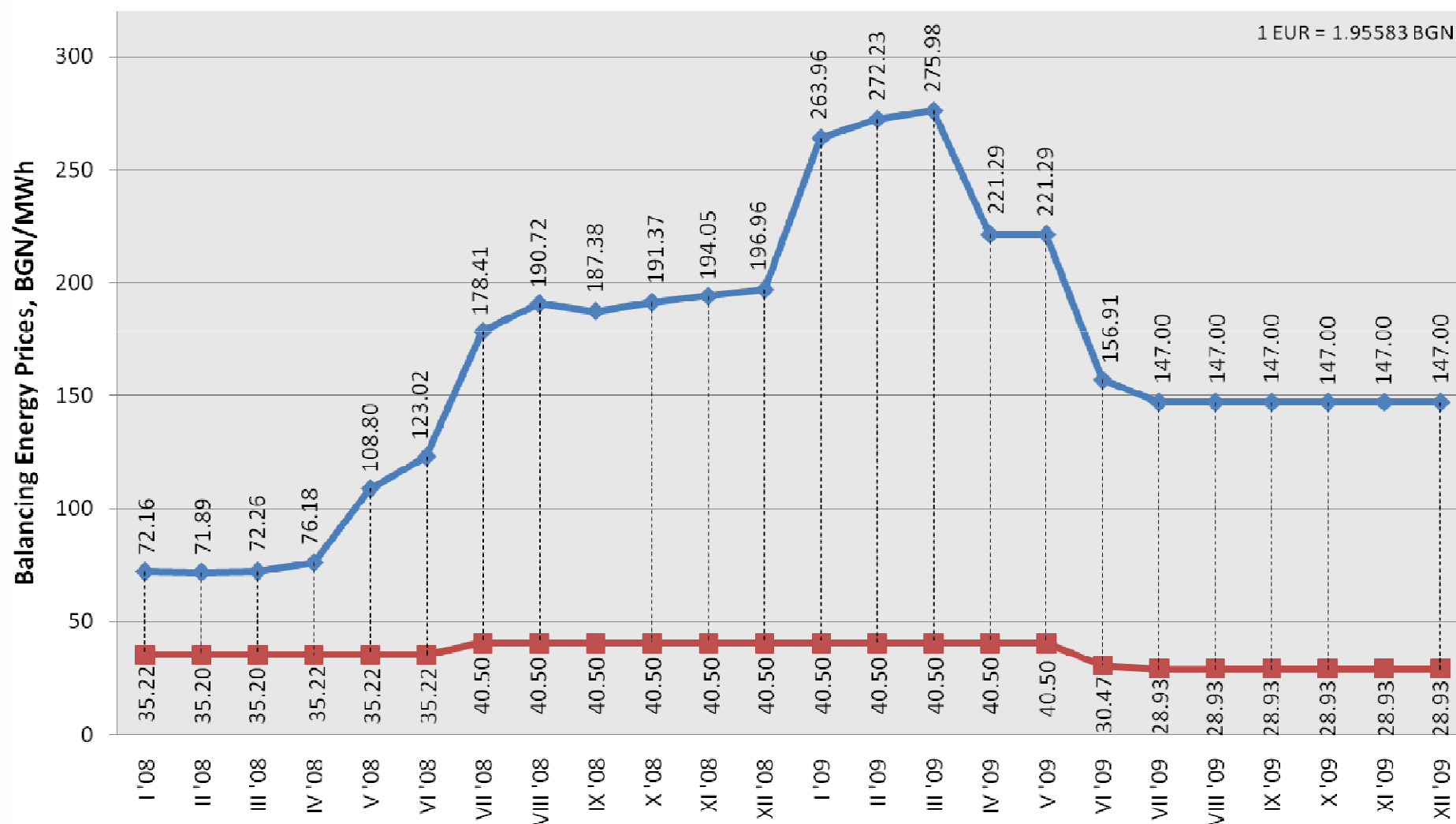
- ❖ ONLY PARTICIPANTS IN THE OPEN MARKET ARE SUBJECT TO BALANCING**
- ❖ TWO PRICE SYSTEM**
- ❖ THE PRICES IN THE BALANCING MARKET ARE NOT MARKET BASED**
- ❖ METHODOLOGY FOR CALCULATION OF THE BALANCING ENERGY PRICES IS STIPULATED IN THE MARKET RULES**

## Balancing Energy Quantities, MWh/month



## Balancing Energy Average Monthly Prices

◆ Top Up Price, BGN/MWh    ■ Spill Price, BGN/MWh



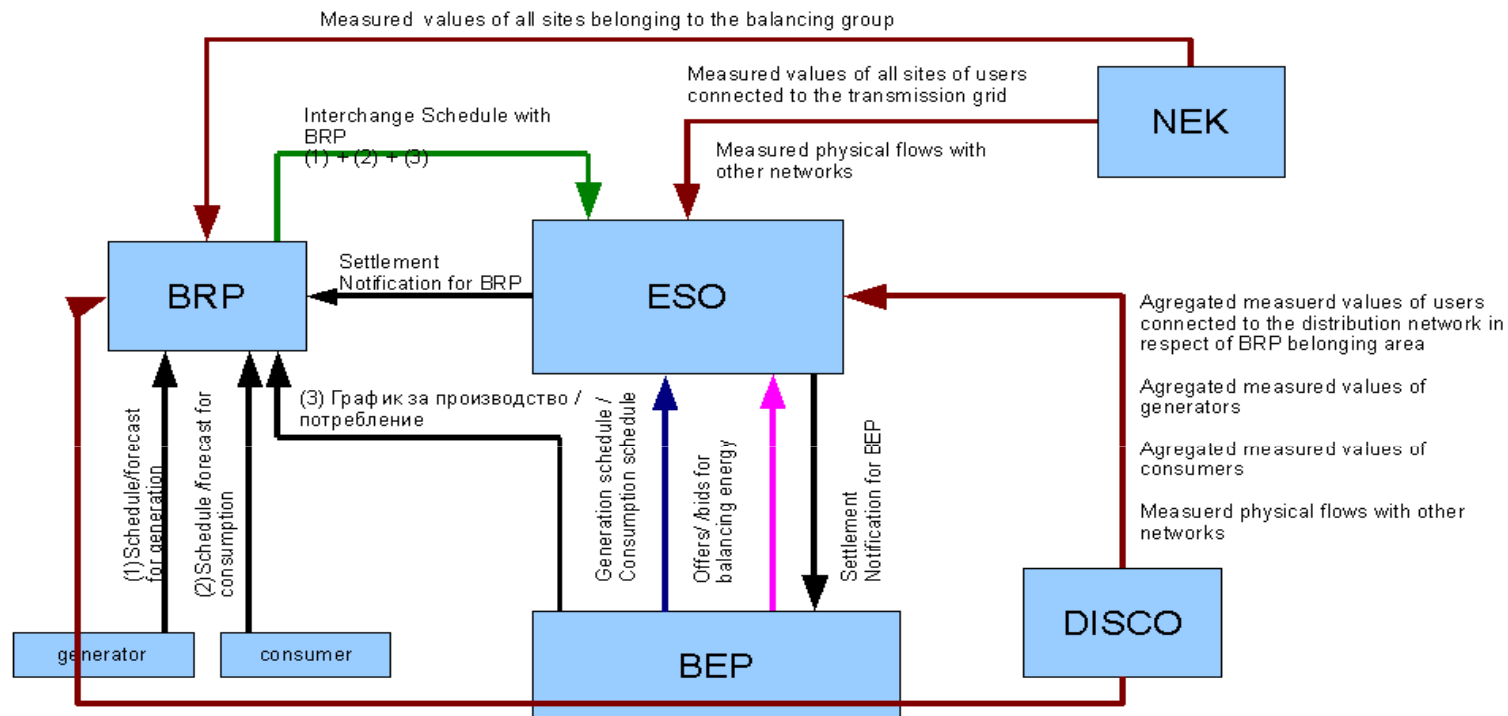
# H I G H L I G H T S

- ❖ **Electricity System Operator – Structure and Activities**
- ❖ **Current Status of the Electricity Market – market design and market operation**
- ❖ **Plans for Further Development**
- ❖ **ENTSO-E Policy for establishment of operational regional markets toward more integrated European Energy Market**

## **NEW POWER MARKET MODEL**

- ❖ HOURLY CONTRACTS IN BOTH MARKET SEGMENTS – REGULATED AND OPEN MARKET**
- ❖ INTRODUCTION OF BALANCE GROUPS ARRANGEMENTS AND BALANCE RESPONSIBLE PARTIES**
- ❖ INTRODUCTION OF MARKET BASED PRINCIPLES FOR OPERATION OF THE BALANCING MARKET – OFFERS AND BIDS**
- ❖ RULES FOR PRIORITY GENERATORS**
- ❖ DEFINITION OF SUPPLIER OF LAST RESORT**
- ❖ ESTABLISHMENT OF AN ORGANIZED DAY-AHEAD MARKET**

# New Power Market Model. Information Flows



Legend: BRP –balance group responsible – generator, trader, Public Supplier, Public Provider )  
BEP –Balancing Energy Provider (generator, consumer)



Measured values  
Generation schedules / Consumption schedules  
Interchange Schedules between BRP  
Offers and Bids for balancing energy

# DIFFERENT MARKETS

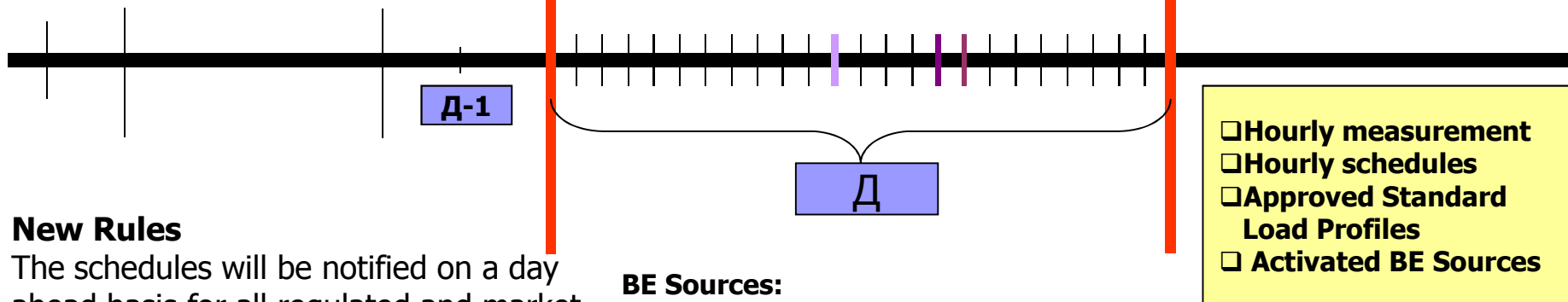
## Contracting before the delivery day D:

### 1. Bilateral contracts - only

The participants are allowed to conclude several Contracts. The contracts/schedules are notified to ESO

#### Current Rules:

The schedules cover 24 consecutive hours. The schedules are notified on a Day-ahead basis. The participants are not allowed to modify these schedules



#### New Rules

The schedules will be notified on a day ahead basis for all regulated and market based transactions, including transaction for covering losses

On a later stage – power exchange

Only one provider of BE – NEK  
on the basis of regulated prices

Settlement and invoicing  
after day D

- ☐ Hourly schedules
- ☐ Hourly measurements

#### BE Sources:

- ❖ Generators that are participating in the primary and secondary regulation
- ❖ Generators (mainly Hydro) that are participating in the tertiary regulation
- ❖ Generators in cold reserve
- ❖ **Balancing energy from the regional balancing market**

# H I G H L I G H T S

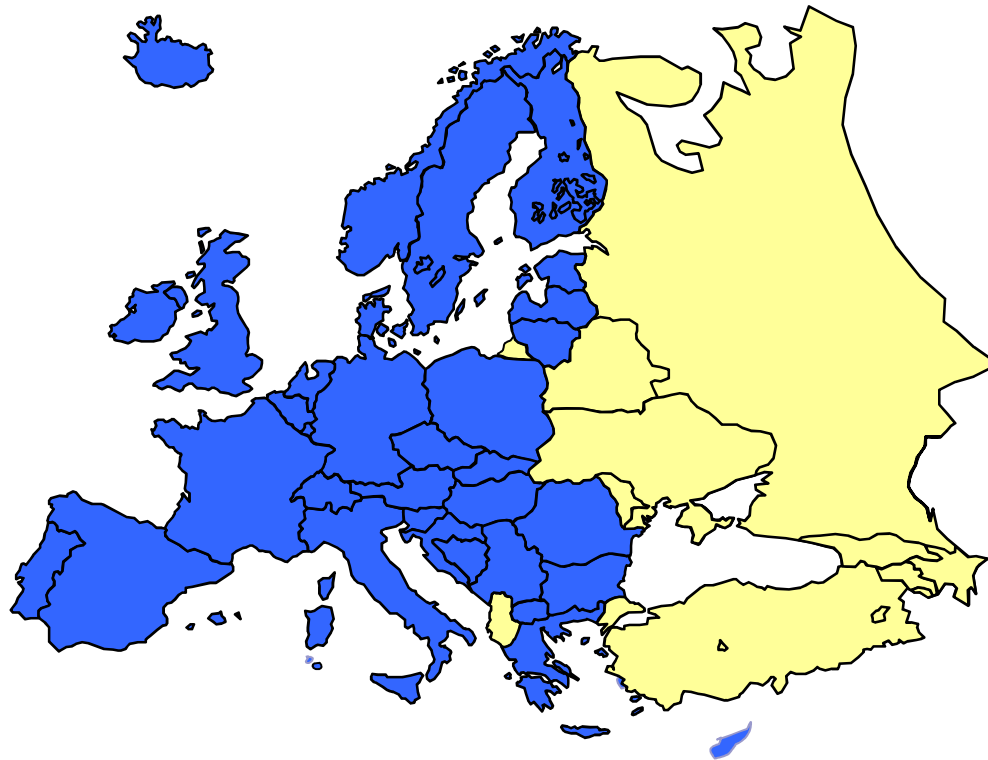
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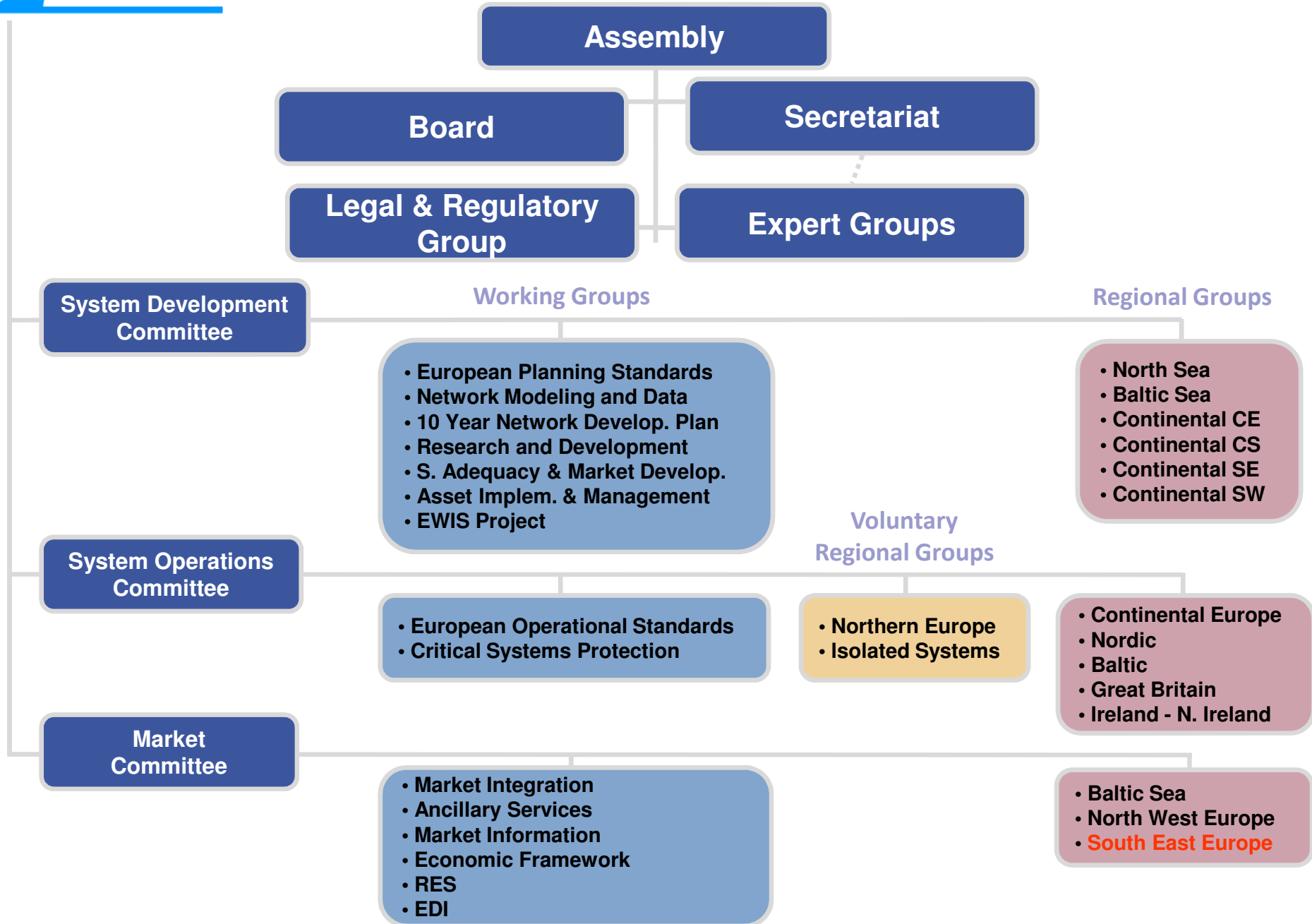
# ENTSO-E: fully operational since 1 July 2009

- **Represents 42 TSOs from 34 countries**

- ~500 million citizens served
- 650 GW generation
- 230.000 km V-HV lines
- 1.500.000 km MV-LV lines
- Demand: 3.000 TWh/year
- Exchanges: 300 TWh/year

- Replaces former TSO organisations: ATSOI, BALTSO, ETSO, NORDEL, UCTE, UKTSOA





# ENTSO-E 2010 Work Program

## ***Key Work Areas***

- Ten year network development plan
- R&D Plan for TSO needs
- Common operational tools
- Position papers on future transmission technology, EMF and licensing procedures
- Long term strategy for system development
- Renewable energy sources
- Technical documents on operational reserves, and on determination of incident classification
- Ancillary services and balancing
- Transparency Policy
- Congestion Management

## ***Network code development priority areas***

- Pilot Code (under development)

## ***Proposed priorities where preparation for code development should start in 2010***

- Transparency
- Design for market integration
- General generation connection conditions with focus on wind generation

## **Market Integration**

- Market Integration Design Project - Establishment of models towards collaboration of regional markets
  - Endorsed by the Florence Forum

### **Conclusions by the EuroPEX-ENTSO-E project**

- Regional Initiatives have made significant progress
  - but overlapping regions are becoming a barrier to market coupling solutions;
- Few examples of initiatives between regions so far
- Little evidence of a coordinated approach

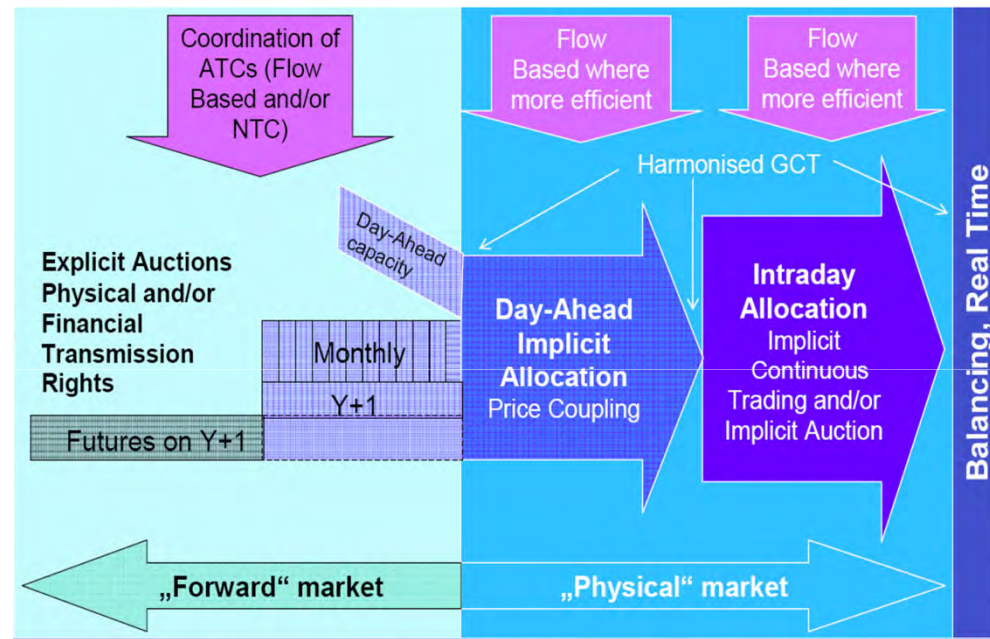
# Market Integration

Market Integration Design Project

## ■ DELIVERABLES

- → “Target Model” presented at the Regulators Forum in Dec.2009
- → “Road Map” for Market Integration

# ENTSO-E next Steps: a target model to ensure compatibility between regional initiatives



- A consensus view amongst stakeholders of a model for cross border congestion and market integration
- A medium term view for progressive implementation at the latest by 2015

- Addresses all timeframes in a logical and sequential way
- Developed in parallel with the regional initiatives
- Act as a benchmark for consistency and essential cross border harmonisation and compatibility.

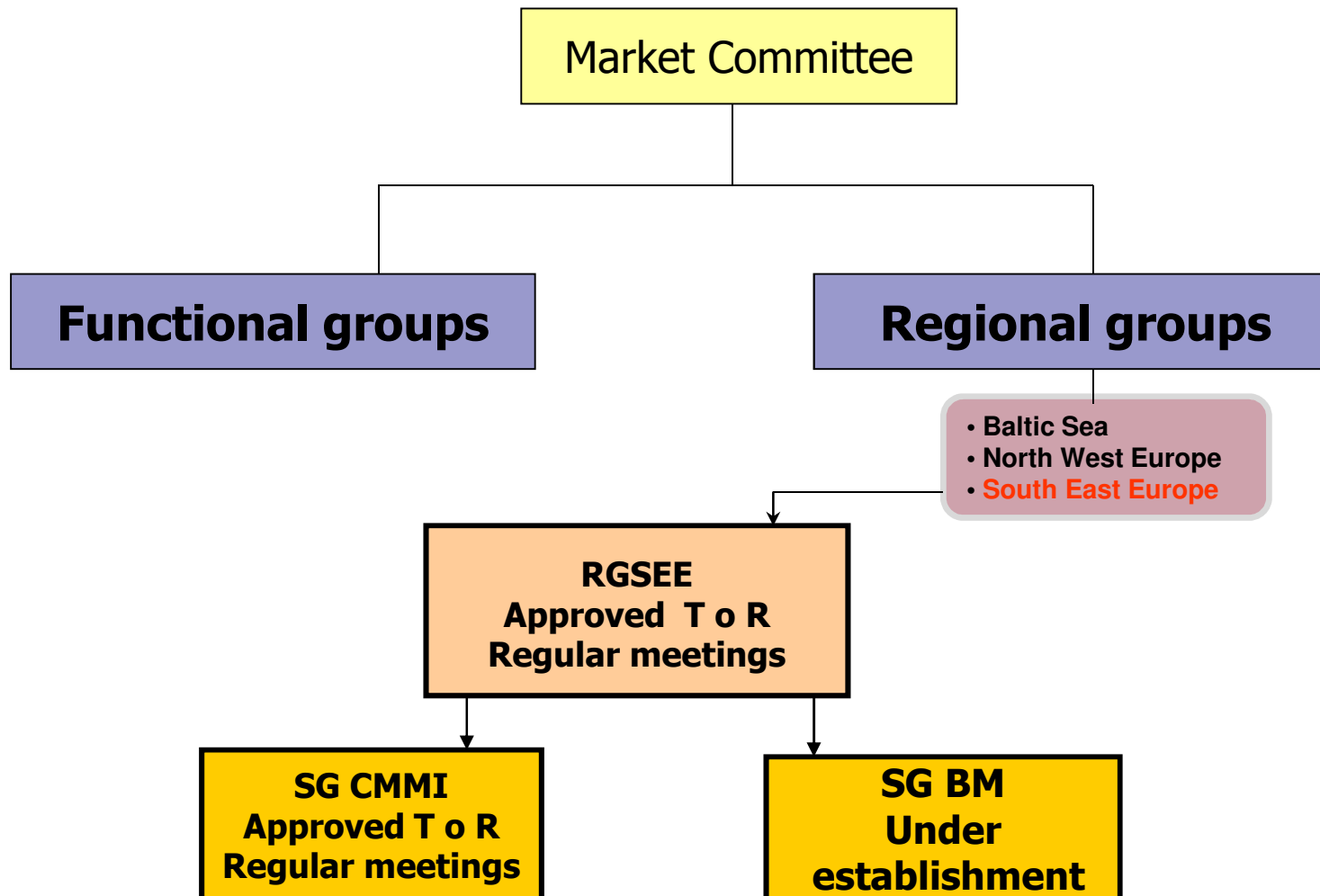
## Market Integration

In the interim period until the 3<sup>rd</sup> Energy Package is in application (i.e. March 2011), the Ad Hoc Advisory Group (AHAG) created in December 2009 Florence Forum should be the appropriate vehicle to steer progress and to ensure the convergence towards a European wide reference model. Three implementation projects began early 2010, and together with the AHAG, are expected to provide a key input on ERGEG 's framework guidelines and subsequent ENTSO-E's network codes developments for capacity allocation and congestion Management

- ENTSO-E will chair a project to develop a European capacity calculation concept.
- ENTSO-E will also chair a project to develop the target model for intraday trade.
- The Commission will chair a project that will design a governance framework for day-ahead market coupling.

## Regional Group for South East Europe

RGSEE is a RG under the Market Committee



## Members and associate members of "*Regional Group for South-East Europe*" under the Market Committee

### **Members**

- ELES, Slovenia
- EMS, Serbia
- ESO EAD, Bulgaria
- HEP-OPS, Croatia
- HTSO, Greece
- MAVIR ZRT, Hungary
- MEPSO, FYR of Macedonia
- NOS BiH, Bosnia Herzegovina
- PRENOS, Montenegro
- TERNA, Italy
- TRANSELECTRICA, Romania
- Verbund-APG, Austria

### **Associate members**

- KOSTT, The United Nations Interim Administration Mission in Kosovo
- OST, Albania
- TEİAŞ, Turkey

## Regional Group SEE: Mission and objectives (Terms of Reference)

- Mission:
  - *The mission of the group is to promote the development and co-ordination of the national electricity market at the regional level. The result of this co-ordination will constitute a common input to all ENTSO-E procedures aiming at the creation of the internal electricity market in EU.*
- The objectives (which are very ambitious) focus on key issues for the well functioning market...
- ...on supporting SEE TSOs in the process of electricity sector restructuring..
- ..on supporting SEE TSOs the process of implementation of a market based co-ordinated cross-border capacity allocation in the region in compliance with EU regulation...
- and on the cooperation with
  - stakeholders and institutions within the Energy Community,
  - Working groups and other Regional groups of ENTSO-E for fulfilling its tasks and objectives.

## Stepwise implementation of the model for cross-border congestion management



50/50 allocation started in 2007  
 50/50 allocation started in 2009  
 50/50 allocation will start in 2010

## **Stepwise implementation of the model for cross-border congestion management**

ESO and Transelectrica started in April 2010 the common allocation of capacities on BG-RO border

**ESO invites the other neighbour TSOs – HTSO, EMS and MEPSO for discussions and elaboration of common principles and signature of Agreement for common allocation of capacities on the remaining BG borders**

## **Stepwise implementation of the model for cross- border congestion management**

ESO is in a process of testing of a new web-based Electronic  
platform for evaluation of capacity offers.

Starting as from June 2010 the platform will be in real  
operation

**THANK YOU FOR YOUR  
ATTENTION !**

**[www.tso.bg](http://www.tso.bg)**

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