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South East Europe Electricity Market options paper

1. INTRODUCTION

South East Europe Electricity Market has been subject to a number of papers discussing the market design in the region. The papers present mostly a rather similar view of the future market. The main difference is in the time-table for implementation; some proposals are very ambitious and some others call for a pragmatic step-by-step approach.

Firstly this paper tries to summarise what has been explicitly or implicitly agreed regarding the SEE market design.

Secondly this paper summarises agreed actions and proposes new actions needed for an efficient progress in establishing a well functioning electricity market in SEE. An action plan is annexed to this paper.

Thirdly the paper presents a time table with key milestones for the development of the market.

South East Europe needs to apply the European market design. The European electricity market design is not based on one single concept, but has rather evolved from different regional designs, all fulfilling the requirements of the European legislation. However, several aspects are harmonised either through application of the legislation or through a voluntary approach. Florence process has been the key activity for this voluntary harmonisation.

2. MARKET DESIGN ELEMENTS

2.1. Third party access

Third party access will be opened for all customers in the EU at the latest in July 2007.

SEE: Market opening for non-household customers at the latest 1 January 2008, for household customers at the latest in 2015, as stated in the Treaty. Distribution

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companies will be eligible and wholesale trading will be opened at the latest 1 January 2008. (action SEE governments and regulators). A possible later stepwise opening for certain groups of small non-household customers shall be discussed in the PHLG and in the Athens forum.

2.2. Unbundling of network companies

The Transmission System Operator (TSO) has to be legally and functionally separated from a vertically integrated utility. The same requirement for Distribution System Operators (DSO) serving more than 100.000 customers applies from July 2007 onwards in the EU.

SEE: Legal, functional and account unbundling of the TSOs at the latest 1 January 2008, for DSOs at the latest 1 January 2010, according to the Treaty. The recommended target date for the TSOs is 1 January 2007 at the latest (action SEE governments and regulators).

2.3. Cross Border Trade compensation mechanism

The EU regulation 1228/2003 provides for a cross-border trade compensation mechanism for transits. Control areas which host transits from other control areas are compensated by the ones causing the transits.

The current compensation mechanism is based on a voluntary agreement between TSOs as proposed by ETSO. A mechanism based on the regulation 1228/2003 is under development and it should be ready for the year 2006.

SEE: Voluntary CBT mechanism approved for 2005 by the Athens forum prolonged for 2006 (action SETSO TF).

The SEE CBT mechanism shall merge with the EU CBT mechanism in 2007.

The mechanism following the guidelines of inter-TSO compensations under the regulation 1228/2003 will be implemented once available.

2.4. Security rules and grid codes

Security rules in Europe are determined per synchronous zone and per control zone. UCTE is currently revising its security rules and will compile them in a UCTE Operational Handbook. These rules will be made legally binding through a Multilateral Agreement.

Each control zone has national security rules included in Grid Codes. The requirements of the UCTE Operational Handbook should be enforced through these codes at national level.

TSOs use a tool called Day Ahead Congestion Forecast (DACF) for the security checking, one day ahead, of the transmission system. This tool is important to provide a reliable forecast of network flows and shall be implemented by all TSOs.

SEE: Full adherence to the UCTE rules.

2.5. Development of metering and control systems of the networks

The technical level of all networks in the region is not yet sufficient for full implementation of the SEE Electricity Market. Particularly investments in metering and system control equipment are required.

SEE: Pursuing the upgrade of metering and control systems in the transmission and distribution networks. EU experience in this area should be exploited (action TSOs and DSOs).

2.6. Transparency

Transparency is of utmost importance for the proper functioning of the market and in order to get new market actors to the region. Firstly transparency is needed for market operations like trading. Secondly, newcomers must have access to data necessary for their investment decisions. Thirdly, transparency is needed to detect and remove the price distortions and cross-subsidies. Finally, transparency is essential to prevent fraud in electricity contracts.

In the EU energy statistics are gathered by the European Statistical Office (Eurostat). National statistical offices provide data to Eurostat.

Additional market relevant information is published by the regulators, electricity associations, TSOs, ETSO, UCTE and Power exchanges. There is no harmonisation what data shall be published. The level of information varies considerably from country to country.

Congestion management guidelines under the EU regulation 1228/2003 provide for transparency requirements for TSOs. The congestion management guidelines are under revision and should be finalised before the end of 2005.

SEE: The Energy Information Centre for South East Europe will be responsible for gathering statistics over the whole region (action CEER).

TSOs will follow the transparency requirements imposed by the congestion management guidelines under the regulation 1228/2003. TSOs will improve publishing on their websites all relevant information useful to market participants, in accordance with the ETSO standards for transparency and data publication (action SETSO TF).

Improvement in the financial and accounting systems of the electricity companies in the region is needed in order to achieve sufficient transparency and regulatory oversight (action electricity companies and regulators).

2.7. Network tariffs

The transmission and distribution companies will charge a network tariff to cover the monopoly part of the electricity delivery. The energy supplier will charge for the energy, the competitive part of the delivery. A third component is taxes and levies imposed by the authorities. Charges due to system services, like balancing power are either included in above mentioned price components or they are charged separately as an additional price component.

When a customer becomes eligible, these price components need to be clearly defined. In several EU countries there have been serious concerns about a possible cross-subsidy from the network charges to the energy charges.

SEEM: Tariff components need to be clearly defined for all customers. Even if the households remain captive customers, it is important to define the components in the tariffs, to be able to monitor possible price distortions and cross-subsidies (action CEER).

2.8. Price distortions

Removal of price distortions is a prerequisite for having competitive electricity markets. The region still suffers important subsidies from the big consumers to the smallest ones. Non-paying and stealing of electricity are other distortion elements in the market.

Removal of price distortions can not take place overnight. The timetable for opening the market allows a gradual approach, all distortions shall be removed at the latest when the household customers become eligible in 2015.

SEE: Removal of price distortions shall start immediately and shall be achieved at the latest by 2010 (action SEE governments and regulators).

2.9. Monitoring of the functioning of SEE Electricity Market

At EU level the monitoring of the functioning of the internal electricity market is done in the yearly benchmarking report. The SEE countries were partly included already in the 2004 report. This monitoring is primarily looking at the performance and the structure of the market in view of improving the functioning of the market.

In addition to this upper level monitoring, a system at a national level needs to be in place to detect any market misbehaviour. This national monitoring needs to be complemented by a regional activity in order to monitor the cross-border trade.

SEE: Monitoring will be organised by the SEE Secretariat. Regulatory benchmarking report, TSOs Benchmarking report and TSOs annual report are key tools for monitoring. This process will give input also to the European Commission benchmarking report (action SEE Secretariat, regulators and SETSO).

Tasks and responsibilities for detailed market monitoring need to be defined for both national and regional level (action CEER together with USAID).

2.10. Network investment planning

TSOs are responsible for the network infrastructure development. Regional co-operation has taken place in the UCTE.

SEE: Co-ordination by UCTE, with the support of ETSO, regulators, PHLG and Ministerial Council (action UCTE).

2.11. Price regulation

Energy price regulation for certain type of customers in some European countries has been maintained. True competition will only start gradually leaving the customers in the beginning exposed to the pricing policy of the incumbent company, if no energy price regulation is applied. The target is, however, to have regulated energy prices only for captive customers and for customers of the supplier of last resort.

Energy price regulation is a matter of national regulatory authorities. However, the approach should be harmonised across the region, to avoid distortions between market participants.

SEE: National approach, with monitoring at the regional level (action SEE governments and regulators).

2.12. Wholesale markets

Europe uses a zonal pricing model in the electricity market. Wholesale electricity has the same price within a price zone. In case of congestion inside a price zone, TSOs use redispatching of generation plants in order to keep the uniform price zone[1].

The European wholesale market is mainly based on voluntary bilateral trading and on voluntary power exchanges. Voluntary power exchanges have had increased volumes but on many markets the volume still remains limited. Some EU countries have pool-type power exchanges in place or under development.

Bilateral trading is organised in Europe through private companies. Some standard contracts exist, however, often each trader has his own contract model with the possibility for tailor made clauses to fit the contract to the customer's needs.

Power exchanges are concentrating on single auction day-ahead spot markets and on financial products, futures and forwards, based on spot prices.

There is a need to guarantee bilateral trades. Power exchanges offer bilateral contract clearing, which allows reducing the counterpart risk in the bilateral contracts.

Power exchanges, even when established as voluntary for-profit companies, need favourable conditions for their functioning to achieve a sufficiently liquid market. The role of regulators, TSOs and market participants is crucial in this.

SEE: Zonal pricing, price zones initially coinciding with the control zones.[2]

[1] In case congestion becomes structural, TSOs redefine the price zones or set different limits for transmission capacity between price zones.

[2] Control zones borders generally coincide with national borders.

Bilateral trade

SEE: The wholesale power market will primarily be based on voluntary bilateral trading. Trading will start between market participants within a control zone and cross the borders. The market will develop on a voluntary basis when the appropriate structure is in place. Market rules need to be harmonised (action TSOs and EFET).

Power exchanges in the region together with Europex will work on introducing bilateral trading clearing for the whole region (action Borzen, OPCOM and EuroPex).

Spot markets

SEE: Power exchanges in the region together with Europex will work on establishing a spot market for all zones in the region (action Borzen, OPCOM and EuroPex).

Long term Power Purchase Agreements (PPAs)

Long term Power Purchase Agreements (PPAs) between generators and distribution companies or industrial customers can seriously hinder the emergence of liquid wholesale markets. On the other hand, long term contracts are sometimes needed to secure the investments in new capacity. It is important to differentiate between the existing and future agreements.

Long term contracts are subject to EU competition policy. Their compatibility with the EU legislation has been decided on a case by case basis.

SEE: SEE countries are quite different regarding their needs for long-term contracts.

Long term agreements are left to the national regulators and competition authorities to decide. The question has to be considered in connection with generation adequacy (point 3.5). Regional co-ordination is needed (action regulators).

Intra-day market

An intra-day market enables market participants to balance their power contract portfolio during the day of operation.

SEE: An intra-day market for the balance responsible parties will be created for each control zone following the creation of national or regional markets (action TSOs).

Power exchanges will study organising an intra-day market on a regional basis (action Borzen, OPCOM together with EuroPex).

Real time balancing market

Real time balancing markets enable TSO to maintain the generation/load balance. Until recently these markets have been national or control zone specific. The Nordic and the Germany-Austria arrangements have demonstrated that a real time

balancing market can be a cross border market. France and UK are also accepting bids to their real time balancing market from the neighbouring countries.

SEE: Real time balancing market will be created for each control zone. TSOs will contract real time balancing power.

TSOs are invited to seek technical solutions for allowing bids from the neighbouring zones (action TSOs).

Reserve power market

Reserve power markets for slow reserves enable TSOs to call for reserve power in case of disturbances[3].

TSOs will contract reserve power.

TSOs are invited to seek technical solutions for allowing bids from their neighbouring zones (action TSOs).

2.13. Management of cross-border trade

There is no uniform European model on the management and co-ordination of the capacity allocation and congestion management tasks for cross-border trade. However, present European congestion management methods are de facto becoming a combination of explicit and implicit auctions.

Congestion management is covered by the EU regulation 1228/2003 on Cross-border trade. Congestion management guidelines under the regulation provide for rules for congestion management. The guidelines are under revision and should be finalised before the end of 2005.

SEE: Congestion management is executed by TSOs in full compliance with EU regulation 1228/2003 and corresponding guidelines. A regional auction office[4] commonly operated by the TSOs is envisaged, a dry-run to test the feasibility of the office and its functions is made during 2006 (action SETSO TF).

The tasks of the TSOs' auction office are:

- Calculation of PTDFs[5] through TSOs co-ordinated network analyses, based on a complete 380-220 kV network model, and validation of the cross border capacities[6], preliminarily assessed and harmonised between TSOs,

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[3] Reserve power markets are sometimes combined with regulating power markets.

[4] "Auction office" in this paper refers to the tasks that are foreseen for this office. The question of physical, juridical and organisational form is left to be decided once the test runs have been achieved.

[5] PTDF, Power Transmission Distribution Factor. PTDFs indicate how power lowes are distributed to various interconnectors in a meshed transmission network.

[6] Cross border capacity indicates the max power flow transferable under N-1 security conditions through the interconnection of two involved control zones/countries.

- single multilateral capacity allocation through explicit auctions for yearly, monthly and weekly capacities
- single multilateral capacity allocation through implicit auctions[7] for the day ahead cross border allocation

2.14. Generation adequacy

Generation adequacy is in most European countries government's responsibility. A wide range of approaches exist, from no-intervention-in-the-market –policy to a centralised planning and tendering policy.

The recent proposal for a directive on electricity security of supply calls for the governments to publish their policy regarding security of supply. There is no requirement to have a uniform generation adequacy approach. However, it is important that there is some level of harmonisation in the measures in order to avoid distortion between market players in a region. This is particularly true for the level of possible capacity payment type of measures, which aim to attract new investments.

SEE: National approach with regional harmonisation, with monitoring by UCTE and ETSO (action regulators, UCTE and ETSO).

3. INSTITUTIONAL ARRANGEMENTS

The following regional institutions will be the key instruments in the creation and proper functioning of the SEE Electricity Market. Their functions can be summarised in general as follows:

SEE Regulatory board

- Tasks to be defined by February 2006.

SEE Secretariat

- Practical implementation of the SEE Treaty

TSOs' auction office

- Allocation of cross-border trade capacity

Regional Energy Information Centre

- Collection of energy statistics from the region

[7] Using bids in power exchanges for different zones, once power exchanges are ready to perform this task.

4. TIME-TABLE FOR IMPLEMENTATION

An overall time-table for the development of the SEE Electricity Market is presented in the following. It summarises the actions described in this document. This time table is based on the assumption that the SEEElectricity is compatible with the EU electricity market at the latest in 2010, except for eligibility for household customers.

2005

- CBT agreement

2006

- Trading at wholesale level fully opened.
- Dry-run of the auction office
- Energy information centre operational

2007

- TSOs unbundled
- Common EU-SEE CBT
- TSOs' auction office operational

2008

- Opening of the market for non-household customers including distribution companies, at the latest

2009

2010

- Unbundling of DSOs with more than 100.000 customers
- Full compatibility with the EU Internal electricity market (except households)

2015

- Opening of the market for household customers, at the latest

5. ACTION PLAN

The most important regional actions required for the completion of the SEE Electricity Market are presented in the Action plan in the Annex 1. The list does not contain actions which will be done on a national basis without other regional co-ordination than follow-up and monitoring.

Matti Supponen

SEE Electricity Market Action plan

Action	Expected results	Content	Responsible party	Time-table	Financing	Follow-up	Remarks
1. Creating a CBT for SEE Electricity market	Combined EU and SEE CBT mechanism for 2007	Agree among SEE TSOs and with EU TSOs on a European CBT mechanism	SETSO TF	October 2006	TSOs	8th Athens forum	
2. Regional grid-code	Implementation of a regionally compatible Grid Code in all SEE countries.	Follow-up the SEE grid code project recommendations	CEER	October 2006	CEER	8th Athens forum	
3. Study on improvement of financial and accounting systems of electricity companies	A report on financial and accounting systems.	Study on the present status and recommendations	CEER	End of 2006	Donors	8th Athens forum	

Action	Expected results	Content	Responsible	Time-	Financing	Follow-up	Remark

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4. Study on tariffs	Report on tariffs and possible price distortion in SEE	Collection of tariffs from the region, analysing them and give recommendations	CEER/ USAID	2006	USAID	8th Athens forum	
5. Follow-up on affordability of electricity	Measures at national level on affordability of electricity for poor consumers.	Actions following recommendations of the affordability study. Guidelines on customer protection.	EBRD CEER	2006	Donors	8th Athens forum	
6. Comparison of national market models	Understanding of how each market works and what are the obstacles for efficient functioning of the market.	A detailed analysis of each market.	EC, CEER, Eurelectric, ETSO, EFET and Donors	May 2006	CIDA	8th Athens forum	
7. Benchmarking	Benchmarking report	Continuing monitoring activity	SEE secret., CEER and TSOs	Yearly report in October	Donors and TSOs	7th, 9th, etc. Athens forum	
8. Update on network investment projects in the region	Report on network investment projects in the region	Co-ordination of network investment projects in the region and reporting on them.	UCTE	Yearly report in October	TSOs	7th, 9th, etc. Athens forum	

Action	Expected results	Content	Responsible party	Time-table	Financing	Follow-up	Remarks
9. Dry run of the flow-based capacity allocation and the auction office	Validate the flow-based capacity allocation system for the region	Dry run of the system starting from October 2005	SETSO	2006	TSOs and donors	7th ,8th and 9th Athens forum	
10. Study on wholesale markets	Report on wholesale markets and trading in the region with recommendations	Analysis of present situation and proposing options for the future	EBRD	End 2006	EBRD	8th Athens forum	
11. Bilateral trade rules	Harmonised rules for bilateral trade in the region	Proposing standard contracts and procedures for bilateral trade	EFET	October 2006	Donors	8th Athens forum	
12. Spot markets and intra-day markets	Spot markets and intra-day markets covering the whole region	Analyse and propose a network of power exchanges in the region	Borzen, OPCOM together with Europex	2006	Donors	8th Athens forum	
13. Study on real time balancing and reserve power markets	Options for the scope for a regional market	Study the feasibility and benefits of integration, implement a pilot project	SEETEC	2006	CIDA	8th Athens forum	

Action	Expected results	Content	Responsible party	Time-table	Financing	Follow-up	Remarks
14. Investment support mechanism study	Report on investment support mechanisms	Options for investment support mechanisms	World Bank/EC	2006	World Bank	7th and 8th Athens forum	
15. Investment workshop	Increased interest to invest in the region.	Present and discuss generation and transmission investment projects in the region.	World Bank/EC	March 2006	EC	8th Athens forum	
16. Generation adequacy	Generation adequacy report	Collect the information and present it in the European report.	UCTE/ETSO	Yearly report in March	TSOs	8th, 10th, etc. Athens forum	
17. Energy Information Centre	Fully operational Information Centre	Start up of the Information Centre	SEE Secretariat	2006	Bulgaria, EC	8th Athens forum	
18. Market monitoring	Definition of tasks and responsibilities in market monitoring	Drafting of the implementation procedure	CEER/USAID	2006	USAID	8th Athens forum	