1. BACKGROUND

The Parties to the Energy Community are the European Union on the one hand and the following Contracting Parties: Albania, Bosnia and Herzegovina, Croatia, the Former Yugoslav Republic of Macedonia, Serbia, Moldova, Montenegro, Ukraine and the United Nations Interim Mission in Kosovo (UNMIK).

The core activities of the Energy Community include:

- Implementation of relevant acquis on energy, environment and competition by the Contracting Parties, thereby creating a single regulatory space within the broader geographic scope of the Treaty;
- Development of regional electricity and natural gas markets in South East Europe (SEE) by the Contracting Parties and neighboring EU countries (Austria, Bulgaria, Greece, Hungary, Italy, Romania, Slovenia);
- Establishment of a single pan-European energy market without internal frontiers, comprising Contracting Parties and EU countries.
The acquis includes Regulation (EC) No 1228/2003 on the conditions for access to the network for cross-border exchanges of electricity and the Congestion Management Guidelines, setting the framework for the management and allocation of available transfer capacity of interconnections between national systems. In November 2006, the EC adopted a Decision amending the Annex to Regulation (EC) No 1228/2003 on conditions for access to network for cross-border exchanges in electricity, setting more detailed rules for management and allocation of capacity of interconnections and establishing seven regions, whereby a common coordinated management method and procedure for the allocation of capacity to the market between countries of the region should be established not later than 1 January 2007.

The Ministerial Council (MC) of the Energy Community on 27 June 2008 decided to implement the amended Congestion Management Guidelines, thereby effectively establishing the so-called 8th Region. With this decision, TSOs of the Region are required to implement the same obligations as the TSOs of the EU Member States, i.e. a common coordinated management method and procedure for the allocation of capacity to the market, not later than 31 December 2009.

In order to foster regional electricity market integration in SEE, the Athens Forum invited The World Bank to engage a consultant for developing a study on wholesale electricity market opening in SEE ("WMO study"). This task was conferred to a consortium comprising Pöyry Management Consulting and Nord Pool Consulting. National regulatory authorities gave input to the work of the consultant consortium through the Electricity Working Group of the Energy Community Regulatory Board (ECRB EWG). The study was finalized in July 2010, for the first time providing a sound analytical basis for implementing an efficient regional electricity market in SEE as well as flexibility to the parties on several options regarding their participation to the regional market. The key outputs of the study are proposals for:

- SEE Regional Market Design;
- A draft Regional Action Plan;
- Draft Local Action Plans aimed at mitigating gaps identified by the consultant between the minimum requirements to participate in a regional wholesale market and the current status.

In parallel to the development of the aforementioned study, significant steps towards market integration have been made in the EU – adopting the third legislative package on the internal gas and electricity market ("3rd Package"), establishing new European institutions (ENTSO-E, ENTSO-G, ACER), the preparation of Framework Guidelines and (expected) Network Codes, the work of PCG and AHAG on

---

3. The 8th region includes the following territories: Albania, Bosnia & Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Montenegro, Serbia, the territory under administration by the United Nations Interim Administration Mission in Kosovo (pursuant to United Nations Security Council Resolution 1244), Bulgaria, Greece, Hungary, Romania, Slovenia and Italy.
target models for capacity allocation and congestion management (CACM), the implementation of market coupling in Central West Europe (CWE)\(^6\) in November 2010 etc.

Although the high level recommendations of the WMO study are compatible with the expected target model in EU, it is necessary to adapt some details of the proposed SEE regional market concept in order to ensure maximal coherence with the solutions being developed in the European Union.

The **ultimate goal** is to achieve a single platform for yearly, monthly and daily implicit auctions for the SEE region.

### 2. CAPACITY CALCULATION

Developing a common grid model and coordinated capacity calculation method in the SEE region in line with the European electricity target model is a prerequisite for the implementation of both explicit and implicit coordinated auctions, aiming to maximize the capacity available to the market while at the same time respecting TSOs security standards. Furthermore the use of a common transmission model is required by Article 3.5 Congestion Management Guidelines annexed to Regulation (EC) 1228/2003. Publication as well as regulatory approval of the capacity calculation model is required by Regulation (EC) 1228/2003.

The SEE TSOs have already developed a common SEE grid model for long-term and short-term timeframes. This common SEE grid model needs to be revised and enhanced, with strong additional efforts on harmonization of capacity calculation method in line with current efforts by ENTSO-E on developing EU-wide capacity single price coupling for day-ahead, and a capacity calculation mechanism based on NTC/ATC or Flow based method, depending on the interdependence of the grid of the respective region/regions.

Flexibility to adapt the output of this task to the expected Framework Guidelines\(^7\) and network codes should be maintained.

### 3. FORWARD CAPACITY MARKETS

Although most of the SEE TSOs have already introduced capacity allocation mechanisms based on auction principle for congestion management at their borders, there is still a **lack of harmonization** within the region as a large number of different

- market IT systems
- auction rules and
- decentralized scheduling principle

co-exist creating a barrier for the international energy trading.

---

\(^6\) (Region) Central West Europe, one of the 7 Regions established by Regulation (EC) 1228/2003 Congestion Management Guidelines.

\(^7\) Until the Network Codes are developed.
In order to overcome such problems, a Memorandum of Understanding that describes the willingness of majority of SEE TSOs to establish a **Coordinated Auction Office in South East Europe** (“SEE CAO”) as “one-stop-shop” solution, was signed by the majority of the TSOs of the 8th Region. The location of the future SEE CAO will be Montenegro. The legal establishment of a company in charge of setting up the SEE CAO (“Project Company”) is currently in progress.

However, considering best EU practice and taking into consideration the current wide differences in capacity allocation methods applied in the region, a stepwise (“glide-path”) approach should be implemented:

a) Implementation of coordinated bilateral explicit auctions in the SEE Region;

b) Establishment of multilateral coordinated (NTC based) explicit auctions on several borders (based on technical and organizational feasibility);

c) Establishment of centralized multilateral coordinated (NTC-based in a first step, flow based remaining the final concept) auctions on most of SEE borders (over a single platform/single point of contact for allocation of long-term transmission rights; - CAO);

d) Multilateral coordinated auctions on all borders within the SEE region (regional one-stop-shop and, finally, EU-wide solution).

The understanding of a **common coordinated congestion management method** may involve a centralized one-stop-shop solution for long-term transmission capacity markets for the entire 8th Region, or joining the EU-wide solution depending on the final requirements of the Framework Guidelines and Network Coded. Flexibility to adapt the output of this task to the expected Framework Guidelines and Network Codes should be maintained.

### 4. DAY-AHEAD MARKET

The main features of the SEE regional day-ahead market will be based on the recommendations of the WMO Study, which will be adapted to the extent necessary to ensure compatibility with the current developments in EU - i.e. work of EUROPEX\(^8\) and ENTSO-E, the Project Coordination Group (PCG)\(^9\), the Ad Hoc Advisory Group of Stakeholders (AHAG)\(^10\), achievements of the current CWE and North West Europe (NWE)\(^11\) Market coupling enduring solution. Development of the regional electricity market will combine the bottom-up approach (TSOs, Power Exchanges, regulators, Ministries→SEE region→single EU market) with the top-down approach (Framework Guidelines and Network Codes, ENTSO-E, ACER) with a view to establish a liquid SEE day-ahead market mechanism convergent with existing EU markets in a most effective way.

---

\(^8\) Association of European Power Exchanges (www.europex.org).

\(^9\) Project Coordination Group chaired by the European Energy Regulators that developed five Target Models for forward, day-ahead, intra day and balancing markets and capacity calculation as part of its European market integration strategy.


\(^11\) (Region) North West Europe, one of the 7 Regions established by Regulation (EC) 1228/2003 Congestion Management Guidelines.
The high-level principles\(^{12}\) of developing the SEE regional DAM are as follows:

### 4.1. Price Based Market Coupling as Target Model for SEE DAM

Based on the significant analytical work\(^{13}\) undertaken within the Athens Process – such as the analysis of current status of electricity markets in SEE, identified obstacles to the development of competitive national and cross-border market trade, comparative analysis of various market design options – and taking into consideration the developments in the EU developed by the project team of the NWE market coupling enduring solution, it may be concluded that the price based market coupling should be pursued as a target model for the SEE DAM. Nevertheless, tight volume market coupling could be considered for the implementation in the interim phase.

### 4.2. Staged Implementation of the Regional DAM

Similar to experience in the EU of implemented regional markets based on market coupling, market integration in the 8\(^{th}\) Region on a day-ahead level could start with a nucleus consisting of certain jurisdictions.

An additional possibility could be co-existence of two or more independent market coupling regional initiatives which would merge within the predefined time-horizon. Regional DAM will be extended gradually by adding new jurisdictions, with the final objective to couple with EU DAM in an efficient way not later than 2015.

### 4.3. Parallel Development of Regional and Local Electricity Markets

SEE local markets are in average underdeveloped – reliance on bilateral trade is prevailing whereby

- the markets are to a large extent foreclosed due to existence of regulated market segments and dominant incumbent companies;
- there are no trustworthy price references having only few power exchanges are operational in the Region
- legal changes – i.e. the implementation of the 2\(^{nd}\) package of internal market legislation – and structural changes - such as corporatization, commercialization and market liberalization – in the electricity sector are still underway.

---

\(^{12}\) WMO Study.

The WMO Study identifies barriers for market development in each jurisdiction in SEE (except for Hungary, Italy, Moldova and Ukraine) and proposes Local Action Plans for their mitigation.

It should be emphasized that, even with rapid removal of the identified barriers for trade, due to the small size of the SEE markets it is questionable that satisfactory liquidity of local markets would be achieved. Therefore, parallel development of regional and local markets is a must. Although lack of liquidity of local markets adds complexity to market, it is expected that precisely the market coupling will promote the liquidity in SEE - single-step cross border trade by auctioning energy and capacity simultaneously; increased transparency; improved reliability of price references are expected to encourage the cross border trade.

4.4. Flexible solutions for local DA markets

Each jurisdiction decides whether to establish a local power exchange – if not already existing –, contract services from an existing power exchanges or initiate/join an initiative to set a common power exchange for several jurisdictions.

4.5. Integration with neighbouring regions/markets

The coupling of European spot markets announced by APX- Endex, Belpex, EPEX Spot, GME, Nord Pool Spot and OMEL (March 2010), the expansion of trilateral price coupling (TLC) to the whole CWE Region (November 2010) and the establishment of (tight volume) market coupling between the CWE and Nordic Region are clearly showing that establishing an EU-wide mechanism for day ahead capacity and energy trade is progressing well.

A SEE wholesale market coupled to other European power markets is expected to deliver less volatility to market prices, improve market liquidity, and enable more efficient use of existing cross-border capacity, while establishing a reliable and trustworthy price reference for the region and enhancing confidence of investors. This is an ambitious objective taking into consideration current status of electricity markets in the region, but also a must for countries that are in various stages of EU accession procedure.

14 These countries may take part in the SEE regional market in perspective, when the conditions are fulfilled, i.e. synchronizing Moldova and Ukraine with ENTSO-E interconnection; and newly constructed DC cables between Italy and SEE Region.
15 The proposed National Action Plans need to be reviewed and agreed within TSOs, NRAs and Ministries and officially accepted by national authorities. The national action plans deal both with legal deficiencies (ex. existence of regulated prices for industry; unbundling of suppliers; none—existence of balancing mechanisms…) and other measures to boost market development (ex. incentives for public suppliers and eligible customers to source from the open market).
16 Power exchange operating spot and futures markets for electricity and natural gas in the Netherlands, the United Kingdom and Belgium; www.apxendex.com.
17 Belgian power exchange; www.belpex.be.
18 www.epexspot.com; cooperation of German energy exchange EEX (www.eex.com) and French Powernext (www.powernext.com).
19 Gestore Mercati Energetici organising and economically managing the Italian Power Exchange (IPEX); www.mercatoelettrico.org.
20 www.omel.es
21 One of the 7 Regions established by Regulation (EC) 1228/2003 Congestion Management Guidelines.
Flexibility to adapt the output of this task to the expected Framework Guidelines\textsuperscript{22} and Network Codes should be maintained.

5. CROSS-BORDER INTRADAY MARKET AND BALANCING MECHANISM

Implementation of cross-border intraday capacity markets throughout the SEE Region would bring significant benefits to the market – among others more flexibility to market actors; more efficient utilization of capacities; more efficient facilitation of intermittent generation; reduction of TSOs’ balancing costs and enhancing competition.

In line with this and as a prerequisite for regional integration of short term markets, there is a need to identify the current status of intraday trade in the 8\textsuperscript{th} Region and the possible needs for harmonization of national regimes. Based on this analysis, and taking into consideration developments in the EU - i.e. the work of ENTSO-E, Framework Guidelines and Network Codes – the SEE TSOs will develop a common solution for coordinated cross border capacity allocation on intraday basis.

Taking into consideration the current (low) level of development of intraday markets in the SEE Region, it seems to be reasonable to take an interim step of sub-regional integration before implementing an entirely regional solution (market integration would start with a nucleus consisting of two to three jurisdictions).

For the same reason, as a first step the intraday allocation mechanism may be designed as simple as possible (First Come First Served or pro-rata) with discrete gate closure times, having in mind that the target model may be continuous or implicit allocation of intraday capacities.

The SEE TSOs (ENTSO-E RG SEE) and regulators (ECRB EWG) will continue their work on investigating options for integration of national balancing mechanisms, taking into consideration timeframe and results achieved on ENTSO-E level. As a mid-term solution for cross-border balancing energy exchange, TSO-TSO mechanism without common merit-order list could be considered. The target model will be the integration of a complete common merit-order list within the model.

Flexibility to adapt the output of this task to the expected Framework Guidelines\textsuperscript{23} and Network Codes should be maintained.

6. GOVERNANCE

In order to ensure optimal use of transmission network capacity in a coordinated way and introduce liquid regional electricity markets (intraday, day-ahead, forward) with a view to integrate them into the single EU electricity market it is necessary to establish clear governance structures. For the purpose of this Action Plan, three layers of governance are discussed:

\begin{itemize}
  \item \textsuperscript{22} Until the Network Codes are developed
  \item \textsuperscript{23} Until the Network Codes are developed
\end{itemize}
6.1. Top-Down Guidance

Top-down guidance will be provided by the Framework Guidelines and Network Codes, institutionally supported by ACER, ENTSO-E and the Energy Community institutions.

6.2. Governance within the SEE Region

The current institutional structure of the SEE Region – set by the Treaty Establishing the Energy Community (“Treaty”)\(^{24}\) - consists of the MC, the PHLG, the ECRB and the Energy Community Secretariat, acting within the framework of the Title III of the Treaty.

Coordination between the EU institutions and the Energy Community bodies is already ensured via the role of the European Commission in the individual Energy Community institutions and the coordination via the Energy Community Secretariat.

In addition, the role of the **Energy Community Secretariat** in reviewing the proper implementation of the Treaty and providing support to the institutions of the Energy Community is important in removing the obstacles for market integration related to the lack of transposition or implementation of elements of the acquis in the Contracting Parties.

As a regional group of ENTSO-E – comprising the SEE TSOs – the **ENTSO-E RG SEE** is significantly contributing to the process of developing the regionally coordinated CACM mechanism and its harmonization with the corresponding EU-wide mechanism, undertaking concrete action in that direction. Moreover, currently the ENTSO-E RG SEE is the only direct link between regional stakeholders and the governance structure and mechanisms set up by the 3rd package.

The role of the **MC (supported by the PHLG)** in the market integration process is not only to provide general policy guidance to the process, but also to mobilize governments when changes in national legal and regulatory frameworks are needed in order to implement new concepts (i.e. market integration) or remove obstacles for implementation of regional projects. The power of the MC/PHLG to issue Measures (Recommendations\(^{25}\) and Decisions\(^{26}\)) is a strong tool to promote and foster cooperation and harmonization at regional level.

Within its mandate to advise the MC and PHLG, the **ECRB** will continue contributing by developing analytical bases for market integration. Furthermore, the ECRB will foster cooperation of NRAs (both of Contracting Parties and of regionally relevant EU MS) related to necessary harmonization of market rules and transmission network codes to the extent necessary for implementation and efficient operation of the regional CACM mechanisms. Having in mind that a regional electricity market cannot be efficiently monitored by national institutions, the ECRB will continue to work on the market monitoring exercise performed currently by Potomac Economics\(^{27}\) and ECRB EWG, with a view to propose to the MC a market surveillance mechanism for the 8\(^{th}\) Region.

---


\(^{25}\) Art. 76 Treaty: a Decision is legally binding in its entirety upon those to whom it is addressed.

\(^{26}\) Art. 76 Treaty: a Recommendation has no binding force. Parties shall use their best endeavours to carry out Recommendations.

\(^{27}\) Project financed by USAID.
PHLG, ECRB and ENTSO-E will closely cooperate in implementation of this Regional Action Plan by the means of regular communication on the level of designated coordinators. The coordinators, supported by the Energy Community Secretariat, will review and inform the Energy Community institutions on regular (quarterly) basis on progress achieved as regards the deliverables defined in Annex I. Any obstacles identified should be reported to the Energy Community institutions with a proposal for remedial action.

6.3. Governance at Local Level

The main tools ensuring efficient governance at local level are Local Action Plans. Draft Local Action Plans (LAP) have been recommended by the WMO Study, tailor-made for each jurisdiction in SEE (except for Hungary, Slovenia, Greece, Italy, Moldova and Ukraine) based on performed gap analysis, with an aim to achieve minimum requirements for each jurisdiction to participate in the regional wholesale market. The LAPs contain recommendations for both legal requirements of the SEE Region jurisdictions – i.e. TSO unbundling, supplier unbundling, transparency, eligibility, balancing mechanisms etc.- and for increasing liquidity of local markets by establishment of power exchanges, virtual power plants, incentives for liquidity etc. According to the support of the 2nd ECRB-PHLG Joint Meeting28, implementation of the LAPs shall be finalized by each Ministry and NRA by the end of 2011.

Based on these recommendations, draft LAPs should be reviewed or drafted (in case of Moldova and Ukraine) and agreed by the relevant stakeholders of each Contracting Party (Ministries, regulatory authorities, transmission system operators and, where applicable, power exchanges) and approved by competent authorities (Ministry, governments or regulators if applicable).

In order to fully materialize the proposed governance structure, in addition to ENTSO-E coverage of wider-than-EU perimeter, the terms for participation of the Energy Community regulators in the work of the newly established ACER should be defined. Implementation and enforcement of the 3rd package will be a precondition of such participation.

28 See conclusion 10; http://www.energy-community.org/pls/portal/docs/928182.PDF.
### ANNEX I – Indicative Timetable

<table>
<thead>
<tr>
<th></th>
<th>ACTIVITY</th>
<th>INDICATIVE TARGET DATE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Capacity calculation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Revise and enhance a common grid model (CGM) for the SEE region</td>
<td>Q4 2011</td>
<td>ENTSO-E RG SEE</td>
</tr>
<tr>
<td></td>
<td>Harmonize methodologies/ procedures for capacity calculation for yearly / monthly / day ahead time horizons</td>
<td>Q4 2011</td>
<td>ENTSO-E RG SEE</td>
</tr>
<tr>
<td>2</td>
<td><strong>Forward markets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coordinated bilateral explicit auctions implemented on all borders within the SEE region</td>
<td>Q1 2012</td>
<td>TSOs^{29}, NRA, Ministries</td>
</tr>
<tr>
<td></td>
<td>Multilateral (NTC-based) coordinated auctions on several borders in SEE</td>
<td>Q3 2012</td>
<td>TSOs^{14}, NRAs, Ministries</td>
</tr>
<tr>
<td></td>
<td>Centralized multilateral coordinated (NTC-based in a first step, flow based remaining the final concept) auctions on relevant SEE borders (auctions performed by CAO as the service provider, i.e. single point of contact within SEE region)</td>
<td>Q4 2012</td>
<td>TSOs^{14}, NRAs, Ministries</td>
</tr>
<tr>
<td></td>
<td>Multilateral coordinated auctions on all borders within the SEE region (regional one-stop-shop and, finally, EU-wide solution)</td>
<td>Q4 2014/15</td>
<td>ENTSO-E RG SEE^{15}, PHLG, ECRB</td>
</tr>
<tr>
<td>3</td>
<td><strong>Day-Ahead market</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Establishment of power exchanges in several SEE countries or contracting services from the existing PX</td>
<td>In line with National Action Plans but not later than 31 December 2012</td>
<td>TSOs, Market participants, NRA, Ministries^{14}</td>
</tr>
<tr>
<td></td>
<td>Bilateral/ trilateral market coupling in the SEE region (nucleus approach or different regional initiatives) – tight volume coupling as a possible interim step</td>
<td>Q2 2013</td>
<td>TSOs^{14}, NRA, Ministries</td>
</tr>
<tr>
<td></td>
<td>Implementation of price based market coupling (EU target model) in the entire SEE region</td>
<td>Q4 2014</td>
<td>ENTSO-E RG SEE^{14}, PHLG, ECRB</td>
</tr>
<tr>
<td></td>
<td>Pan-European market coupling including the SEE region operational</td>
<td>Q2 2015</td>
<td>ENTSO-E^{14}, ACER, EC, PHLG, ECRB</td>
</tr>
<tr>
<td>4</td>
<td><strong>Intraday market</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Survey on existing intraday capacity markets in the SEE region</td>
<td>Q2 2011</td>
<td>ECRB^{14}, ENTSO-E RG SEE</td>
</tr>
<tr>
<td></td>
<td>Establishment of cross-border intraday</td>
<td>Q2 2014</td>
<td>TSOs^{14}, NRA, Ministries</td>
</tr>
</tbody>
</table>

^{29} **bold** = primary responsibility
| capacity market on several borders in SEE | Establishmen of harmonized regional solution for intraday capacity allocation | Q2 2015 | ENTSO-E RG SEE, PHLG, ECRB |
### ANNEX II – List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CACM</td>
<td>capacity allocation and congestion management</td>
</tr>
<tr>
<td>CAO</td>
<td>Coordinated Auction Office</td>
</tr>
<tr>
<td>CWG</td>
<td>(Region) Central West Europe, one of the 7 Regions established by Regulation (EC) 1228/2003 Congestion Management Guidelines</td>
</tr>
<tr>
<td>DAM</td>
<td>Day Ahead Market</td>
</tr>
<tr>
<td>EC</td>
<td>European Commission</td>
</tr>
<tr>
<td>ECRB</td>
<td>Energy Community Regulatory Board</td>
</tr>
<tr>
<td>ECRB EWG</td>
<td>ECRB Electricity Working Group</td>
</tr>
<tr>
<td>ENTSO-E</td>
<td>European Network of Transmission System Operators for Electricity (<a href="http://www.entsoe.eu">www.entsoe.eu</a>)</td>
</tr>
<tr>
<td>ENTSO-E RG SEE</td>
<td>ENTSO-E Regional Group SEE</td>
</tr>
<tr>
<td>ENTSO-G</td>
<td>European Network of Transmission System Operators for Gas (<a href="http://www.entsog.eu">www.entsog.eu</a>)</td>
</tr>
<tr>
<td>EUROPEX</td>
<td>Association of European Power Exchanges (<a href="http://www.europex.org">www.europex.org</a>)</td>
</tr>
<tr>
<td>EWG</td>
<td>Electricity Working Group (of the ECRB)</td>
</tr>
<tr>
<td>MC</td>
<td>Ministerial Council of the Energy Community</td>
</tr>
<tr>
<td>NWE</td>
<td>(Region) North West Europe, one of the 7 Regions established by Regulation (EC) 1228/2003 Congestion Management Guidelines</td>
</tr>
<tr>
<td>PCG</td>
<td>Project Cooperation Group chaired by the European Energy Regulators that developed five Target Models for forward, day-ahead, intra day and balancing markets and capacity calculation as part of its European market integration strategy</td>
</tr>
<tr>
<td>PHLG</td>
<td>Permanent High Level Group</td>
</tr>
<tr>
<td>PX</td>
<td>Power Exchange</td>
</tr>
<tr>
<td>SEE</td>
<td>South East Europe</td>
</tr>
<tr>
<td>TSO</td>
<td>Transmission System Operator</td>
</tr>
</tbody>
</table>