

REPORT TITLE

“INOGATE Technical Secretariat & Integrated Programme in support of the Baku Initiative and the Eastern Partnership energy objectives”

Service Contract No. No 2011/278827

EVENT TITLE

**INOGATE Electricity Cross Border Trading – EU perspectives
Objective (s)**

Date

31 January – 1 February 2013

Table of Contents

1. INTRODUCTION	3
2. PREPARATION FOR THE EVENT	3
3. IMPLEMENTATION OF THE EVENT.....	4
3.1 THE EVENT	4
3.2 THE PARTICIPANTS	5
4. EVALUATION OF THE EVENT	5
4.1 GENERAL COMMENTS	7
4.2 SPECIFIC COMMENTS	7
5. MAIN ISSUES ADDRESSED.....	8
OPENING ADDRESSES	8
SESSION 1: THE BASICS OF EU ELECTRICITY MARKETS	9
SESSION 2: REGIONAL MARKETS FOR ELECTRICITY	9
SESSION 3: A REVIEW OF THE SITUATION IN THE PARTNER COUNTRIES AND ITS APPROACH TO FOSTERING COOPERATION	10
SESSION 4: TRANSMISSION SYSTEM OPERATION AND MARKET ADMINISTRATION FOR CROSS BORDER ISSUES	11
SESSION 5: TRANSMISSION SYSTEM OPERATION AND MARKET ADMINISTRATION FOR CROSS BORDER ISSUES	13
SESSION 6: WRAP-UP AND CONCLUSIONS	16
6. ANNEXES	17
6.1 AGENDA	17
6.2 LIST OF PARTICIPANTS	17
6.3 PRESENTATIONS	17
6.4 QUESTIONNAIRES AND EVALUATION TABLES	17
6.5 PHOTOS	17
6.6 BUDGET	17
•	

ОШИБКА! ЗАКЛАДКА НЕ ОПРЕДЕЛЕНА.

1. Introduction

- This Report examines the INOGATE Electricity Cross Border Trading – EU perspectives Objective (s) on B.3.1. and B.3.3 implemented under the EU funded project “INOGATE Technical Secretariat & Integrated Programme in support of the Baku Initiative and the Eastern Partnership energy objectives”. The event was implemented in Brussels from January 31 to February 1, 2013. The main objectives of the Event were embedded in a specific 2-day format:

Day 1: INOGATE Cross-border Capacity Building Seminar:

- Provision to participants of the essential background and case studies on electricity sector organisation in the sense of the “EU Acquis Communautaire”.

Day 2: EU practice, governance and further development on Electricity Cross-border Trading – the Road to a “Single EU Electricity Market”

- Follow-up on the knowledge gained so far on the EU electricity markets and cross-border trading – presentation of the role and mandate of ENTSO-E, CEER/ACER and the Energy Community as well as role and functions of single TSOs in their respective national and regional contexts.
- It was explicitly designed to raise the awareness of PCs’ TSOs (or equivalently the departments within the vertically integrated electricity undertakings carrying out TSO’s functions).
- Therefore, the target participants were the relevant part of the Technical Expert Group (TEG): Energy Markets & Infrastructure. Within the TEG there is a special group identified and referred to as Cross-border Trading – Electricity Group (CBT-E). This involves a Dispatch specialist and a Commercial Agreements and Markets specialist as the primary counterparts. It is anticipated that the latter profile should be considered coherent for the purposes of this particular event since capacity building on electricity markets (national and regional) and their functioning are in the focus of the vent rather than the specific technical and operational rules of power grids.
- Based on the convention that TSO functions encompass Market Operation (MO) functions and that in certain cases these are bundled into vertically integrated electricity utilities, in total 16 participants from the PCs representing part of the CBT-E Group are expected to attend this event.

It is worthwhile mentioning that:

- Where System Operation (SO) and MO functions are entrusted to distinct institutions (i.e. cases of Ukraine and Georgia) an additional participant per PC (system operation function/dispatching) has been taken into account;
- For the case of Central Asia where a regional coordination centre is preserved (i.e. CDC Energia) an additional participant has been taken into account

2. Preparation for the Event

The preparation of the event was broken down into the following tasks:

- Development of the concept note, thematic agenda and selection of the speakers for the event
- Engagement of the speakers and guide/coordinate the speakers through to arrange their presentation content so as to be coherent and fulfil the objectives of the event

- Preparation of the evaluation reports and review of seminar's conclusions report
- Development and editing the training material which will be handed out to the participants together with the seminar conclusions report
- More specifically, the specific objectives of the event were:
- Presentation of the project Work Plan for sub-component B3 (Improved conditions for energy trade in the field of electricity and gas)
- Discussion of the fundamental principles under which the electricity markets work in the EU;
- Description of the role of institutions and market participants within the liberalized electricity markets;
- Elaborate on the organisation of cross border trading and the associated market mechanisms and the gradual convergence towards a common "target model";
- Discussion of the barriers, the decision making processes and the important milestones of cross border electricity trading in the region of the Energy Community;
- Review of the situation in the Partner Countries and trigger the discussion as a means of providing guidance for the electricity cross border trading activities included under the INOGATE work programme;
- Acquaintance and/or update on the activities of EU associations representing Regulatory Authorities, Transmission System Operators and Power Exchanges;
- Understanding the functions of a System and a Market Operator in managing the power system and the market while scheduling and administering cross border transactions;
- Acquaintance and/or update on the conditions and process of integration and cooperation in the Baltic and Eastern Mediterranean/Black Sea region.
- Overall the seminar aimed to achieve the following results:
- The participants should gain a sufficient background knowledge and understanding so as to be able to further discuss and analyse possible functionalities of the EU practices in respect of cross border cooperation in electricity;
- Familiarity should be achieved among key technical stakeholders in the PCs in order to establish peer-working groups (for each regional market);
- A certain sense of understanding and appreciation between key technical stakeholders originating from the PCs and their counterparts from the EU associations should have been established;
- An adequate understanding should have been achieved by the key technical stakeholders in the PCs on the nature of the differences in the regulatory approach, governance and administration of EU-wide cooperation platforms (as they are in force in the EU i.e. ENTSO-E, ACER/CEER, etc.)
- Similarities and profound deviations in the historic evolution and also in the course and continuous effort of establishing cooperation platforms between the EU electricity systems and those of the neighbouring countries should be identified;
- The scope and sequence of activities in the INOGATE work program and the way towards a wider cooperation within the INOGATE project should be considered as part of the seminar's conclusions.

3. Implementation of the Event

3.1 The event

- The Seminar took place on January 31 – February 1, 2013 at the Borschette Conference Centre, 36, Rue Froissart, 1040 Bruxelles (Room AB-3A). The agenda of the event could be seen from [Appendix 6.1](#)

3.2 The participants

- There were participants from the following nine countries: Armenia (2), Belarus (1), Georgia (3), Kazakhstan (2), Kyrgyzstan (1), Moldova (1), Turkey (2), Ukraine (2), and Uzbekistan (2). Only 2 countries (Turkmenistan and Tajikistan) were not able to participate.

The list of participants of the event could be seen from Appendix 6.2

4. Evaluation of the Event

The evaluation of the event and its impact has been performed using the questionnaires (see Appendix 6.4) filled in by the participants before and after the event. The evaluation aimed at:

- Assessment of an overall organisation (presentations, logistics, hotel, etc) of the event as well as usefulness & quality of each session
- Assessing the gained knowledge & priority needs of the participants and their evaluation of the delivered contributions.

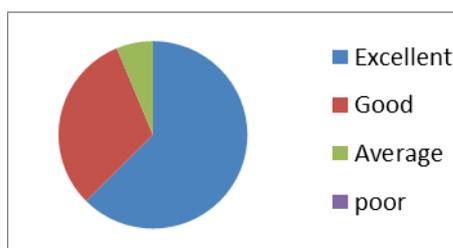
Overall organisation evaluation

Evaluation of the overall organisation of the event included:

- 1) Organisational Part
 - Overall Organization
 - Travel and visa support
 - On-site organization
 - Quality of the hotel
 - Organisation of Presentations
- 2) Quality of Sessions
- 3) Understanding of B3 work programme
- 4) Quality of round table discussions
- 5) Selection of topics for presentations

The participants valued the organisation of the event highly giving excellent and very good ranks.

The summary of the evaluation results for all 5 above components are presented in Appendix 6.5 (A). For illustration purposes below is presented an example of summary results for the Organisational part.

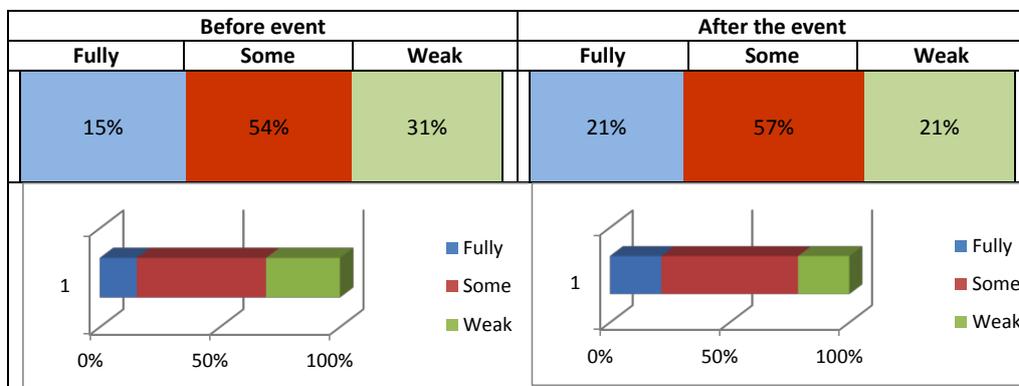


Gained knowledge and priority needs evaluation

The summary of the evaluation results for gained knowledge and priority needs are presented in **Appendix 6.5 (B)**. The evaluation was performed against the components such as understanding of European policy and legislation on the energy sector, familiarity, knowledge and understanding of the EU 3rd Package for the Energy Sector, and the relevant Regulations providing for Electricity Cross Border Trading, knowledge and understanding of role and mandate of EU associations of Regulatory Authorities, the process of development of the Energy Community, etc.

The evaluation shows that for the majority of the components assessed the participants have gained their knowledge and improved their understanding.

For illustration purposes below is presented an example of summary results for the process of development of the Energy Community.



It is worthwhile to be noticed that the event (particularly over the 2nd day) comprised a lively exchange on important “technical” features of electricity markets in which the PCs evidently deviate from the EU context. Being sometimes established between the so-called “more advanced” INOGATE countries (i.e. Georgia, Armenia, Ukraine, Kazakhstan and partially Moldova) in the context of electricity market, this exchange allowed for a transfer of experiences among the PCs – In addition to the anticipated direction of information flow that involves “EU-to-PCs”. Evidently, this case can be attributed to the TEG members’ participation (instead of the usual high level audience of INOGATE) and the careful selection of topics and speakers in the agenda.

Admittedly however, the limitations and challenges faced in this event included:

- The lack of homogeneity and hence level of understanding of the participants in relation to the liberalised electricity markets; For instance, there are cases where participants evidently confront particular challenges and in which they seek the EU experience to grasp upon (i.e. Georgia and Ukraine in the frame of their Energy Community membership and Central Asia in relation to the establishment of a commonly agreed Inter-TSO compensation model).
- The time shortage: The participants (particularly those coming from the so-called “less advanced” countries) were called upon to absorb a wealth of information and new ideas/concepts at a very short time. Luckily, it was found that the gap between the “more” and the “less advanced” is not of a size that would prevent one from each other

to exchange views and come up with meaningful questions for the speakers. Working with TEGs is also anticipated to allow (in the progress of the INOGATE Work-programme) for a gradual in-depth addressing of the cross-border subject without having the burden to discuss on peripheral but equally important issues such as: market models, organisation of the sector, unbundling, etc.

The INOGATE team has taken good note of the aforementioned observations and incorporated part of the demands in the upcoming Cross Border Trading Study which is a follow up to the event. Similarly these observations will be taken into account in the sub-regional CBT events that will deal with the specificities of each region (i.e. Eastern Europe, Caucasus and Central Asia).

The main feedback provided **after the event** relates to the following points:

4.1 General comments

- Participants should be better informed ahead of the event about the presentation contents in order to prepare their questions. The absence of printed, also translated slides was felt as a detrimental to the possible results since “printed slides are necessary to the audience, for one may make some remarks, comments and questions during the sessions and (especially if translated) could have provided a huge support to the right understanding of the presentation”.
- Another suggestion is to collect and translate the text of speakers ahead of the event and to post them on the INOGATE website ahead of the event.
- Time allowed to speakers compared to the dense content of some presentations was perceived in some cases too short as well as time left for discussion of specific points after the presentations.
- The event should foresee more practical examples / experience feedback from other power systems related to cross border trading.
- The interpreters should have more electricity sector experience in order to improve the precision of their translation of presentations and discussions.

4.2 Specific comments

- Related to the further use in daily work of knowledge and skills acquired during the event, a broad majority of participants stated they were planning to use them as a support to “commercial (transits, day-ahead-market) and technical arrangements for cross border electricity transactions (including software development)”;
- Participants also underlined the differences in markets and models but stated that the knowledge acquired would be useful for the development phase of an own trading mechanism or legislation in cooperation with the relevant authorities, in case of downsizing distribution companies of the set-up of balancing markets;
- Concerning the clarification of the roles and functions of the main institutions active in competitive electricity markets, most participants agreed that the provided knowledge would be beneficiary to their work in the respective PCs in the near future, especially in case “of some negative experiences with the domestic electricity markets are being provided also” and be used and analysed as case studies with the cooperation with regulators;
- One PC reminded that the fact of having on the INOGATE web pages (*Mr. Shamsiev comment on Summary p. 3 calls for it, but it exists already thus “the fact of”*) a collection of the relevant primary (EU) legislation would damp the heterogeneusness of participants at workshops.
- Participants would also after the event more regularly monitor the respective web pages of institutions represented at the event.

- The “best practice examples” provided during the event were referred to in comments as generally useful during the upcoming reforming processes in the PCs. One participant mentioned in this context the specific role of Russia “which is the basis of the unified electricity system of NIS countries” that is and will be forcing neighbours to act according to their rules”. The Russian (market) model was referred to as “very difficult and non adequate” resulting in a market “not acceptable” market approach.
- Another participant noted that the event made clear that “it’s possible to come to an agreement with neighbours even if legislations are very different and impossible to solve the interconnection problems without agreement between regulatory institutions”.
- Regarding the impulses delivered to participants at the event for improving the legislative and regulatory framework in their respective countries, participants noted a positive effect on the development e.g. of market rules or grid codes and one participant stated that the “EU experience may help to overcome some difficulties for developing a new methodology on electricity transits.”
- Some individual statements underlined that neither individual “participants or represented companies are [directly] involved in legislative developments”, which would reduce the potential use by participants of the knowledge acquired.
- One participant stated that only “more specific skills and concrete examples how electricity and system services market would work in different EU countries” would be better usable in their country, the more the event did not report “about some mistakes in EC reforms of the power sector”, which also would “be useful to know before developing partner countries’ laws”. In this context it was also specifically referred to the Baltic countries
- Finally some participants from PCs in direct contact with the Baltic countries PCs doing since these “have moved from one system to another and do have both side experiences. They’ve passed the way that we still need to go through and that is why it is more simple when we’re getting explanations from them, especially when there is no language barrier”
- A broad positive feedback referred to the possibility provided by the Event to meet directly with key technical experts from the respective neighbouring systems allowing in the future for a more effective dialogue about issues such as energy efficiency, supply diversification, energy transits, the development of renewable energy sources, the demand side management, with the clear aim to “attract investments towards energy projects of common and regional interest”.

5. Main issues addressed

Opening addresses

- According to a presentation by EC about the current status of play in EU in the field of electricity, EC envisages to complete by 2014 a Pan-European wholesale market. This calls for a swift agreement on different network codes, both in the operational and in the market context. It was underlined that in each EU country taken now as single price zones, ownership unbundling is a basic feature, while the EU target model will be designed as hourly spot market. There will be shorter-term EU intraday bids collected and centrally organized; each control zone will have its own balancing, but the target is a single balancing reserve pool;
- Regarding market coupling, all European spot markets are connected to each other all over Europe except in the South-East of Europe; nevertheless, a substantial amount of explicit auctioning remains; there could be already next year a unified area leading to a single place where bids are collected and transmission capacity sold (“Europool” is a working title);

- The new network codes being developed are technical and market rules of fundamental character aiming to overcome the transmission challenges due among others to a structural energy surplus in the North facing a deficit in the South alongside the search for solving the challenge of the integration of RES into a robust grid operation;

Session 1: The basics of EU electricity markets

- The ITS presented the various concepts, approaches and also steps that need to be implemented towards market integration and market liberalization, starting with the fundamental features of wholesales markets.
- The fundamental requirements to achieve either functional or legal unbundling were presented especially pointing at the fact that not all TSOs in Europe are equally unbundled;
- More specific aspects discussed by participants were:
- The question of active participation of Switzerland from the beginning of cooperation in Europe was addressed and noted that Switzerland is under negotiation with EC in order to compromise on institutional issues and conflicting different legislations with Swiss also related to the independence of TSOs;
- The integration of RES into grid operation appears to be easier to be achieved when RES generation is also linked to a certain balance responsibility;
- The practical calculation methodology for ITC (what is done ex-ante, ex-post) was addressed and participants noted that this specific point would deserve further consideration:
- Are there limitations of size among market players in a centralized / decentralized market?
- Power pool systems: why is it necessary that all producers must buy in the pool and all buyers buy from the pool;
- How to organize competition between hydro and CHP (concepts of “must-run” rights)
- Will investors in a market concentrate in cheap hydro in order to systematically get the main business?
- The role of exchange differs depending on the respective market design
- Each Electricity transmission/power system must find its own way to define cross-border issues, respecting its specificities and harmonizing the procedures with neighbouring systems on the regional level, especially via commonly agreed rules
- The Energy Community Contracting Parties already used the experience from EU Members States during 90ties and 2000 in order to develop the most appropriate cross-border mechanisms in the so called “8th region”
- Even during the physical separation from the main UCTE interconnection in 90ties, the SEE region has done efforts to developing EU mainstream mechanisms in cross-border tariffs
- But, the SEE specificities in the 8th region has been always respected and implemented in the EU cross-border mechanisms in a most appropriate way
- The Littoral States of the Black and Caspian Seas and their neighbouring countries could gain experiences from the Energy Community efforts and experiences, as they followed the EU mechanisms, which enabled the opening of the electricity markets under transparent equal conditions for all market players.

Session 2: Regional markets for electricity

- The basic concepts of regional cross border trading in the EU were presented.
- As an overview, the meeting reviewed several major examples of collaboration platforms in Europe such as ETSO, UCTE, NORDEL, and BALTSO over the last 60 years that led to the establishment of a single platform, ENTSOE, both serving as TSO single point of contact all across the EU and overarching several regional markets.

- Specific examples such as UCTE, NORDEL, and ETSO showed that regional collaboration TSO platforms developed in Europe over almost 6 decades and finally were integrated in 2009 under a single TSO body, ENTSO-E, responding to a new legal framework (3rd energy package). This development of the platforms shows main common features:
 - a clear strategic objective;
 - adequately dimensioned and reliable systems operation embedded in reliability standards progressively linking system operation;
 - the approximation to system development and market issues under national and progressive European regulatory oversight;
 - active involvement of companies for common work and for making data available for studies in a well coordinated pools, adapted governance model to facilitate the buy in by authorities of processes developed by the affected companies;
 - a substantial dedicated manpower input by participating companies, efficient (either central or regional) coordination centres (especially for issues like international stakeholders interfacing, communication, law and governance issues)
- **The Energy Community (EnC)** presented an overview on both the Energy Community (EnC) and the Energy Community Regulatory Board (ECRB) including the legal basis for Contracting Parties for treating cross-border issues, the cross-border transmission allocation mechanisms as well as the Inter TSO Compensation mechanism in EnC as part of pan-European ITC mechanism.
- Further, details regarding the situation in the region prior to the EnC were reviewed (i.e. bilateral agreements, energy transfer modes (i.e. radial transmission vs. synchronized operation), customs and taxation on energy issues, the role of the Electricity Coordination Centre (EKC) in Belgrade, transit tariffs calculation.

Session 3: A review of the situation in the Partner Countries and ITS approach to fostering cooperation

- The main data made available by each partner as to reflect its own energy sector, the organisation of its national electricity market including cross border activities as of today and the status of analysis and preparation for setting up progressively regional cooperation platforms in the framework of INOGATE were gathered by the ITS.
- In an overview, the main challenges and benefits of developing exchanges and building up more advanced market platforms were presented by ITS, pointing also to the way forward region by region.
- Participants asked for more details about:
- A situation when, following any commercial agreement between seller and buyer, the volumes/times agreed are sent to TSOs. How does EU TSOs cope with deviations due to the number of contracts and the different flow patterns? ITS answered that if a commercial contract can't be carried out, it's cancelled by the TSOs and the rejections documented. In case of technical reasons, it depends on the responsibilities chain for sorting out the failure, but TSOs do not create artificial barriers.
- An intense dialogue started among different PCs about some of their respective practices regarding the compensation of their transmission costs, with or without balancing contracts with Russia, the used accounting periods (mostly monthly), the system emergency contracts (Kazakhstan/Georgia), the transmission corridors for exchanges, etc.
- PC's were also interested in tools used in Europe to forecast demand, to which ITS experts answered that this exercise became more challenging for European due to embedded generation in the distribution networks, and the complexity of weather forecast models used for forecasting wind and PV generation.

- While for compensating the losses of each EU country, payments are not based on average tariffs but according on each tariff (resulting in some discrepancies), the contribution by perimeter countries is a fixed charge per volume contracted with ITC countries.
- Bearing in mind that the European ITC fund amounts today to 100 M€ / yr participants asked for some extrapolation about the fund size once adopted by them and for the rationale of the calculation of the resulting amount. ITS went into some details as follows:
 - Also in Europe, the amounts paid to the fund are the result of a compromise since most TSOs argue that this contribution has been paid by customers (with always some disagreements between transiting countries and importing/exporting countries). However some recent studies showed that if the transmission EU network and the part of it that participates in transit (horizontal network [HN], which is about 7% of the total network) would be calculated on a reconstruction cost basis, the amounts to be paid to the fund should be 12 times higher than the current fund.
 - For this reason and since from 2006 to 2010 the costs of the HN elements increased at a yearly pace, a decision was made by both ENTSOE and EC to cap the fund while the regulators would verify that the same methodology is used for ITC and national purposes. TSOs may not compensate national business with ITC fund monies and the ITC tariff has nothing to do with the national transmission tariff: it is a separate procedure to remunerate the impact on a given network of load and generation operated in neighbouring transmission networks;
 - In EU the term of “transit” no longer exists. EU TSOs speak of “usage of neighbouring networks” instead due to the difference between former commercial transit deals and the compensation of the physical impacts of CBT on each system.
 - The metering is the crucial element for calculating the ITC. The model is based on snapshots. The payments are done monthly, on 20th of M+1, ex-ante with a correction (clearing) at the end of the year, but always at the capped level of the fund.
 - It should also be noted that the ITC fund is a virtual fund, not an account. Most of the real money flows in fact from countries that are big G generators (e.g. France) and those who take the energy (e.g. Italy). These countries are the big payers to the fund while the countries in-between pay less or nothing, based on the fact that it is the clearing mechanism and the banking software that will give the final amounts - that may also result that e.g. Portugal has to pay to Greece once per year.
 - Each November there is a request of ENTSO-E to participants to the fund to provide the HN elements and the prices of the losses: a recent initiative of EC is to get the HN costs calculated including the LRAIC (long-run average incremental costs) with the help of CONSENTEC.
 - ITC is open to 3rd countries, provided these have an agreement with EU countries.

Session 4: Transmission System Operation and Market Administration for Cross Border Issues

- **CEER** reported first on its fundamental features and core missions:
- CEER raison d’être is to be the voice of Europe’s national energy regulators at European and international level, i.e. a cooperation platform created by national regulators towards the creation of a single EU electricity and gas market, organized as a Belgian not-for-profit association under voluntary membership of its members)
- The complementary approach to energy regulation in Europe (especially the tasks split between ACER and CEER) was addressed: while ACER is in charge of statutory tasks related to cross-border market development and oversight, CEER works on a broader

- variety of issues (e.g. customer rights, sustainable development and climate change, technological development of electricity and gas networks) as well as on a broader vision of Europe's energy landscape both within and beyond EU borders (e.g. CEER's international work). It was underlined that customers' rights, the promotion of customers benefits through different markets, (2020 vision for customers) are endorsed by most energy associations;
- Related to the interaction and respective role of CEER and ACER, it was noted that ACER as an EU agency has to primarily interact with the ENTSOs for electricity and gas and to monitor markets in order to prevent frauds;
 - ACER is narrowly tasked, under strictly EU legislation, while CEER is broader extending its activities to customer rights, sustainable development, climate change technological development, contacts with non EU regulators,
 - Participants noted that all European regulators are working within CEER under voluntary participation, without any drop-out across Europe; this cooperation among European Regulators and other institutions has proven to be effective and productive, since substantial experience feedback could be gained in the past 12 years
 - Questions were taken regarding the cooperation between CEER and ERRA was organized since participants noted some overlap between members between these two bodies.
 - CEER works closely with and supports the work of ACER (incl. timing and process of developing its 2013 Work Programme, but also regarding the specific perspective and roles of regulators on TSO proposals and products such as TYDP, network codes).
 - **ENTSO-E** summarized the historical and legal background for its creation and for its work program and depicted the fundamental features of its core products (Network codes, TYNDP and its "vision 2050") but insisted also on its active engagement in international cooperation activities and relation to non-EU countries; in this context the status of the dedicated procedure for further checking the modalities for monitoring trials and extending synchronous interconnection to Turkey, Ukraine and Moldova was also addressed ("It is not a plan to integrate, but also not a plan not to integrate").
 - Participants discussed the binding/non-binding character of TYNDP especially as to whether a situation might arise where EC could question the necessity of an investment planned at national or regional level. It was reported that final investment decisions are beyond the role of ENTSO-E and therefore left to subsidiarity, i.e. to regulators and ministries.
 - It was also noted that the full TYNDP plan is public, resulting in each project being detailed (be it in terms of corridors or single projects); not public is the specific model used for developing the TYNDP due to its market sensitivity;
 - Based especially on both a pool of market data stemming from a market study and a network study, the different projects are assessed according to 9 criteria
 - The interconnection between Romania/Moldova is not taken into account in the current release of TYNDP, but already since 2010 in the corresponding Regional Development Plan, since the Romanian TSO was considering the project as of relevance.
 - **Europex** insisted in its presentation on the important milestones that led to the development of cooperation of European power exchanges.
 - It was underlined that power exchanges are different by size (big, small) and focus (spot, futures, gas, etc.). Beyond all different purposes among exchanges, Europex is speaking on behalf of *all* exchanges and works on a voluntary basis between its 18 members, also on gas and environmental issues;

- However, the activity focus lies on spot markets: Europex doesn't deal with single TSOs or single regulators, it acts just as a European voice towards ACER, EC services and the EU Council;
- Current Day Ahead market coupling is embedded in 8 projects, including Poland and Nordspot via a cable connection, soon Hungary with the Czech and the Slovak Republics; the target for Europex is to achieve market coupling all over Europe for spot markets by 2014;
- Having in mind that energy exchange always remains connected to the physical underlying energy systems and Europex doesn't operate the exchanges, participants asked how the setup of exchanges and also their interaction with the underlying energy systems was managed (under which a legal framework). Europex reported that there is a nominated market operator in the existing exchanges still responsible to operate its market, but all exchanges are using the same algorithm.
- For the day-ahead market, once participants have placed their bids in the market, the information goes to the TSO that verifies that asked for transactions are feasible.

Session 5: Transmission System Operation and Market Administration for Cross Border Issues

- The presented overview of the situation in the 3 INOGATE regions was prepared by ITS based on the data made available by PCs – whereas these data quantity and quality were assessed as improvable.
- It appears that there are across the regions different degrees of integration. Investments made in more efficient and environmental friendly generation units fed from more diversified primary energy sources led to a higher efficiency and lower environmental costs, increased also power system security. Larger systems are more robust against system contingencies when control areas are well coordinated.
- Further, an increased competition in generation and supply is emerging for the wholesale market (increase size of the relevant market) and the retail market (higher possibilities to choose supplier)
- As remaining challenges, 2 types of issues were reported: on the one hand political and institutional barriers (such as political borders, national security aspects, public opposition) and a poor institutional structure (internal disunity, differing political systems, powerful interest groups, corruption). Also the barriers set to trade by a lack of harmonization of the network access modalities, the pricing and congestion management, concentration, transparency and market structure were discussed.
- Among the natural and technical barriers rank the issues of the technical and economic feasibility of interconnection (building of transmission lines) when heavily impacted by factors such as geography (distance, terrain).
- Also environmental barriers are reported as of higher relevance in the case of hydropower projects (displacements of population and disruption of natural ecosystems) and lengthy multinational transmission projects.
- **TEIAS** reported about the opportunities and challenges for accessing the EU market (such as the process and strict procedures of synchronous interconnection to ENTSO-E networks) stressing the most important milestones (trial parallel operation decisions, the current status in the tri-lateral interconnection between Turkey, Greece and Bulgaria);
- However, low frequency oscillations and unintended deviations on tie-line flows (essentially due to irrigation in the summer) led to a split of allocation of capacity between TR, GR and BG which is expected to be completed by 2013;

- Capacity Allocation is implemented by (explicit) auctions with currently a monthly capacity allocation between Turkey-Greece and Turkey-Bulgaria; this should evolve following the ENTSO-E membership towards a yearly allocation: following an expected software upgrade, a daily Capacity Allocation procedure is planned to be started;
- The expected results are a decrease of primary frequency control reserve from the biggest generation block size to units of at least 300MW, and a more stable frequency;
- Upon finalizing the 3rd phase of synchronous parallel operation test successfully, TEIAS will be in a permanent synchronous connection to ENTSO-E/ RGCE (Regional Group Central Europe). A membership in ENTSO-E is expected to further promote the electricity exchange possibilities in this region.
- The demand is growing in Turkey by approx. 8%/yr backed by a good generation mix with a substantial demand shift from winter to summer; as far as CBT is concerned, Turkey is a net importer through its synchronous operation with Bulgaria and Greece and DC links to Iran, Iraq and Georgia. The Turkish market has a bilateral structure with balancing settlement contracts. For the day ahead market, Turkey has a settlement centre while 70 % of the trade goes via bilateral contracts;
- In order to have the market accommodating with the changes in trading volumes, TEIAS is making auctions of transmission capacities but is as an independent TSO never involved in the trade and possible additional monetary compensations.
- Related to the relatively weak capacity of the link between Turkey and Europe, participants asked whether such a weak link would cope with all the flows once TR is definitely connected to Europe (effects of TR interconnection for the SE of Europe). TEIAS stated that after the test period, capacity will be increased above 500 MW.
- Traders send to TEIAS information about the capacity to be exchanged. Based on that schedule, TEIAS prepares the schedule for the ENTSO-E borders (SCADA, AGC). These values are accessible to all partners. If deviations from the accounting and scheduling program occur, the compensation is calculated by Swissgrid and Amprion and introduced also into the AGC system.
- As far as the influence on the SE region is concerned, participants noted that in terms of stability, the regulators have no responsibility for system stability which remains in ENTSO-E exclusively with the TSOs and is only monitored by regulators. Detailed studies concluded that the TR interconnection would have only a minor influence to all ENTISOE countries;
- TEIAS informed about electricity cross border trading volumes and destinations (import/export) – up to now non-commercial exchanges, later the commercial exchanges will be limited to 500 MW. The capacity allocation and the access to interconnectors in the Turkish system shows already a good degree of harmonization between the Turkish regulatory system and the one in EU;
- In case the capacity allocated by PXs is not corresponding to the technically feasible transaction amount as it is regionally calculated, agreements between TSOs exist about how to act (e.g. counter trading, decreasing/increasing generation in different parts of the system);
- The relations of Turkey with the Energy Community as observer in the Energy Community Treaty was underlined including the opportunities offered for integration (and effectively transit) of Caucasus countries (i.e. Georgia, Azerbaijan) in the light of the ongoing trial synchronous connection with the ENTSO-E control area.
- As another example of a single EU TSO, **Elering** reported on its specific situation and of the Baltic TSOs.

- The third legislative package on EU electricity and gas markets calls for security of supply to be ensured through functioning markets. Furthermore, the joint declaration of the Baltic Prime Ministers calls for the creation of an open and transparent regional energy market taking into account the upcoming new infrastructure Estlin2, NordBalt, LitPol, Visaginas nuclear power plant;
- The BEMIP (The Baltic Energy Market Interconnection Plan) targets to join the current isolated areas in the Baltic region to the whole European electricity market with a common Nordic-Baltic PX
- Note that the Synchronous connection between Baltic Region and Central Europe will allow to respond to the political context
- Answering participants' questions, it was noted that:
 - The main challenges are related first to the management of borders to third country, bearing in mind that Baltic States have a 2000 MW connection capacity with Russia and Belarus and a peak consumption of 4500 MW. The core issue is about how to create a level-playing field for all market participants? How to manage the Impact on system operation by uncontrolled physical power flows.
 - Which options should be chosen in order to regulate the electricity import from third countries? Should electricity be sold only via power exchange, should physical limits be set to the imported quantities, should an extra cost-based fee be applied to the imported electricity (similar to Finland);
 - A second type of challenge is related to generation capacity: enough generation capacity is needed, since after 2020 oil-shale generation should be substituted in the Baltic region by gas, green electricity, import or combined production? Will there be nuclear energy in Lithuania? Or something else?
 - It appears that the generation capacity will be adequate in the next 10 years if interconnections develop as planned, in case no new generation capacity built in the Baltic countries, the cross-border capacity to the Nordic region would not cover the deficit in the area;.
 - Therefore it was assessed as strategically important to build Baltic interconnections to Central-Europe in order to decrease the supply of electricity from Russia and to phase-out generation subsidies? Investigations on how this should occur are running.
 - Finally, in case of isolated areas there are market players with market shares exceeding 90% on both production and consumption side. All power plants bigger than 100 MW are owned by a national champion. The company with highest market share on produced energy controlled 49% of Baltic production during 2010, while the company controlling the largest part of production capacity held 33%.
 - BREL is an own association that has been working for 12 years on capacity allocation, which is very different from market issues;
 - About the expectations to opening the Nord pool zone to Latvia, it was noted that for the spot market the Lithuanian price area is isolated, already today a rule exists that imports from 3rd countries should be handed by PXs. A virtual price area can be seen as an objective from the 1 June 2013 on.
 - Participants, having in mind the fact that the Russian market would remain a part of the Baltic market, wondered which prices would result more attractive. Elering noted in this context that there is also a possibility to export to Russia, but the Baltic TSOs cannot transfer Russian power to European countries - just from low to high price areas.
 - Based on the fact that Baltic TSOs having to respect EU legislation are operating outside the European synchronous zone, another question was raised as to whether –

as Nordpool suggested as a consultant to the Baltic States – they should form a subarea and fulfil their EU requirements in this subarea; this difference between must-do's and may-do's is especially interesting for non EU countries;

Session 6: Wrap-up and conclusions

- The Seminar showed an active response by participants to the issues covered by presentations and during the discussions.
- Therefore, further work appears recommendable and needs to be engaged to support the most suitable framework improving energy CBT and cooperation.
- Next steps could spread from the legal framework analysis of cross-border trade, a capacity gap analysis, a capacity building strategy for TSO/operators, the promotion of cooperation between TSOs as well as the promotion of cooperation TSOs & ENTSO/E, ENTSO/G leading to practical deliverables such as other seminars, study tours, studies and reports, AHEF. The main goal of such activities remain to showcase to the PCs cross border cooperation opportunities and benefits as well as EU best practices, to identify obstacles to trade in regional markets identified and ways of mitigation discussed and “fed-in” to AHEF and to advise the TSOs on the improvement of technical, operational and financial competences, an improvement of communication about CBT among PCs and finally a “process” for the creation of regional markets to be initiated and sustained.
- More specifically, a wider **CBT-E Study** should be launched that should assess the three main aspects:
- *Infrastructure*: the allocation of resources and whether they should be better off optimised at a regional rather than a national level, the adequacy of infrastructure in carrying our energy cross border exchange and the possible network bottlenecks as identified in previous studies and analyses;
 - *Price/Demand*: The price differences existing at the moment across counties the degree that they allow for cross border exchanges, the demand evolution in the region
 - *Regulation/Markets*: The obstacles to trade referring particular to legal/regulatory, technical, market and/or other barriers hindering cross border cooperation, a GAP analysis on the part of PCs TSOs in terms of fulfilling their task in relation to a liberalised market and increased cross border market-based cooperation.
- In terms of output, the CBT-Study should:

- Perform a prioritisation of the aforementioned obstacles and deliver a proposal of remedial actions in a timely and coordinated fashion.
- Further depict a “Process” which will be set up and be self-sustained in order to gradually work on the alleviation of the identified barriers
- Design a roadmap comprising important milestones the PCs should achieve on a collaborative basis (thought their participation to the "collaboration platform").
- Describe a monitoring mechanism that would control and communicate the achievement of a particular milestone

6. Annexes

6.1 Agenda

The Agenda of the event could be seen from the INOGATE web portal (http://www.inogate.org/index.php?option=com_inogate&view=activity&layout=documents&pid=72&cid=228&Itemid=75&lang=en)

6.2 List of participants

The List of Participants of the event could be seen from the INOGATE web portal (http://www.inogate.org/index.php?option=com_inogate&view=activity&layout=documents&pid=72&cid=228&Itemid=75&lang=en)

6.3 Presentations

The main presentations of the event could be seen from the INOGATE web portal (http://www.inogate.org/index.php?option=com_inogate&view=activity&layout=documents&pid=72&cid=228&Itemid=75&lang=en)

6.4 Questionnaires

6.5 Evaluation tables

6.6 Photos

Th photos of the event could be seen from the INOGATE web portal (http://www.inogate.org/index.php?option=com_inogate&view=activity&layout=documents&pid=72&cid=228&Itemid=75&lang=en)