

South East European Internal Market and approaches to cross-border trade



Harrisburg, 31 March 2008

Main Purpose of the presentation

- Status of play – update on cross-border trade mechanisms in SEE:
 - Congestion Management
 - Inter TSO Compensation
 - Regional Balancing
 - Wholesale Market Opening

Contents

- Overview of SEE market development and competition
- Status of cross-border interconnections in SEE
- Process of cross-border trade harmonization
- Capacity expansion through competition vs. historical contracts
- Information transparency and exchange mechanisms
- Capacity allocation and congestion management
- Cooperation among system operators
- Cross-border trade mechanism (EU 1228/2003)
 - Inter-TSO compensation fund
 - National grid tariffs
 - Harmonized methodology
 - Determination of stranded costs
- Challenges (governance, capacity, transparency, monitoring)

Overview of SEE market development and competition



Background

- **Several documents on SEE Market Design...**
 - CEER WG SEE- “SMD papers”- 2003
 - Electricity Transition Strategy- 2005
 - SEE Market Options Paper- 2005
 - WB papers on development of regional trade (2004) and power market (2006)
 - SEETEC report on obstacles to trade (2006)
 - SEETEC- Proposals on Wholesale Market Opening and Compatibility (harmonization) of Market Rules
 - ECS reports on regional market design

... BUT no real market opening in place

Definition of Wholesale Market

- Freely negotiated bilateral transactions between GenCos and suppliers/traders
- Transactions on a Px
- Does not involve final consumers
- Wholesale prices can serve as benchmark
- Wide range of wholesale supply prices (regulated or open market) – from 24 to 80 EUR per MWh)
- Recently – illiquidity and high prices (70-80 EUR/MWh –because of electricity lack in SEE region → due to NPP Kozloduy 2 units closure in January 2007)

Wholesale Markets in SEE: Current Status

- Law free wholesale market activity in SEE region, except in Romania
- DisCos (suppliers) are not eligible or are integrated with generation
- Concept of wholesale or public supplier
- Romania: series of initial contracts between GenCos and suppliers for regulated market – now down to 40% of total contracts
- Bulgaria: direct contract GenCos - Eligible consumers
 - Retail is opening faster than wholesale

National Wholesale Markets

- Retail market is more open in some SEE countries (meaning DisCos are not eligible but large industrials are)
- Only Bulgaria and Romania have real retail opening
- One consequence: no development of the supply business – expertise remains in Dispatch Center/TSO
- Dispatch Scheduling remains within TSO, despite adoption of bilateral contract models (except BiH, Romania, Serbia)

Day Ahead Markets

- OPCOM in Romania, and 4 Px in EU border countries
(2 Voluntary: Slovenia/Austria, 1 Mandatory Pool: Greece and 1 Hybrid: Italy)
- Low volumes for Voluntary exchanges but growing in Romania: 7,8% of total volume in 2006 (4.11 TWh); Average price: 51.6 EUR/MWh
- Difficult to participate for foreign participants
- Wide range of regional prices in Day Ahead Markets

Cross-border trading

- Most cross-border trade is handled by traders – contracts with utilities/TSOs – no imbalances
- Most trading is based on base load products – traded in band for day, week or month
- Tendering procedures in place in many countries with (sometimes) complex procedures; no optimization and expensive
- Difficult to identify traders' risks with absence of market rules - current situation:
 - Difficult to get access
 - But, inconsistencies between markets and price distortions create trading opportunities

Contents of the “Proposals” for WMO in SEE

- **Role of the Public Supplier – predominant in SEE region**
- **Options for Wholesale Market Opening (by SEETEC)**
 - Structural measures
 - Virtual capacity auctions (France, Ireland)
 - Initial contracts (Romania, Panama)
 - Central agent acting like a broker (Brasil, New Jersey)
 - Development of Regional Power Exchanges (Px)
 - Reliance on imports for wholesale market development
 - Other measures to kick start competition (e.g. favorable top up prices, etc.)
- **Minimum content of the market rules and compatibility**
 - Minimum content of market rules
 - Harmonization / compatibility of market rules

Role of the Public Supplier

Basically, there are 3 models of Market Design in SEE region:

1. Emerging national Wholesale Market where suppliers freely sign contract with GenCos (Romania, Bulgaria, BiH-special case → has 3 GenCos and 3 suppliers competing in open market, most wholesale transactions regulated)
2. Integrated dominant GenCo-Public supplier (Croatia, Montenegro)
3. Dominant GenCo, one or more suppliers but with Wholesale supplier as intermediate and most of contracts being regulated (Albania, FYROM, Serbia, UNMIK)
 - Competition will come from cross-border trade, as most of national SEE markets will continue to be dominated by dominant generator, Wholesale supplier/Single Public supplier
 - National Regulators could promote gradual opening of national Wholesale Market...

Regulatory views on the “Proposals” (1)

- 
- Structural measures
 - Virtual auctions
 - Initial contracts
 - Central agent acting as a broker
 - Reliance on imports
 - Regional power exchanges

- Within competencies of national authorities, not necessarily regulators
- Different market structures may require different market arrangements
- Benefits on national level due to regional integration (security of supply)
- Further elaboration needed
- General awareness on „regional project“ needed

Market Rules – Minimum Content

- Existence of Market rules in each country binding for all participants → for enabling trading at wholesale and retail level → lead to transparency for investors and market participants and ensure level playing field for all
- Critical elements in Market rules: Size of settlement period; Gate closure should be afternoon ahead as a minimum, Bids and offers rules, Imbalance prices quantities and price calculation, Guarantees to cover imbalances, Dispute resolution, Auction rules for interconnection capacity rights, ...
- Minimal constraints to bilateral contracting
- Details of ex ante and ex post information to be made available to market participants
- Transitional rules for energy import-export tendering as required by national procurement laws should be improved and linked to Market rules

Regulatory views on the “Proposals” (2)

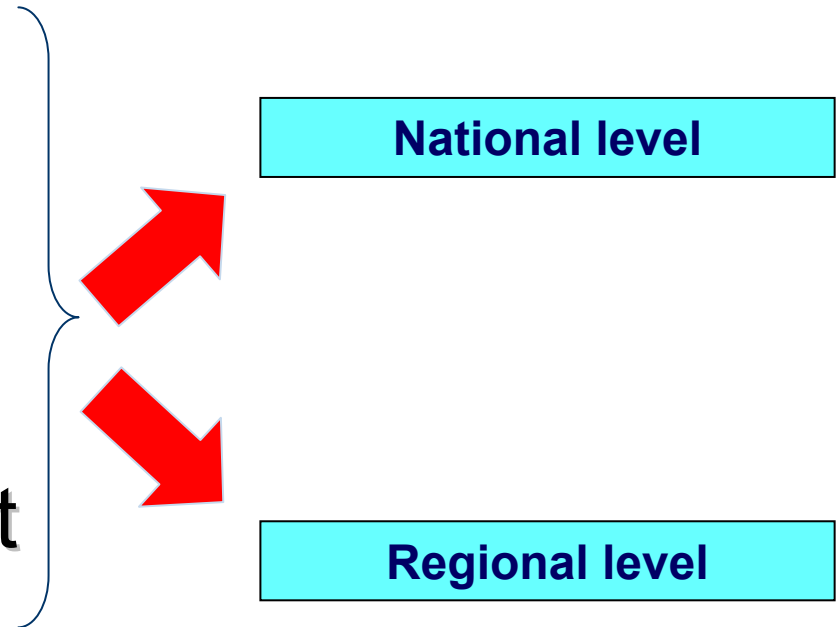
- **Regional market design (RMD)**
 - REM - least cost option for sustainable development of national markets (compared to VPPs, generation divestment etc.)
 - Defines targets of regional integration (bilateral contracts and/or DAM and/or balancing mechanism) - respecting the principle of subsidiarity
 - EnCT just sets the level playing field
 - RMD aims to avoid creation of several isolated markets with unfavourable market structure for developing competition
 - Resolving the issue of market concentration - dominant national players become small players in regional context
- **Minimum content of the market rules and compatibility**
 - Strongly dependent on the target market integration
 - Further elaboration needed

Regulatory views on the “Proposals” (3)

- **Removing obstacles to cross- border trade**
 - Prerequisite for developing regional market
 - Enable direct contracting btw. generators and suppliers
- **Pending issues**
 - Geographic scope of the regional market (Title III of EnCT?)
 - Link and compliance with the ERGEG Regional Initiatives
 - Responsibility for developing the SEE market design (IG, Athens Forum?)
 - Dealing with associated risks - developing competition with forecasted shortage of generation capacity in the region
 - Political will and commitment
 - Public awareness of regional approach
 - ECRB Empowerment act ? (e.g. take measure on regional market design)

Conditions for achieving the SEE REM

- Legal framework
- Industry structure
- Institutional framework
- Change management



Conclusions (1)

- Emphasis on the development of regional wholesale market arrangements
- Reviewing compliance of SEE national markets with Energy Community Treaty is within competencies of the Energy Community Secretariat
- Necessity to be coherent with ERGEG regional initiatives
- Regional market design may be developed using the mechanisms of the EnC Treaty
- Compatibility of market rules needed - scope depending on the desired level of market integration
- Adequate measures for effective WMO are necessary, respecting specificities of SEE region (lack of electricity, political involvement, national strategies, etc.)
- Commitment of national institutions based on clear benefits for national markets is required

Conclusions (2)

- Lack of WMO in SEE region was pointed out as one of the major reasons for lack of investments in energy sector in SEE region. Question to pose: is it the right reason?
- Implementation of cost-reflective tariff systems in all countries of SEE region is one of the major prerequisites for WMO, which will enable gradual transition of electricity prices from social to market values
- Experiences and modalities for WMO, proposed by SEETEC, are not suitable for implementation in SEE region, as the region is facing specificities as: absence of full unbundling in SEE region, lack of electricity in SEE region (each national power system is just hardly covering its electricity demand), high electricity prices in SEE region, absence of cost-reflective tariff systems in SEE region and unrealistic low electricity prices for tariff consumers, etc.
- It is not possible to start WMO in SEE region in fast way and in a very near future

Conclusions (3)

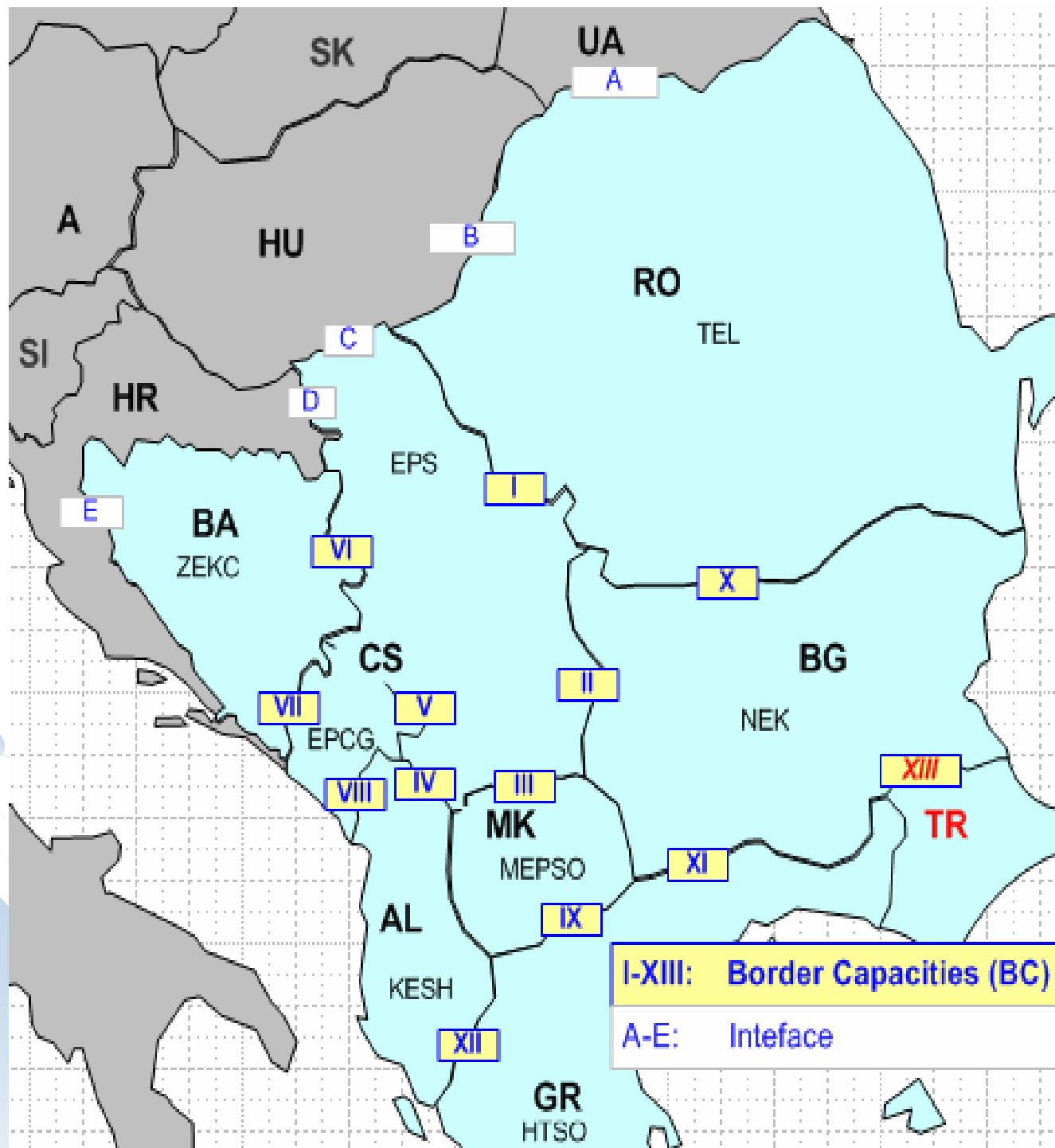
- Eventual forced WMO in SEE region would not bring investment in SEE region – in contrary, it could just put SEE countries in more complex situation in which opening (introducing measures as privatization, VPP, etc.) of each country production will make energy situation even more difficult and bring the final customers in the situation that the price will raise
- WMO is mainly driven by political influence and national strategies (there is an evident political energy strategy of all national electricity industries in SEE region to keep being “national champions” in order to fulfill national needs for electricity, slow process of electricity sector privatization, etc.)
- WMO is affected by PSO and national procurements for electricity
- Among all SEETEC proposals for WMO, creation of Px in SEE region seems to be the most suitable
- Quick implementation of any proposed solutions for WMO in SEE region is not recommendable, but only an efficient step by step approach should be followed

Conclusions (4)

- Regulators' role in WMO could be only to investigate modalities for WMO, support WMO and propose solutions, but they cannot decide or make strong influence to decisions, as it is primarily political issue in SEE region. WMO issue could be discussed at political level, after regulators conclusions and proposals for SEE region
- TSOs/Regulatory activities on introduction of TSOs mechanisms for ITC, CAO and RBM are representing good base for later WMO and future SEE regional electricity market design: implementation of the TSOs market-based mechanisms for enhancing electricity trade will be put in place as the first step (ITC, capacity allocation, balancing regime, etc.), and afterwards all these small pieces could be completed into the whole – Regional Market Design and WMO (“mosaique” concept)

Status of cross-border interconnections in SEE





Auction mechanisms in SEE region

- 14 Interconnection lines within SEE region (Albania, BiH, Bulgaria, Croatia, Greece, Macedonia, Montenegro, Romania, Serbia) + 1 Interconnection line with Turkey
- NTC based approach in all interconnection lines
- Different transmission capacity auction mechanisms in different borders
- Most of auction mechanism are market-based
- No bilateral auctions in SEE region (except HU-RU, GR-AL, GR-MAC, GR-BUL)
- Most of auction mechanisms are not in compliance with Regulation 1228/03 and CMG

Process of cross-border trade harmonization



Regulatory Authority Benchmarks

- Guard against unilateral CM procedures affecting power flows on other networks (CMG 3.1)
- Review CM methods applied by countries belonging to more than one region (CMG 3.2)
- Review scheme for calculating CB capacity (CMG 5.2)
- Review public operational & planning security standards (CMG 5.4)
- Review way in which CB trade data is published (CMG 5.5)
- Receive and ensure confidentiality of network and load flow data (CMG 5.10)
- Review criteria for distribution of CM revenues (CMG 6.1, 6.3)
- Ensure uses of CM revenues comply with Guidelines and publish annual reports on collection/use of revenues (CMG 6.2, 6.4, 6.6)

Regulatory Benchmarks Compliance (1)

Country		Regulators empowered to cooperate with other regulators on CB issues		Regulators empowered re. CB CMG, market rules or internal agreements
Albania	Yes	Power Sector Law 2003, Art. 8(2)(k) (ERE “cooperates with corresponding authorities of other countries...”)	Yes	Power Sector Law 2003, Art. (55) (“ERE will collaborate with all energy sector participants to establish...interconnection rules that conform to...the requirements of a regional market, including transit protocols and the Energy Charter Treaty.”)
BiH	Yes	Transmission of Electric Power Act, Art. 4.1 (SERC has jurisdiction over “foreign trade in electricity in accordance with international norms in harmony with European Union standards”)	Yes	Transmission of Electric Power Act, Art. 4.1 (SERC has jurisdiction over “foreign trade in electricity in accordance with international norms in harmony with European Union standards”)
Bulgaria	No		Yes	Energy Act, Art. 21(7) (SEWRC to “adopt the rules for trade in electricity and natural gas (Market Rules) and the technical rules for the networks (System Code), acting on a proposal by the energy companies, and control compliance with the said rules;”
Croatia	Yes	Regulation of Energy Activities Act, Art. 10(2) (“The Agency shall monitor in particular: - rules on managing and allocating interconnection capacity in co-operation with regulatory bodies of neighbouring countries...”)	Yes	Regulation of Energy Activities Act, <i>Ibid</i> ; and Art. 10(2) (“The Agency shall monitor in particular: - congestion management within the national transmission network/system,”

Regulatory Benchmarks Compliance (2)

Country		Regulators empowered to cooperate with other regulators on CB issues		Regulators empowered re. CB CMG, market rules or internal agreements
Macedonia	Yes	Energy Law, Art. 19(12) ERC “cooperates with other regulatory authorities so as to contribute to the development of regional energy markets;”	Yes	Energy Law, Art. 19(2) ERC “monitors any mechanisms used to deal with congested capacity on the electricity system...within the Republic of Macedonia”
Montenegro	No		Yes	Energy Law, Art. 12(2)(a)(iii) ERA’s powers include approving “market rules; technical codes, terms and conditions for connection and access to networks;”
Romania	Yes	Electricity Law, Art. 11(2)(§) (ANRE “collaborates with regulatory authorities of neighbouring countries with a view to harmonizing the regulatory framework for the development of the regional market, including the cross-border exchanges of electricity and the rules regarding the management of interconnection capacity”)	Yes	Electricity Law, Art. 11(3)(a) (ANRE monitors “management regulations and interconnection allocation capacity, in cooperation with regulatory authorities from the countries with which SEN is interconnected”)
Serbia	No		Yes	Energy Law, Arts. 15(5) (The Agency “approves grid codes, the energy market code...”)

CM Methods Benchmarks

1. CM methods may need to allow for both long and short-term horizons (Guidelines 2.2)
2. All CM methods have to be explicit or implicit auctions; for intra-day, continuous trading is allowed (Guidelines 2.1)
3. Capacity allocation at an interconnection shall be coordinated and implemented using common allocation procedures by the TSOs involved (Guidelines 3.1)
4. Establishing reserve prices is prohibited (except for exempted new interconnectors) (Guidelines 2.9)
5. Long and medium-term allocations have to be firm capacity rights and have to be subject to the use-it-or-lose-it or use-it-or-sell-it principles (Guidelines 2.5)

Additional CM Methods Benchmarks

6. Capacity must be freely tradable on a secondary basis, and specific justification is required for not accepting secondary trades (Guidelines 2.12)
7. Cross border coordination among TSOs must include common model, exchange of info, etc. (Guidelines 3.2)
8. Unused capacity must be reallocated (Guidelines 2.3)
9. No transaction-based distinctions allowed (Guidelines 1.6)
10. CM methods to ensure compliance with network security standards (Guidelines 1.3, 1.4)
11. Capacity must be allocated by highest value bids (Guidelines 2.7)

CM Methods Benchmarks Compliance Update (1)

Country (TSO or ISO)	Interconnec- tions (borders)	Direction (Export, Import, both)	Time frames of the alloca- tion	Only explicit and implicit auctions allowed (2.1)	
				Method	OK with CM Guidelines?
Albania (ATSO)	Greece*	Both	Y,M,W	Priority List	No
	Montenegro	Both	M	pro rata (AL part)	No
	Serbia	Both	M	pro rata (AL part)	No
Bosnia- Herzegovina (NOS BiH)	Croatia	Both	Y,M,D	pro rata monthly, priority list daily (BA part)	No
	Montenegro	Both	Y,M,D	pro rata monthly, priority list daily (BA part)	No
	Serbia	Both	Y,M,D	pro rata monthly, priority list daily (BA part)	No
Bulgaria (ESO)	Greece*	Export	/	in process of establishment	/
	Romania	Both	M	pro rata (BG part)	No
	Serbia	Both	M	pro rata (BG part)	No
	Macedonia	/	/	in process of establishment	/
	Turkey	/	/	no parallel operation	/
Croatia (HEP-TSO)	BiH	Both	M	Explicit auction (HR part)	Yes
	Hungary	Both	M	Common explicit auction (M)	Yes
	Serbia	Both	M	Explicit auction (HR part)	Yes
	Slovenia	Both	M	Explicit auction (HR part)	Yes

CM Methods Benchmarks Compliance Update (2)

Country (TSO or ISO)	Interconnections (borders)	Direction (Export, Import, both)	Time frames of the allocation	Only explicit and implicit auctions allowed (2.1)	
				Method	OK with CM Guidelines?
Macedonia (MEPSO)	Greece*	Both	Y,M	Priority List/Common auction pending	No/Yes
	Bulgaria	Import	/	/	No
	Serbia	Both	Y,M	pro rata	No
Montenegro (TSO-EPCG)	Albania	Both	M,D	Explicit Auction ME 50%	Yes
	BiH	Both	M,D	Explicit Auction ME 50%	Yes
	Serbia	Both	3/M,D	Explicit Auction ME 50%	Yes
Romania (Transelectrica)	Bulgaria	Both	Y,M	Explicit auction	Yes
	Hungary	Both	Y,M	Explicit auction	Yes
	Serbia	Both	Y,M	Explicit auction	Yes
Serbia (EMS)	Albania	Both	M	Explicit auction all borders of SR 50%	Yes
	BiH	Both	M	Explicit auction all borders of SR 50%	Yes
	Bulgaria	Both	M	Explicit auction all borders of SR 50%	Yes
	Croatia	Both	M	Explicit auction all borders of SR 50%	Yes
	Hungary	Both	M	Explicit auction all borders of SR 50%	Yes
	Macedonia	Both	M	Explicit auction all borders of SR 50%	Yes
	Montenegro	Both	M	Explicit auction all borders of SR 50%	Yes
	Romania	Both	M	Explicit auction all borders of SR 50%	Yes

CM Methods Benchmarks Compliance Update (3)

Country (TSO or ISO)	Interconnec- tions (borders)	Common allocation procedure (for 100% capacity) (3.1)		No Reserved prices (2.9)	
		Unilateral method, capacity split 50:50, or joint method?	OK with CM Guidelines?	Established reserve prices in capacity allocation methods?	OK with CM Guidelines?
Albania (ATSO)	Greece	Unilateral	No	No	Yes
	Montenegro	split 50:50	No	No	Yes
	Serbia	split 50:50	No	No	Yes
Bosnia- Herzegovina (NOS)	Croatia	split 50:50	No	No	Yes
	Montenegro	split 50:50	No	No	Yes
	Serbia	split 50:50	No	No	Yes
Bulgaria (ESO)	Greece	/	/		/
	Romania	split 50:50	No		?
	Serbia	split 50:50	No		?
	Macedonia	/	/		/
	Turkey	/	/		/
Croatia (HEP- TSO)	BiH	split 50:50	No	No	Yes
	Hungary	Joint HR-HU (M)	Yes	No	Yes
	Serbia	split 50:50	No	No	Yes
	Slovenia	split 50:50	No	No	Yes

CM Methods Benchmarks Compliance Update (4)

Country (TSO or ISO)	Interconnections (borders)	Common allocation procedure (for 100% capacity) (3.1)		No Reserved prices (2.9)	
		Unilateral method, capacity split 50:50, or joint method?	OK with CM Guidelines ?	Established reserve prices in capacity allocation methods?	OK with CM Guidelines?
Macedonia (MEPSO)	Greece	Unilateral	No	No	Yes
	Bulgaria	/	No	/	Yes
	Serbia	split 50:50	No	No	Yes
Montenegro (TSO-EPCG)	Albania	split 50:50	No	No	Yes
	BiH	split 50:50	No	No	Yes
	Serbia	split 50:50	No	No	Yes
Romania (Transelectrica)	Bulgaria	split 50:50	No	No	Yes
	Hungary	split 50:50	No	No	Yes
	Serbia	split 50:50	No	No	Yes
Serbia (EMS)	Albania	split 50:50	No	No	Yes
	BiH		No	No	Yes
	Bulgaria		No	No	Yes
	Croatia		No	No	Yes
	Hungary		No	No	Yes
	Macedonia		No	No	Yes
	Montenegro		No	No	Yes
	Romania		No	No	Yes

CM Methods Benchmarks Compliance Update (5)

Country (TSO or ISO)	Interconnec- tions (borders)	"UIOLI" or "UIOSI" to be applied for long- and medium terms (2.5)		Rights tradable on secondary market (2.12)	
		"Use it, or lose (sell) it" principle applied (Y/M)?	Ok with CM Guidelines ?	Possibility for reselling of the capacity?	OK with CM Guidelines?
Albania (ATSO)	Greece	Yes	Yes	Yes	Yes
	Montenegro	Yes	Yes	Yes	Yes
	Serbia	Yes	Yes	Yes	Yes
Bosnia- Herzegovina (NOS BiH)	Croatia	Yes plus penalty	Yes	No	No
	Montenegro	Yes plus penalty	Yes	No	No
	Serbia	Yes plus penalty	Yes	No	No
Bulgaria (ESO)	Greece	/	/	/	/
	Romania	No	No	No	No
	Serbia	No	No	No	No
	Macedonia	/	/	/	/
	Turkey		/	/	/
Croatia (HEP-TSO)	BiH	No, penalty	No	No	No
	Hungary	No, penalty	No	No	No
	Serbia	No, penalty	No	No	No
	Slovenia	No, penalty	No	No	No

CM Methods Benchmarks Compliance Update (6)

Country (TSO or ISO)	Interconnections (borders)	"UIOLI" or "UIOSI" to be applied for long- and medium terms (2.5)		Rights tradable on secondary market (2.12)	
		"Use it, or lose (sell it)" principle applied (Y/M)?	Ok with CM Guidelines?	Possibility for reselling of the capacity?	OK with CM Guidelines?
Macedonia (MEPSO)	Greece	Yes	Yes	No	No
	Bulgaria	Yes	Yes	No	No
	Serbia	Yes	Yes	No	No
Montenegro (TSO-EPCG)	Albania	Yes	Yes	No	No
	BiH	Yes	Yes	No	No
	Serbia	Yes	Yes	No	No
Romania (Transelectrica)	Bulgaria	Yes	Yes	Rights Transfer	Yes/No
	Hungary	Yes	Yes	Rights Transfer	Yes/No
	Serbia	Yes	Yes	Rights Transfer	Yes/No
Serbia (EMS)	Albania	Yes	Yes	No	No
	BiH	Yes	Yes	No	No
	Bulgaria	Yes	Yes	No	No
	Croatia	Yes	Yes	No	No
	Hungary	Yes	Yes	No	No
	Macedonia	Yes	Yes	No	No
	Montenegro	Yes	Yes	No	No
	Romania	Yes	Yes	No	No

CM Methods Benchmarks Compliance Update (7)

Country (TSO or ISO)	Interconnections (borders)	TSO coordination... common model used (3.6)		Plan for 2007: possible upgrade/ introducing new allocation procedure?
		Usage of the common network model for capacity calculation?	OK with CM Guidelines?	
Albania (ATSO)	Greece	Yes	Yes	Monthly explicit auctions planned to be implemented in the beginning of 2007
	Montenegro	Yes	Yes	
	Serbia	Yes	Yes	
Bosnia- Herzegovina (NOS BiH)	Croatia	Yes	Yes	NOS BIH is planning to start with monthly and daily auction, during the first half of 2007
	Montenegro	Yes	Yes	
	Serbia	Yes	Yes	
Bulgaria (ESO)	Greece	Yes	/	In process of complying with 1228 (by July 1, 2007)
	Romania	Yes	Yes	
	Serbia	Yes	Yes	
Croatia (HEP-TSO)	BiH	Yes	Yes	Explicit auctions
	Hungary	Yes	Yes	
	Serbia	Yes	Yes	
	Slovenia	Yes	Yes	

CM Methods Benchmarks Compliance Update (8)

Country (TSO or ISO)	Interconnections (borders)	TSO coordination... common model used (3.6)		Plan for 2007: possible upgrade/ introducing new allocation procedure?
		Usage of the common network model for capacity calculation?	OK with CM Guidelines?	
Macedonia (MEPSO)	Greece	Yes	Yes	Explicit auctions
	Bulgaria	/	/	
	Serbia	Yes	Yes	New allocation procedure
Montenegro (TSO-EPCG)	Albania	Yes	Yes	New allocation procedure
	BiH	Yes	Yes	New allocation procedure
	Serbia	Yes	Yes	New allocation procedure
Romania (Transelectrica)	Bulgaria	Yes	Yes	Common explicit auction in discussion - no decision yet
	Hungary	Yes	Yes	
	Serbia	Yes	Yes	
Serbia (EMS)	Albania	Yes	Yes	Permanent rules to be implemented in 2007; Common allocation procedure (for 100% of capacity) with neighbouring TSOs is planned to be implemented during the second half of 2007.
	BiH	Yes	Yes	
	Bulgaria	Yes	Yes	
	Croatia	Yes	Yes	
	Hungary	Yes	Yes	
	Macedonia	Yes	Yes	
	Montenegro	Yes	Yes	
	Romania	Yes	Yes	

Additional CM Methods Compliance

Country TSO or ISO	Network security standards ?	OK with CMG ?	Highest Bid Wins? (2.7)	OK with CMG ?	Transaction distinction ? (16)	Ok With CMG ?	No congestion , no auction price?	OK With CMG ?	Unused capacity to be reallocated	OK With CMG ?
Albania TSO	No	No	No	No	Yes	No			No	No
BiH (Nos BiH)	Yes	Yes	No	No	Yes	No			Pre-M only	Yes
Bulgaria (ESO)	Yes	Yes	No	No	Yes	No			No	No
Croatia (HEP-TSO)	Yes	Yes	Yes/No		Yes, periodic imports only for retailers	No	Yes	Yes	Yes	Yes
Macedonia (MEPSO)	Yes	Yes	No	No	Yes	No	Yes	Yes	No	No
Montenegro (TSO-EPCG)	Yes	Yes	No	No	Yes	No	Yes	Yes	No	No
Romania (Transelectrica)	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Serbia (EMS)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No

Source: Websites, laws, market rules, and email information provided by TSOs

Capacity allocation and congestion management



Capacity expansion through competition v. historical contracts

- Market-based mechanisms for transmission capacity allocation are in place in most of SEE TSOs – approved by Regulators within Market Rules
- No Market Rules in Serbia yet – Temporary rules for capacity allocation defined and published by EMS
- NTC values are determined by TSOs
- Unrealistic and small NTC values as an obstacle to electricity trade in SEE (reasons: protection of national electricity markets, PSO obligations, etc.)
- Regulatory role in approving NTC calculation within Grid Codes – monitoring (sometimes no regulatory reaction to reported low NTC values...)
- Transmission grid highly meshed in SEE and congested due to huge electricity transits from North to South – el. Grid was not designed for it when constructed in 70-80's
- Maximum one year contracts in place – long term contracts abolished in line with EU Regulation

Status of play: Explicit Auctions in Serbia

- TSMO EMS is responsible for allocating rights for using interconnectors (ATC)
- Published at EMS web site: www.ems.co.yu
- ATC value is agreed btw. EMS and neighboring TSOs respecting UCTE and ETSO recommendations
- EMS could allocate AAC for PSO purposes
- Monthly based
- Implemented only to EMS' part of interconnector ("pay as bid")
- Free capacity (after monthly auctions) could be offered by EMS at weekly/daily level (acc. to contracts)
- Agency did not approve EMS' Temporary rules... still waiting for Market Rules to approve them...

Requirements for entering allocation procedure

Market participants are obliged to:

- Have valid license for performing electricity trading at open market, or for tariffs consumers, issued by Agency
- Sign declaration on accepting duties and conditions defined in Temporary rules in prescribed terms
- Sign Contract for obtaining rights for using interconnection capacities of Serbia
- Conclude Annexes to the Contract for each month
- Submit/nominate exchange programs for next day(s) to EMS
- Each allocation right, obtained within monthly auctions, and which was not nominated in specified terms to EMS, is lost without remuneration (use-it-or-lose-it)

Payment obligations - Fees

- CBCRF (Cross-Border capacity Reservation Fee) - If applied capacity total at one interconnector is larger than ATC, those applicants who were allocated its part have to pay for each direction and period
- MAF (Monthly Administrative Fee) - in order to cover TSOs costs of monthly allocation procedure (+18% VAT)
- TF (Transfer Fee) - in order to transfer allocation rights to other market participants (for secondary market)

Publishing information (1)

- EMS publishes, at monthly level, a table for each allocation unit (3 hours after gate closure for submitting of bids), which contains:
 - Allocation unit code
 - ATC value which EMS allocates: for each interconnector and for each direction (netting is not permitted)
 - Validity periods
 - Number of hours for each period
 - Value of Monthly Administrative Fee - MAF (in order to cover costs of monthly allocation procedure)
 - Results of allocation procedure for participants: ATC, required capacity and offered price, value of allocated capacity, number of participants in the allocation, number of participants who got allocation, total number of allocation offers, etc.

Publishing information (2)

- General information on allocation procedure results are published at EMS web site within the table which contains:
 - Allocation unit
 - Allocation unit code with validity period
 - Total requested transmission capacity
 - Total allocated transmission capacity
 - Number of participants who have submitted request for allocating capacity at the allocation unite
 - Number of participants who won capacity at the allocation unit
 - Total number of auction offers
 - Information on existing/non-existing congestions (YES/NO)

Recent development on CB issues

- Need for overview of current cross-border mechanisms in SEE (ECRB EWG)
- Need for cross-border benchmarking in SEE
- Necessity to work on improving cross-border modalities in SEE until CAO is not established
- Investigate how ECRB EWG members are taking necessary steps in order to meet CMG requirements and their awareness of the progress they have to make in order to fulfill them
- Info: Introduction of new system charge on electricity export in Hungary and Slovakia (10-17 EUR/MWh) and its repercussions to SEE region
- Prepared Questionnaire → Results in Report will be presented to Athens Forum → Recognize individual deviations from CMG principles → Agree next steps and individual time tables in order to fulfill CMG conditions in the period till CAO establishment

Explicit Flow-based Coordinated Auctions in SEE region



Coordinated Explicit Flow-based Auctions in SEE

- TSOs and Regulators are investigating possibility to implement ETSO proposal for transmission capacity allocation, based on better representation on physical behavior of interconnected electric systems than those widely used on most of the European borders until now (bilateral ATC allocation)
- ECRB SEE Implementation Group prepares all necessary activities in order to create CAO involving all stakeholders (TSOs, regulators, traders, donors, ...)
- Dry-run phase since January 2004
- Based on: Border Capacity, PTDF matrix, traders' bids procedure
- Recently introduced Maximum Flows concept concerning interconnection capacity values with aim to make physical limitations more transparent – reporting “critical branches” approach; thermal limits as the only input
- Internet based tool: www.drcat.at
- CAO structure will be owned by SEE TSOs
- Future prospects: CAO establishment February 2009
→ Real-run Feb 2010

Status of play: Recent development on CA

- Defining borders of the CAO and consequently the perimeter countries to it (EC and MC)
- After ECRB request: EC announced establishing an 8th region by amending the Congestion Management Guidelines (MC in June 2008)
- Non-EU parties but contracting parties to Energy Community will be integrated into the 8th region through the Energy Community Treaty
- Joint work between Regulators and TSOs within CAO Implementation Group
- Definition of CAO location list of criteria (preferable in SEE region)
- Regulatory contribution in analysis of TSOs consultancy material: Maximum Flow approach; Revenue distribution method with weighting factors

Information Transparency and exchange mechanisms



CM Transparency Benchmarks

1. TSOs must publish general description of the CM Methods applied (including method for calculating available capacity, procedures to be followed by applicants, description of products, rights and obligations of parties, and applicable penalties) (Guidelines 5.1-5.3)
2. TSOs must publish information on the capacity allocated and indication of prices paid, as soon as possible after each allocation (Guidelines 5.5(f))
3. TSOs must publish information on total capacity actually used, by market time unit, as close to real time as possible (including describing any corrective action adjustments required) (Guidelines 5.5(g) and (h))

Additional CM Transparency Benchmarks

4. Nomination procedures shall take place sufficiently in advance of auctions (Guidelines 4.1-4.4)
5. TSOs must publish forecasts for year ahead, month ahead, week ahead, day ahead and intra-day available capacity (Guidelines 5.5(a)-(d))
6. TSOs must publish information on Already Allocated Capacity (Guidelines 5.5(e)).
7. Information must be readily accessible

CM Transparency Compliance Update (1)

Country (TSO or ISO)	Interconnections (borders)	Publication of Congestion Management Methodologies (5.1-5.3)		
		Web address with transfer capacities	Web-address with allocation procedure description	OK with CM Guidelines?
Albania (ATSO)	Greece	No ATC	www.kesh.com.al	NO/YES
	Montenegro			NO/YES
	Serbia	No access to data without fee		NO/YES
Bosnia-Herzegovina (NOS)	Croatia	www.nosbih.ba	www.nosbih.ba	YES
	Montenegro			YES
	Serbia			YES
Bulgaria (NEK)	Greece	/	/	NO/NTC only
	Romania	www.nek.bg	www.nek.bg	NO/NTC only
	Serbia	www.tso.bg (under development)	www.tso.bg (under development)	NO/NTC only
	Macedonia	/	/	/
	Turkey	/	/	/
Croatia (HEP-TSO)	Bosnia-Herzegovina	www.hep.hr/ops	www.hep.hr/ops	YES
	Hungary			YES
	Serbia			YES
	Slovenia			YES

CM Transparency Compliance Update (2)

Country (TSO or ISO)	Interconnections (borders)	Publication of Congestion Management Methodologies (5.1-5.3)		
		Web address with transfer capacities	Web-address with allocation procedure description	OK with CM Guidelines?
Macedonia (MEPSO)	Greece	www.mepso.com.mk	www.mepso.com.mk	NO/ATC only
	Bulgaria	/	/	NO/ATC only
	Serbia	www.mepso.com.mk	www.mepso.com.mk	YES
Montenegro (TSO- EPCG)	Albania	www.tso-epcg.com	www.tso-epcg.com	YES
	Bosnia-Herzegovina			YES
	Serbia			YES
Romania (Transelectrica)	Bulgaria	www.ope.ro	www.ope.ro www.transelectrica.ro	YES
	Hungary			
	Serbia			
Serbia (EMS)	Albania	www.ems.co.vu	www.ems.co.vu	YES
	Bosnia-Herzegovina			YES
	Bulgaria			YES
	Croatia			YES
	Hungary			YES
	Macedonia			YES
	Montenegro			YES
	Romania			YES



Cooperation among system operators

Organized SEE TSO activities: UCTE UCTE

- UCTE - "Union for the Co-ordination of Transmission of Electricity" is the association of TSOs in continental Europe, providing a reliable market base by efficient and secure electric "power highways"
- Coordinates the interests of transmission system operators in 24 European countries
- Common objective is to guarantee the security of operation of the interconnected power system
- 50 years of joint activities laid the basis for a leading position in the world, which the UCTE holds in the quality of synchronous operation of interconnected power systems
- Through the networks of UCTE 450 million people are supplied with electric energy and annual electricity consumption totals approx. 2500 TWh
- UCTE Working Groups: Operations & Security, System Strategy, Data, Communication, Legal Affairs, Compliance Monitoring, Co-ordinated Planning
- Other UCTE bodies: Assembly, Steering Committee, Project Groups and Task Forces

Organized SEE TSO activities: SUDEL



- SUDEL is association of TSOs in the SEE interconnected system
- Founded on 22 April 22 1964 as regional group of UCTE (then UCPTE)
- Goal is to create the optimum technical conditions for the operation of the interconnected system within its area and with neighboring networks and protecting the common interests of SUDEL region
- Presidency, Members and Guests under Executive Committee
- Working Groups: Operation & Market, Strategic & Legal Issues
- SUDEL Forum

Organized SEE TSO activities: SETSO TF



- ETSO, SUDEL and UCTE, TSOs and electricity companies representing SEE countries proposed to set up a joint ETSO/SUDEL Task Force under the umbrella of ETSO, named “Southeast Europe TSOs” (SETSO) with a reinforcement of expertise from ETSO at the first “Southeast Europe Electricity Regulatory Forum” (SEEERF), in Athens on 12 June 2002
- SETSO Task Force represents the TSOs of the SEE Region for the creation of a Regional Electricity Market (REM) integrated within the EU Internal Electricity Market (IEM)
- Members of the SETSO TF are the representatives from: Albania, Austria, Bosnia–Herzegovina, Bulgaria, Croatia, FYROM, Greece, Hungary, Italy, Montenegro, Romania, Serbia, Slovenia, Turkey and UNMIK
- Three SETSO Subgroups:
 - SETSO ITC (Inter-TSO Compensation) SG
 - SETSO NACMPF (Network Access, Congestion Management, Power Flows) SG
 - SETSO RBM (Regional Balancing Management) SG

SETSO TF: Scope of activities (1)



- Implementation of a temporary ad-hoc “Cross Border Tariffs” mechanism for SEE region, based on physical flows rather than on commercial ones, able not to introduce any “pancaking” and to provide an inter-TSO compensation procedure to cover all the network costs arising from the cross border physical flows, in compliance with the position papers from CEER, the principles highlighted from the Florence Forum and the temporary CBT mechanisms presently adopted within ETSO
- Development of methodologies and technologies for Network Access (NA) and Congestion Forecast (CF), based on transparent and non discriminatory principles, by implementing ETSO procedures for CBT capacities calculation, by merging and improving procedures for system security checking based on data exchange, existing and used within UCTE
- Development and implementation of ETSO procedures for Congestion Management (CM), based on transparent and non discriminatory principles, by determining the most appropriate principles to be applied for the congestion resolution within the SEE Region network

SETSO TF: Scope of activities (2)



- Implementation of ETSO recommendations for data publication and transparency, by monitoring closely the availability of market information within SEE TSOs Web Sites and by promoting a process of harmonization of data format, with the aim to reach appropriate requirements of transparency and to allow easier access to information for all the actors participating in the future regional electricity market
- Monitoring of the extension to SEE Countries and the subsequent implementation of the ETSO designed information system, namely “Electronic Highway” (EH), to guarantee the reliability and rapidity of data exchanges among TSOs Control Centers, in collaboration with UCTE, SUDEL and Donors organizations
- Assistance and support to the single TSOs in the current transition phase of restructuring and reorganization of the whole power sector, as a contribution in building SEE REM, and the monitoring of the national Grid Codes implementation for the operation of national electricity markets, in compliance with the EU technical standards and in collaboration with EdF and UCTE

SETSO TF Achievements and Activities



- ITC Agreement signed and merged with EU ITC process ✓
- Proposal on Explicit Coordinated Flow-based Auctions concept in SEE Region *ongoing*
- Data exchange for the implementation of operational procedures for Day Ahead Congestion Forecast (DACF) acc. to UCTE ✓
- Proposal on Regional Balancing Mechanism concept in SEE Region *ongoing*
- Cooperation within SECI project on Regional infrastructure planning for transmission networks in SEE *ongoing*

Bilateral cooperation btw. SEE TSOs

- Data Exchange (DACF) acc. to UCTE procedures
- Bilateral harmonization of NTC values
- Harmonization of daily exchange transaction programs (nominations)
- Harmonization of maintenance works planning dates regarding interconnection lines and information on important internal grid planned outages
- Bilateral cooperation regarding building interconnection lines
- ITC Agreement (remuneration of grid usage)
- Explicit transmission capacity auctions (coordinated bilateral auctions are under way)
- Emergency help exchange (bilateral contracts)

ITC Mechanism in SEE region



Inter TSO Compensation (ITC) mechanism

- Establish one single ITC mechanism within EU pursuant to the Comitology procedure
- Single EU-SEE ITC fund was created in June 2007
- Monitor ITC process
- Cooperation with ETSO/SETSO TF
- Looking forward for ITC Guidelines

SEE ITC History and Status of play

- Most of SEE TSOs signed a voluntary SEE CBT Agreement in July 2004, based on ETSO CBT Mechanism with minor specifications, while the SEE region was still disconnected from UCTE region; follow up in 2005 and 2006
- The voluntary Interim ITC June-December 2007 Agreement (merging) has been signed by TSO companies from 19 EU countries as well as Norway and Switzerland and, for the first time, Albania, Bosnia and Herzegovina, Croatia, FYROM, Montenegro and Serbia
- Constant work on ITC Common methodology; when agreed, ITC Guidelines will be defined
 - No fees or charges for transit any more
 - Facilitate electricity trade
 - Common ITC mechanism in place for SEE and EU (IEM)

ITC analysis so far...

- ETSO and CEER/ERGEG worked on different ITC models:
 - With and Without Transit (WWT)
 - Average Participation (AP)
 - Marginal Participation (MP)
 - Improved Model for Infrastructure Compensation (IMICA)
- Regulation 1228/2003 gave guidance on how to develop Inter TSO Compensation
- ITC Clearing and Settlement Agreement for 2008/09:
 - Based on some of principles applied for ITC Agreement June-December 2007 and defined procedure...
 - TSOs asked their Regulators if they have complaints to ITC Agreement till 12 October 2007 → there were no regulatory objectives, assuming that they confirm it...
 - ITC Agreement was signed on 12 October 2007 by SEE TSOs...
 - However, national regulators were invited to report eventual objectives to ITC Agreement till 16 November 2007 → if any national regulator objects, the ITC Agreement will be considered null

ITC Clearing and Settlement Agreement for 2008/09: Losses

- Losses will be compensated based on WWT model:
 - Losses are calculated for each TSOs transmission grid in LF situation with transits, and in LF situation without transits (LF=Load Flows)
 - In order to perform calculations, ETSO collected 72 snapshots from each TSO per year, containing: detailed information about grid, LF at the time of each particular snapshot
 - Transit losses are defined as difference in calculated losses with and without transit
 - Price used to calculate value of transit losses shall be equal to price used to cover losses by national tariffs
 - ITC Parties will receive full compensation for transit losses

ITC Clearing and Settlement

Agreement for 2008/09: Infrastructure

- For infrastructure, the compensation is based on cost of hosting cross-border flows
- Value of assets is based on regulated costs as covered by national tariffs – each TSO reports this value to ITC mechanism for calculations
- Compensations are estimated on basis of previous ITC Agreements and calculations performed during last months (capped yearly incomes for all ITC parties)
- ITC has no relation to national grid tariffs – National grid tariffs is only applicable to national tariffs customers, not to transit flows

ITC Clearing and Settlement Agreement for 2008/09: Contribution

- Contribution from participating countries is calculated based on cross-border flows between these countries
- Contribution from perimeter countries is equal to 1,4 €/MWh multiplied by the sum of scheduled flows from participating countries to perimeter countries and of scheduled flows from perimeter countries to participating countries

ITC Clearing and Settlement

Agreement for 2008/09: Financial Net Result

- Ex ante net financial result is calculated for each ITC Party based on agreed principles for the compensation and contribution
- This result will be changed based on:
 - Ex post schedules between participating countries and perimeter countries
 - Ex post transit losses in 2008 and 2009



ITC Clearing and Settlement

Agreement for 2008/09: Financial Net Result

- Change in scheduled exports to perimeter countries or scheduled imports from perimeter countries will have repercussion on net result for each country since the deviation shall be distributed pro rata based on total net results
- It was agreed that loss compensation for each country in 2008 and 2009 will be based on snapshots representing flows during these years and on respective applicable loss costs. Therefore:
 - Loss compensation for each country can differ from ex ante calculations
 - If total compensation for losses deviates from value given in ex ante spreadsheet, this deviation will be distributed pro rata based on infrastructure cost claim
 - Infrastructure compensation will be adapted in order to maintain total ITC fund at the same level

ITC Clearing and Settlement

Agreement for 2008/09: Financial Net Result

- Ex post net result for each country will be the sum of the loss compensation using WWT method and data from 2008 respectively 2009, the ex ante net result for infrastructure compensation, eventually corrected pro rata because of deviations of the loss compensation, the pro rata distribution of deviations on scheduled exports to and imports from perimeter countries

ITC Solution beyond 2009 and Conclusion

- ETSO will create new working group with objective of finding, within two years, a further improved technically grounded ITC mechanism including issues not yet solved in the current mechanism
- New ETSO ITC model:
 - Allows compensation for losses based on WWT model
 - All ITC Parties get fully compensated for losses caused by transit flows
 - ITC Parties get compensation for infrastructure costs
 - Allows less volatility and hence guarantees stable ex post net results

Regulatory role in ITC process

- Define loss prices to calculate value of transit losses
- Infrastructure costs, value of assets based on regulated costs as covered by national tariffs
- Object to proposed / signed ITC Agreement...



ETSO ITC Agreement for 2008/09

- ITC Clearing and Settlement Agreement for 2008/09 was signed by TSOs on 12 October 2007
- Deadline (till 16 Nov 2007) for regulatory complaints was prescribed by ITC Agreement for 2008/09 (only Estonian Regulator complained but withdrew its opposition two days later)
- ITC Agreement came into force on 1 Jan 2008 www.ets-net.org



The screenshot shows the ETSO website with the following elements:

- Header:** Navigation links (Home, Masthead, Legal notice, Sitemap, Search, Contact) and the ETSO logo.
- Navigation Bar:** Links for Association, Activities, NTC, Conferences, Forums, Members corner, and News.
- Latest news section:** Features a photo of power lines and the title "Pan-European Inter-TSO Mechanism 2008-2009" dated 30-11-2007.
- Text Content:** A paragraph stating that 39 European TSO companies have reached a voluntary agreement on Inter-TSO Compensation (ITC) for transit flows, covering EU and non-EU member countries. The mechanism enters into force on 1 January 2008 and lasts for two years.
- Footer:** Links for "Latest news" and "Press Releases".

Pan-European Inter-TSO Mechanism 2008-2009 Date : 30-11-2007

39 European Transmission System Operator (TSO) Companies have for the first time reached a voluntary agreement on Inter-TSO Compensation (ITC) for transit flows that covers TSOs in all EU interconnected member countries. It will also be applied by TSOs in a number of non-EU member countries, including South-East Europe. The mechanism will enter into force on 1 January 2008 and last for two years. It makes it possible to suppress cross-border electricity transmission fees, and facilitate trade and market integration (see full text under Press Releases)

Other Regional initiatives



Regional Balancing Mechanism in SEE region



RBM: Final Goal

Based on TSOs concept (developed by SEE TSOs), the RBM final aim is:

- To increase margins of balancing resources for SEE TSOs
- TSOs obtain Balancing Energy (BE) in short period and under competitive market prices
- To help TSOs to obtain necessary tertiary reserve (fast and slow) easily (emergency help)
- To ensure safe, reliable and secure power system operation
- To reduce TSOs costs for obtaining BE
- To give opportunity to national market players to offer their short-term electricity surpluses via BETSEE/TSOs platform with lower prices
- RBM/BETSEE represents actual state of play of market participants offers for BE depending on real-time situation, introduced on BETSEE internet platform

RBM: State of play...

- Regulators (ECRB EWG members) were dealing with Legal Questionnaire (LQ) regarding the RBM issues answering the following questions:
 - Transmission System operator ownership and extent of unbundling (legal, accounting, management)
 - Legal
 - Cross Border Capacity
 - Market functioning
 - TSO structural organization, dispatching and balancing
 - National balancing model
 - Licensing
- Analysis of the legal subjects related to the RBM LQ follows



Contact:

Nenad Stefanović

Energy Agency of the Republic of Serbia

Terazije 5/V - 11000 Belgrade - Serbia

Tel: + 381 11 3037253; Fax: + 381 11 3225 780

E-mail: nenad.stefanovic@aers.org.yu

Belgrade, Terazije 5/V

www.aers.org.yu

e-mail: aers@aers.org.yu