



Session 2: Regional markets for Electricity Energy Community activities in Electricity Cross Border Trading

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Topics of interest

Major obstacles encountered in the process of enhancing cross border cooperation

Approach followed and the progress to date

Cooperation between INOGATE and the Energy Community (ENPI countries)



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ENERGY COMMUNITY



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Energy Community

The European
Community



THE ENERGY POLICY IN EUROPE

Generally, approach towards common principles (security of supply, competition, environment);

SEE: mostly bilateral relations;

Necessity for a common framework: **THE TREATY ESTABLISHING THE ENERGY COMMUNITY**

Signed on 25 October 2005
Came into force in **July 2006**

CONTRACTED PARTIES:

- Albania
- Bulgaria
- Bosnia and Herzegovina
- Croatia
- FYR of Macedonia
- Montenegro
- Romania
- Serbia
- The United Nations Interim Administration Mission in Kosovo

Energy Community



Changes in meantime:

- Romania and Bulgaria became EU members in 2007; not CPs any more
- Moldova and Ukraine joined Energy Community, became EnC CPs, in May 2010



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Energy Community Regulatory Board (ECRB)

- ✓ shall discharge the tasks entrusted to it by Article 58 of the Energy Community Treaty → 1st ECRB meeting held in December 2006
- ✓ at the request of the European Commission, or on its own initiative and in accordance with the objectives of the Energy Community Treaty, shall undertake the function of advising on statutory, technical and regulatory rules in the region to the Energy Community Treaty Institutions.
- ✓ shall provide advice to the Ministerial Council and the PHLG with regard to monitoring and assessing the operation of the energy networks and network energy market and issue recommendations to the Parties when so entrusted by the Treaty or the Ministerial Council.
- ✓ shall facilitate consultation, co-operation and co-ordination amongst regulatory authorities to a consistent application of the Acquis Communautaire. The ECRB makes recommendations and reports with respect to the functioning of the energy markets.
- ✓ may determine the existence of a serious and persistent breach and bring it to the attention of the Ministerial Council.



Who are the Members of ECRB?

- ECRB consists of representatives from NRAs from Contracting Parties (CPs), Participants and Observers to the Energy Community Treaty
- ECRB Members comprises high level representatives from **nine energy regulatory authorities** of the Signatory Parties:
 - Energy Regulatory Authority of **Albania** (ERE)
 - State Electricity Regulatory Commission of **Bosnia and Herzegovina** (SERC)
 - **Croatian** Energy Regulatory Agency (HERA)
 - Energy Regulatory Commission of the **FY Republic of Macedonia** (ERC)
 - Energy Regulatory Agency of **Montenegro** (REGAGEN)
 - Energy Regulatory Agency of the Republic of **Serbia** (AERS)
 - Energy Regulatory Office (ERO) of **Kosovo***
 - Energy Regulatory Agency of **Moldova** (ANRE)
 - Energy Regulatory Agency of **Ukraine** (NERC), and
 - a representative of the **European Commission**, representing the EU

*This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and ICJ Advisory opinion on the Kosovo declaration of independence



Who are the Participants of the ECRB and what distinguishes them from the Members?

- ECRB is also attended by fifteen energy regulatory authorities of the so called **Participants**. These are currently:

E-Control (Austria)

SEWRC (Bulgaria)

ERU (Czech Republic)

CERA (Cyprus)

CRE (France)

BNetzA (Germany)

RAE (Greece)

HEO (Hungary)

AEEG (Italy)

ANRE and ANRGN (Romania)

RONI (Slovakia)

AGEN-RS (Slovenia)

OFGEM (UK)

NMa (Netherlands)

URE/ERO (Poland)

- Participants have the right to **participate in the discussions**, however have **no voting rights**, they are **assisting EC**
- There is ACER representative





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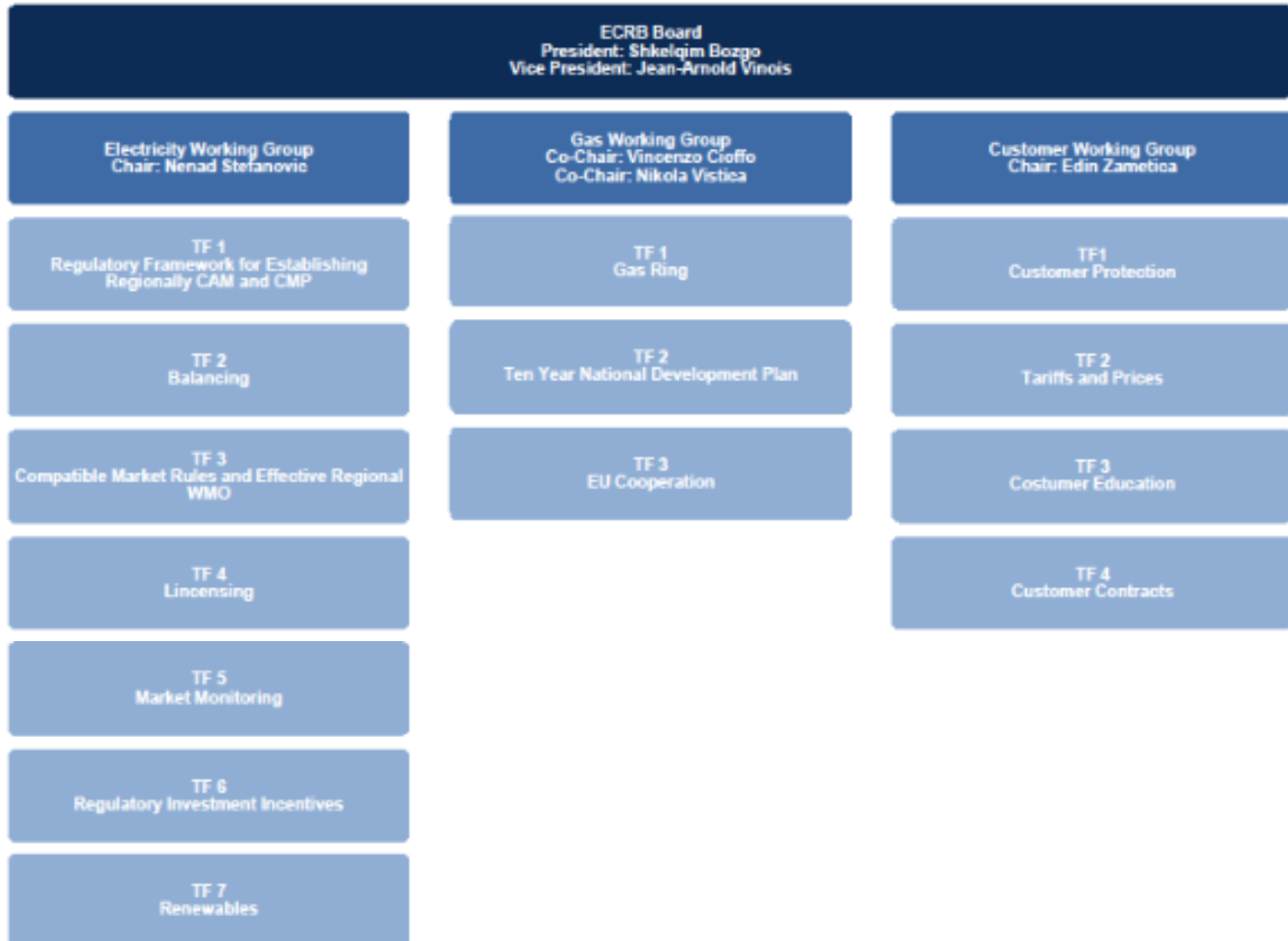
Who are the Observers to ECRB?

- ECRB allows Observers to its meetings, currently attributed to the following energy regulatory authorities:
 - GNERC (Georgia)
 - NVE (Norway)
 - EMRA (Turkey)
 - PSRC (Armenia)
- Observers do generally not take part in the discussions

ECRB structure and organisation



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How is ECRB organizing its work?

- ECRB organizes its work in three working groups (WGs):
 - Electricity Working group (EWG)
 - Gas Working group (GWG)
 - Customers Working Group (CWG)
- A fourth group was created with the purpose of bringing forward the project of creating a Coordinated Auction Office in SEE region and comprises both Regulators and Transmission System Operators under the Regulators' lead – terminated its task in 2012:
 - South East Europe Coordinated Auction Office Implementation Group (SEE CAO IG)
- ECRB and its Working Groups are supported by the ECRB Section of the Energy Community Secretariat, as a part of Energy Community Secretariat, located in Vienna





Which are the main topics of the ECRB Work Program?

- **Electricity:** Congestion management and transmission capacity allocation, Regional Balancing Mechanisms, Compatible Market Rules, Wholesale Market Opening, Mutual recognition of trading licenses, Cross Border cooperation, Coordinated Auction Office
- **Gas:** Cross border gas trade, Interconnection and interoperability of transmission and transit pipelines, Balancing and flexibility tools including storage and LNG facilities, Cross border cooperation, Transmission tariffs
- **Customers:** Protection of vulnerable household customers, Quality of supply and commercial services, Standards and incentives, Tariff methodologies and transparency of prices

The ECRB Work Program provides detailed information on the activities of the ECRB and its Working Groups



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**CROSS BORDER ISSUES
TRANSIT
HISTORY
UCPTE – UCTE - SUDEL
1970-2009**



History: European Transmission Network 1970-2009



History: SEE Transmission Network 1970-2009



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- During 70ties and 80ties the transmission grid in ex-Yugoslavia (main part of today SEE region) was designed for operating with ex-UCTE/SUDEL in synchronous operation
- Transmission systems of neighboring Hungary, Romania and Bulgaria were not in synchronous operation at the time the transmission network was designed and constructed
- There were no congestions at the time
- UCTE was divided in two synchronous zones due to war operations during 90ties

Ex-JUGEL Rule / Agreement



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1) na bazi zaključenih vodnih redova učesnice, utvrde se svih vodnih redova prema/ po pojedinačnim pravcima, odnosno susodnim elektroprivrednim organizacijama;

2) sve sudski iz (1) grupišu se u ispanke (+) ili prijem (-);

3) realizovani preneti (oktavi) prema susodnim elektroprivredama takodje se grupišu na ispanku (+) i prijem (-);

4) na bazi odmerenih tokova (J) i sopstvenih planiranih vodnih redova (Z), utvrđuje se visina osmerenog tokovita koji je uslovit povećanje gubitaka u mreži na učesnicu. Smatra se da nema povećanja gubitaka u mreži tranzitora ako se tranzitor na povećava suma apsolutnih vrednosti tokova koji bi bili realizovani na tranzita mreži.

Član 10.

U slučaju kada dve susodne učesnice zaključa bilateralni vodni red, dužne su da snose odgovarajuće troškove na ovaj aparatan utvrdjen način.

Ako se drugičije na dogovori, uz odgovarajuće obaveštenje Elektroenergetičkoj službi Zajednice, smatra se da troškove tranzita snosi primatelj električne energije.

Neknade, za sve vodne redove susodnih elektroprivreda, na ime pokrivanja gubitaka električne energije u prenosnoj mreži i dela prostora i posredne reprodukcije, utvrđuje se u visini 1,5% u naturi na 100 km najkraćeg pisanog puta između tih elektroprivreda.

Izuzetno od odredbe iz prethodnog stava, ispanke po osnovu korišćenja zajedničke rutirajuće mreže se odobraduju neknađa za pokrivanje troškova tranzita.

Tranzit električne energije preko visokovoltne mreže Jugoslavije za potrebe elektroprivreda susodnih i drugih zemalja vrši se tako što se jedna učesnica ovog sporazuma na tranzitiran putu pojavljuje kao nosilac tranzita. Ova učesnica snosi troškove za tranzit odgovarajuće sa svojim partnerom i snosi sve naknade za tranzit u skladu sa ovom aparatom kao da vrši ovaj i ovaj sa svoj račun.

Tranzit električne energije po osnovu višegodišnjih ugovora sa inostranim partnerima podleže posebnoj posebnoj uslovnosti, a visinu naplate na ime troškova tranzita utvrđuje Izvršni odbor Zajednice Zajednice na predlog Odbora za pitanja zajedničkog reda.

Najkraći pisanost put je najkraće dužina dalokovode 400 i 220 kV (a preko 110 kV ako izuzetno, ako ne postoji 400 i 220 kV voda i ako se radi o malim razdaljinama), između isporučioce i primatelja električne energije.

Neknađa za tranzit električne energije po osnovu uslovnosti je iz Člana 27. ovog sporazuma uzima se iz učtača ostvarenih po tom osnovu.



- Transit cost: 1.5% in nature at the 100 km of the shortest transit transmission path between the electric power industries (source and sink)
- Transit path could be, however, chosen regardless this rule, and choosing the cheapest transit path-fee



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Ex-JUGEL Rule / Agreement

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Član 31.

Ukupno održavanje mrežne raspoledaju se na učesnike ovog sporazuma u skladu sa protokolom utvrdjeno transparentno električne energije (UEE) i ekvivalentnog prenosnog puta (ka) vršio učesnik ovog sporazuma koja je ostvarila transit električne energije.

Učesnici ovog sporazuma utvrdjuju sporazumno ekvivalentno dužine transitnog puta (uzima u obzir razlika svojih područja), i to:

1) u prenosnoj mreži elektroprivreda BiH	235 km,
2) u prenosnoj mreži elektroprivreda Črna Gora	133 km,
3) u prenosnoj mreži elektroprivreda Hrvatske	265 km,
4) u prenosnoj mreži elektroprivreda Makedonija	181 km,
5) u prenosnoj mreži elektroprivreda Slovenija	161 km,
6) u prenosnoj mreži elektroprivreda Srbija, bez SSP	207 km,
7) u prenosnoj mreži elektroprivreda Kosova	110 km,
8) u prenosnoj mreži elektroprivreda Vojvodina	165 km.

Član 32.

Doktrine održavanja mrežica (član 29.), uvođenja iznosa održavanja (član 30.), kao i rasporede dirakulativnih radova (član 31.), vrši odgovorna služba Zajednice i dostavlja ih dispečerskim centrima učesnika ovog sporazuma mesečno.

Mesečni obračuni iz prethodnog stava, pored ostalog, sadrže i svođu radova (u NBT) dogovornja/potraživanja električne energije u liniji za svaki od učesnika. Sadržaj dogovora se svodi na kilometarske dužine, tako da učesnik sa negativnim saldo dužine po održavanju deo učesnikom sa pozitivnim saldo, a način likvidacije tih dužina dogovornja izvorno učesnik ovog sporazuma.

Član 33.

Se smatraju se transiti, u smislu ovog sporazuma, dvostrani tokovi električne energije ne delokovane kojima su povezane dva učesnika ovog sporazuma, ako je do tih tokova došlo zbog prirodne rasporede električne energije u prenosnoj mreži.

Iznos eventualnih gubitaka električne energije u prenosnoj mreži koji mogu nastati usled dvostranih tokova iz stava 1. ovog člana, utvrdjuju i naplađuju povezane učesnici ovog sporazuma.

Član 34.

Uslovi eventualnog transita električne energije preko javne električne energetske sistema se potroše elektroenergetskih sistema susjednih i drugih zemalja, utvrdjuju se Ugovorom između Zajednice i elektroprivreda tih zemalja, a time da mrežna transita u ovom slučaju se neće biti vanjsa od radova koja se obavlja na transitu električne energije u mreži.



- Participants of this Agreement defined equivalent lengths of transit path, in line with their relevant areas, in kilometers



SUDEL: How to treat cross-border transits in a fair way?



- Problems with transits of energy are significant and numerous, and they exist everywhere in the interconnected operation
- At the time of SUDEL, a way of realization transits was that two or more partners made an agreement for transit path, and payment is done according to this agreement
- Energy itself does not obey any agreement; it flows along rather many and not one path
- Sometimes it happens that the biggest amount of energy flows along path that isn't included in aforementioned agreement. In such cases power systems over which the most of energy is flowing are not paid at all, and some other systems get all the money from that cross-border transit
- Reasons for developing and implementing new and fair methodology for cross-border transits arise mostly from that fact, but there are also some other reasons as well
- Main aim was to develop simple-for-use and accurate enough methodology for cross-border transits. However, these requirements are usually in opposition. ETSO was working on such methodology
- The other, very important part of the problem with cross-border exchanges is security problem



SUDEL: CROSS BORDER TRANSIT CONTRACT TARIFFS CALCULATIONS (CBT)

- Transmission capacity was not allocated at the time, but only transit as a way of usage of the transmission grid was remunerated
- Therefore, the interconnection lines were overloaded frequently due to growing trading transactions and transits
- Till 2001, only exporter was obliged to pay whole amount of transit fee - UCPTE/SUDEL (no deregulation and no unbundling at that time, vertically integrated utilities managed TSO functions)
- New approach proposed that transit fee shall be divided into two shares, one paid by exporter (up to 25% or 0.5 Eur/MWh) and another, higher one paid by importer of energy (at least 75% or 1.5 Eur/MWh)
- This division of transit fee was proposed by CEER in their document "Proposal of the Council of European Energy Regulators to accelerate the liberalization of the European energy market" published by CEER in January 2001; Basic principles of methodology remain the same.





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ETSO CBT MECHANISM

II SYNCHRONOUS ZONE EFFORTS

2000 - 2006



ETSO CBT: HN inventory, costs of elements and losses



- Identification of the horizontal network: All 380 kV and 220 kV networks are taken into consideration, as well as, transformers 380/220 kV, 380/110 kV, 220/110 kV
- All interconnection-lines on 110 and 150 kV level are also taken into account as well as relevant part of the network
- All correspondent fields are put in
- Collected data are total length of interconnecting lines, number of transformers, fields etc.
- Prices of the elements HN are also collected together with losses in HN calculated by τ -method





ETSO Methodology description CBT: II synchronous zone

- Prices that have been collected by EKC from power utilities/system operators were very different, and in order to override these differences, calculation of annual cost of HN was done with the **same prices for the same elements in the second synchronous zone** (same specific prices mil EUR/km for same voltage level lines or mil EUR/ 100 MVA of transformer capacity for same type of transformers with same primary and secondary voltage)
- Calculation was performed with prices obtained from Bulgarian TSO-NEK (price of transformers 400/150 kV and 150 kV fields in Greece were multiplied with following ratio: price of double 400 kV line in NEK/ price of double 400 kV line in HTSO)
- In order to calculate costs of HN which are assigned to transits it was necessary to calculate **annual costs of HN, transits through each power system and share of transit in each power utility** so called **'usage' of HN by transits**
- Data, which were required for this calculation, were: HN inventory, cost of each element of HN, annual losses and annual transit and consumption in each power utility



ETSO Methodology description CBT: II synchronous zone

- In the following table are presented: total costs of HN, share in total costs of HN, annual costs of HN, share in total annual costs, annual amount of losses and their costs for each power utility/system operator

Company	costs of HN (mil EUR)	share in total costs (%)	annual costs of HN (mil EUR)	share in annual costs of HN (%)	annual losses in HN (MWh)	costs of losses in HN (mil EUR)	Total annual HN costs (mil EUR)
	A	B	C	D	E	F	C+F
TEL	2892.96	36.63	284.31	36.63	340000	11.79	296.11
NEK	1719.17	21.77	168.96	21.77	318240	11.04	179.99
HTSO	1249.87	15.83	122.83	15.83	381496	13.23	136.07
KESH	269.31	3.41	26.47	3.41	99999	3.47	29.94
EPS, ERS EPCG	1567.34	19.85	154.04	19.85	371408	12.88	166.92
ESM	198.44	2.51	19.50	2.51	37265	1.29	20.79
Total	7897.08	100.00	776.11	100.00	1548408	53.70	829.81



*Based on the data from 01.09.1999. – 31.08.2000

*January 2000 data used to show principles of cross border calculation



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ETSO Methodology description CBT: II synchronous zone

- Transit fee was calculated by dividing the total annual costs assigned to transits with total amount of transit in second synchronous zone

$$\text{transit fee} = \frac{\text{total transit costs in II sync zone}}{\text{total planned export in II sync zone}}$$

- Calculated transit fee for II synchronous zone, according to ETSO methodology was 3.25 EUR/MWh
- In the first synchronous zone transit fee was limited to the value of 2 Eur/MWh, so in the second synchronous zone the value of **transit fee** shall be the same i.e. **2 Eur/MWh**



Remuneration for recovering of realized CBT transit costs: II synchronous zone

- Payment for exchanges was done in the following manner: exporter pays 25% and importer pays 75% of transit fee for each MWh of planned exchange
- Table of planned imports are presented below

Planned import (GWh)						
Company	TEL	NEK	HTSO	KESH	EPS,EPCG, ERS,ESM	Total
ESM in the block	318.58	258.22	1022.245	996.96	1512.49	4108.50

Company	planned		fee for energy		total collected	share in to
	export	import	export (0.5EUR/MWh)	import(1.5EUR/MWH)	fee	total costs
	(GWh)	(GWh)	(EUR)	(EUR)	(EUR)	(%)
	A	B	C = A*0.5EUR/MWh	D = B*1.5EUR/MWh	E = C + D	F
TEL	331.33	318.58	165,663.50	477,862.50	643,526.00	7.83
NEK	453.85	258.22	226,926.00	387,331.50	614,257.50	7.48
HTSO	1347.69	1022.25	673,842.50	1,533,367.50	2,207,210.00	26.86
KESH	286.52	996.96	143,257.50	1,495,440.00	1,638,697.50	19.94
EPS,EPCG, ERS,ESM	1689.12	1512.49	844,558.00	2,268,741.00	3,113,299.00	37.89
Total	4108.50	4108.50	2,054,247.50	6,162,742.50	8,216,990.00	100.00

*Based on the data from 01.09.1999. – 31.08.2000

*January 2000 data used to show principles of cross border calculation



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Remuneration for recovering of realized CBT transit costs: II synchronous zone

- Collected money was distributed to power utilities/system operators according to share of each power utility system in total costs of transits in second synch. zone.
- Calculation and settlement was done on a monthly basis
- Monthly share in transit costs what is equal to share in collected money, can be different from the annual share in transit costs/collected money
- Therefore, a final settlement, at the end of a year, must be done according to the annual share in transit costs
- That meant that at the end of single year the annual share was recalculated, and in the last invoice eventual corrections for that year stated
- Invoices for each power utility included the amount receivable by payee, the amount payable by payer and a difference between these two amounts, together with the percent of transit fee for recovering costs of cross border accounting services

Company	accounts payable (transit fee)	percentage in payments	percentage of revenues	revenues	difference
	(EUR)	(%)	(%)	(EUR)	(EUR)
	A	B	C	D	D - A
TEL	643,526.00	7.83	20.76	1,705,700.10	1,062,174.10
NEK	614,257.50	7.48	39.65	3,258,331.84	2,644,074.34
HTSO	2,207,210.00	26.86	13.05	1,072,238.01	-1,134,971.99
KESH	1,638,697.50	19.94	9.86	809,863.43	- 828,834.07
EPS,EPCG, ERS, ESM	3,113,299.00	37.89	16.68	1,370,856.60	-1,742,442.40
Total	8,216,990.00	100.00	100.00	8,216,990.00	0.00

*Based on the data from 01.09.1999. – 31.08.2000

*January 2000 data used to show principles of cross border calculation



Paying for cross border accounting CBT services: II synchronous zone

- Cross border accounting services were performed by EKC, Belgrade, and for such services a small part of transit fee was charged
- Collected money was used to finance further development of methodology, meetings of the working group and the costs of salary, computers and phone as well as security analysis of planned transactions
- In order to cover mentioned costs, 0.6% of transit fee if required for each MWh which is planned for exchange in second synchronous zone
- This fee was included in transit fee, i.e. transit fee remains 2 EUR/MWh
- EKC distributed invoice for cross border accounting services to power utilities/system operators together with invoices according to which settlement between to power utilities/system operators was performed
- Planned exchanges were approximately 10-15% higher then they were after adoption of this methodology for transit calculation
- It was due that presently energy is going in cascades through the second sync. zone, from point A to point A' to point A'' to point B (same energy is included in planed export 3 times, for 3 power systems A, A' and A''), and after methodology adoption it will go directly from point A to point B (energy is included in planned export only once for 1 power system A). Mentioned percent for cross border accounting services will ensure about EUR 42,000.00 for one year.



Distribution of collected money within cross border exchange block which consists of several companies

- Cross border exchange block was formed by EPS, EPCG, ERS and ESM
- Each power utility of cross border exchange block was charged for its export or import energy outside the block
- Money, which was collected by cross border exchange block for transits over the block, was distributed to power utilities within the block by the same principles exposed above
- This meant that transit was calculated for each single power utility
- Percentage of transit of single power utility in total transit of the block was equal the share of power utility in the amount covering the total transit costs of the block





Example of monthly and annual CBT calculation: II synchronous zone

- Example is based on the data from 01.09.1999. – 31.08.2000. (January 2000 data are used to show principles of cross border calculation). Monthly consumption of each power utility/system operator, i.e. sent to EKC

January 2000						
Company	monthly cost of HN (milEUR)	monthly consumption (GWh)	monthly transit (MWh)	usage of HN (%)	HN costs due to transit (EUR)	percentage in transit costs (%)
	A	B	C	D = C/(C+B)	E = D*A/100	F
TEL	24.68	5015	38257	0.76	186813	22.03
NEK	15.00	4357	141530	3.15	471906	55.64
HTSO	11.34	3856	6742	0.17	19791	2.33
KESH	2.49	677	29887	4.23	105472	12.44
EPS, ERS EPCG	13.91	4709	9059	0.19	26708	3.15
ESM	1.73	724	16005	2.16	37479	4.42
Total	69.15	19338	241480		848168	100.00

Company	planned		fee for energy		total
	export (GWh)	import (GWh)	export (0.5EUR/MWh) (EUR)	import(1.5EUR/MWh) (EUR)	fee (EUR)
	A	B	C = A*0.5EUR/MWh	D = B*1.5EUR/MWh	E = C + D
TEL	65.55	17.08	32,775.00	25,620.00	58,395.00
NEK	43.52	32.40	21,757.50	48,600.00	70,357.50
HTSO	348.25	0.00	174,125.00	-	174,125.00
KESH	0.00	148.80	-	223,200.00	223,200.00
EPS, ERS EPCG	32.80	242.155	16,400.00	363,232.50	379,632.50
ESM	0.00	49.68	-	74,520.00	74,520.00
Total	490.12	490.12	245,057.50	735,172.50	980,230.00



Example of monthly and annual CBT calculation: II synchronous zone

Company	percentage in transit costs (%)	total fee (EUR)	revenues (EUR)	difference (EUR)	percentage in revenues (%)	percentage in payments (%)
	A	B	C=A*Total B	D = C-B	(%)	(%)
TEL	22.03	58,395.00	215,899.95	157,504.95	24.90	0.00
NEK	55.64	70,357.50	545,382.76	475,025.26	75.10	0.00
HTSO	2.33	174,125.00	22,872.27	- 151,252.73	0.00	23.91
KESH	12.44	223,200.00	121,893.80	- 101,306.20	0.00	16.02
EPS, ERS EPCG	3.15	379,632.50	30,866.11	- 348,766.39	0.00	55.14
ESM	4.42	74,520.00	43,315.12	- 31,204.88	0.00	4.93
Total	100.00	980,230.00	980,230.00	0.00	100	100

- Tables contain data for creation of invoices for power utilities/system operators. These tables were distributed together with invoices. Invoice looked as follows (Invoice for NEK):

NEK	total income(EUR)	
	475,025.26	
paid by	(EUR)	(%)
HTSO	113,589.62	23.91
KESH	76,080.17	16.02
EPS,ERS, EPCG	261,920.84	55.14
ESM	23,434.62	4.93
sum	475,025.26	100
total fee (EUR)	70357.5	
accounting services fee (%)	0.6	
accounting services payment (EUR)	422.145	
paying to EKC (EUR)	422.145	



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CBT Contract

- Having in mind necessity for:
 - More fair principles in cross border transactions tarrification
 - Facilitation of transactions within Interconnection
 - Following the principles of ETSO in this field
- Power utilities and system operators, which operated within The Second UCTE Synchronous Zone (hereinafter referred as: system operators):
 - Hellenic Transmission System Operator (hereinafter referred as: HTSO)
 - Electric Power Industry of Serbia (EPS)
 - Electric Power Utility of Montenegro (EPCG)
 - Electric Power Utility of Macedonia (ESM)
 - Electric Power Utility of Republic of Srpska (ERS)
 - Transelectrica (TEL)
 - Natsionalna Electriccheska Kompania (NEK)
 - Albanian Power Corporation (KESH), and
 - Electricity Coordinating Center (EKC) as a service provider
- Together referred as parties in the Agreement concluded **TEMPORARY AGREEMENT On Cross border transactions tarrification within The Second UCTE Synchronous Zone**



Role of EKC (Electricity Coordinating Center)

- All system operators were obliged to submit their exchange programs every day for next day and on Friday for weekend days and Monday to EKC till 12:00h CET
- EKC was obliged to check if these programs can jeopardize the system operation of the Interconnection as a whole, taking into consideration the n-1 criterion on the basic transit paths and calculated values of the net transfer capacities
- If the security was jeopardized, EKC was obliged to warn and request TSOs, whose transactions affect the system operation security, to decrease the exchange programs to the allowed value
- After taking into account the objections and corrections of the exchange programs (if any), the exchange program could be considered as final at 16:00h CET
- Following the principle of full transparency, EKC was obliged to submit information on all transactions within Interconnection to all TSOs
- System operators could use this information for system operation only
- Parties in the Agreement could not give such information to the market players, according to the principle of confidentiality
- At the end of the month every power utility/system operator were obliged to send to EKC data for its monthly consumption



CBT Payments

- The unique total price for all cross border transactions between CBTBs within Interconnection was **2 Euros for each scheduled MWh**
- According to the principle of the socialization of the costs, each system operator whose system exports electricity will be charged with 0,50 Euros for each scheduled MWh and the rest of 1,50 Euros for each scheduled MWh will be the obligation of the system operator importer
- In the case when one or both partners in transaction were not in parallel operation with Interconnection and realized their transaction using island operation with the system operator(s) within Interconnection, the price for cross border transaction was charged to the system operator(s) in the Interconnection within whose system the island operation is realized
- Both system operators, exporter and importer, could charge market players involved in the transaction with this price for cross border transaction only and without extra charges on this position
- The way of payment for network access within system operators was not subject of this Agreement

Clearing CBT mechanism



- The clearing mechanism for cross border tariffication was done on monthly basis, till 25th in the month for the previous month
- The clearing-house was EKC: For this service, EKC charged system operators up to 0.6% of the total income defined in the Agreement and invoiced to them by EKC
- The clearing mechanism assumed calculation of the income by all system operators and benefit of the system operator, realized by cross border transactions
- The final difference between these two values was a total account for each system operator
- EKC was obliged to prepare elements for making invoices by system operators for which this final difference is positive
- The system operators, which were obliged to pay in accordance with the procedure explained above, realized payments in 15 days after receiving the invoice
- The additional taxes, bank expenses and similar could not be charged
- The clearing procedure was monitored by SUDEL ad hoc group Ring flows established within SUDEL WG Market facilitation and SUDEL WG Interconnection, authorized to propose eventual changes in this Agreement





ETSO INTER-TSO COMPENSATION (ITC) MECHANISM IN SEE

2007

Legal Basis

ITC Contract



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Inter TSO Compensation (ITC) mechanism

- Establish one single ITC mechanism within EU
- Single EU-SEE ITC fund was created in June 2007
- Monitor ITC process
- Cooperation with ETSO/SETSO TF
- ITC Guidelines introduced

Regulatory role:

- Define loss prices to calculate value of transit losses (each year for the following year)
- Infrastructure costs, value of assets based on regulated costs as covered by national tariffs
- Commenting proposed (signed) ITC Agreement



ENTSO/ENTSO-E ITC Agreements

- ITC Clearing and Settlement Agreement signed by TSOs
- Deadline for regulatory complaints was prescribed by ITC Agreement-approval
- ENTSO-E put in place an enduring Inter-TSO Compensation Mechanism
- The present **Agreement** aims at setting up a legal framework implementing the principles related to the inter TSOs compensation (“**ITC**”) mechanism, as stipulated in Regulation 838/2010/EU and more specifically in the Guidelines, starting from 1st of March 2011 on and for the duration as specified in the Agreement
- On 3 March 2011 a new, legally binding Inter TSO Compensation (ITC) Mechanism entered into force
- It has been signed by ENTSO-E and 39 Transmission System Operators from 34 countries in line with the requirements of new EC Guidelines (Regulation (EU) No 838/2010)
- The ITC contract is now a multiyear agreement, and replaces the previous voluntary agreement
- URL: www.entsoe.net





EU Legislation basis for ITC

- COMMISSION REGULATION (EU) No 774/2010 of 2 September 2010 on laying down guidelines relating to inter-transmission system operator compensation and a common regulatory approach to transmission charging
- Binding guidelines establishing an Inter-TSO Compensation mechanism should provide a stable basis for the operation of the ITC mechanism and fair compensation to TSOs for the costs of hosting cross border flows of electricity
- TSOs from third countries or from territories which have concluded agreements with the Union whereby they have adopted and are applying Union law in the field of electricity should be entitled to participate in the ITC Mechanism on an equivalent basis to TSOs from Member States
- It is appropriate to allow TSOs in third countries which have not concluded agreements with the Union whereby they have adopted and are applying Union law in the field of electricity to enter into multi-party agreements with the TSOs in the Member States which enable all parties to be compensated for the costs of hosting cross- border flows of electricity on a fair and equitable basis
- TSOs should be compensated for energy losses resulting from hosting cross border flows of electricity. Such compensation should be based on an estimate of what losses would have been incurred in the absence of transits of electricity



General Provisions

- TSOs shall establish an ITC fund for the purpose of compensating TSOs for the costs of making infrastructure available to host cross border flows of electricity
- ITC fund shall provide compensation for:
 1. the costs of losses incurred on national transmission systems as a result of hosting cross-border flows of electricity; and
 2. the costs of making infrastructure available to host cross-border flows of electricity
- The value of this fund should be based on a Union wide assessment of the long run average incremental costs (LRAIC) of making infrastructure available to host cross border flows of electricity
- TSOs in third countries should face the same costs for using the Union transmission system as transmission system operators in Member States
- TSOs shall be responsible for establishing arrangements for the collection and disbursement of all payments relating to the ITC Fund, and shall also be responsible for determining the timing of payments
- All contributions and payments shall be made ASAP, and at the latest within six months of the end of the period to which they apply
- Transit of electricity shall be calculated, normally on an hourly basis, by taking the lower of the absolute amount of imports of electricity and the absolute amount of exports of electricity on interconnections between national transmission systems



Participation in the ITC mechanism

- Each regulatory authority shall ensure that TSOs in its area of competence participate in the ITC mechanism and that no additional charges for hosting cross-border flows of electricity are included in charges applied by TSOs for access to networks
- TSOs from third countries which have concluded agreements with the Union whereby they have adopted and are applying Union law in the field of electricity shall be entitled to participate in the ITC mechanism
- TSOs may conclude multi-party agreements relating to the compensation for the costs of hosting cross-border flows of electricity between TSOs participating in the ITC mechanism and those TSOs from third countries which have not concluded agreements with the Union whereby they have adopted and are applying Union law in the field of electricity, and which, on 16 December 2009, signed the voluntary agreement between TSOs on ITC
- Perimeter Countries: Byelorussia (BY), Morocco (MA), Russian Federation (RU), Turkey (TR), Ukraine (UA), Moldova (MD)

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Compensation for Losses

- Compensation for losses incurred on national transmission systems as a result of hosting cross-border flows of electricity shall be calculated separately from compensation for costs incurred associated with making infrastructure available to host cross-border flows of electricity
- The amount of losses incurred on a national transmission system shall be established by calculating the difference between:
 1. the amount of losses actually incurred on the transmission system during the relevant period; and
 2. the estimated amount of losses on the transmission system which would have been incurred on the system during the relevant period if no transits of electricity had occurred
- The value of losses incurred by a national transmission system as a result of the cross-border flow of electricity shall be calculated on the same basis as that approved by the regulatory authority in respect of all losses on the national transmission systems
- **With and Without Transit (WWT)** calculates the compensation of losses caused by transits



Compensation for provision of infrastructure for cross-border flows of electricity

- The annual cross border infrastructure compensation sum shall be apportioned amongst TSOs responsible for national transmission systems as compensation for the costs incurred as a result of making infrastructure available to host cross-border flows of electricity
- The annual cross border infrastructure compensation sum shall be apportioned amongst TSOs responsible for national transmission systems in proportion to:
 1. transit factor, referring to transits on that national transmission system state as a proportion of total transits on all national transmission systems;
 2. load factor, referring to the square of transits of electricity, in proportion to load plus transits on that national transmission system relative to the square of transits of electricity in proportion to load plus transit for all national transmission systems
- The transit factor shall be weighted 75 % and the load factor 25 %
- The annual cross border infrastructure compensation sum shall be EUR 100 000 000





Contributions to the ITC Fund

- The TSOs shall contribute to the ITC fund in proportion to the absolute value of net flows onto and from their national transmission system as a share of the sum of the absolute value of net flows onto and from all national transmission systems
- A transmission system use fee shall be paid on all scheduled imports and exports of electricity from all third countries where:
 1. that country has not concluded agreement with the Union whereby it has adopted and is applying Union law in the field of electricity; or
 2. the TSO responsible for the system from which electricity is imported or to which electricity is exported has not concluded a multi-party agreement
- This fee shall be expressed in Euro per megawatt hour
- Each participant in the ITC mechanism shall levy the transmission system use fee on scheduled imports and exports of electricity between the national transmission system and the transmission system of the third country
- The transmission system use fee for each year shall be calculated in advance by the TSOs
- It shall be set at the estimated contribution per megawatt hour TSOs from a participating country would make to the ITC Fund based on projected cross-border flows of electricity for the relevant year





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ITC Contract

- Inter TSO Compensation Agreement is a multiparty agreement concluded between ENTSO-E and ENTSO-E member countries and Albania
- It is designed to compensate parties for costs associated with losses resulting with hosting transits flows on networks and for the costs of hosting those flows
- The contract has been signed by all ITC parties and consequently all parties have obligations under the contract
- The provisions of the contract and the accurate determination and payment/receipt of monies can only take place if all parties meet their obligations under the contract

All TSOs have legal obligations under the ITC contract. These must be fulfilled.



ANNUAL COLLECTION & AUDIT OF DATA

- The efficient management of the ITC mechanism is dependent on robust input data
- There is a single opportunity each year to update data
- This is the audit process; run by ENTSO-E
- Parties will be asked to provide:
 - The vertical load for the system
 - The cost of losses
 - Details of capacity allocated in a manner not compliant with the Congestion Management Guidelines (these values also have to be forwarded also in the course of each settlement year)
- All parties will be given an opportunity to check data provided by all other ITC parties

A single, annual audit process will collect and audit data related to vertical loads and costs of losses. All parties are required to provide this information to ENTSO-E in a timely manner.



DELIVERY OF INFORMATION

- Non-delivery of data breaches the terms of the contract and means accurate settlements cannot be carried out
- All TSOs are therefore required to provide matched data in agreement with his relevant counterpart to enable settlements, in the correct form and at the correct time
- No later than 10 days after the completion of each settlement month, each TSO shall provide the following:
 - o 6 snapshots per month
 - o Hourly Metered and scheduled imports/ exports per border
 - o Hourly capacity allocated in a manner not compatible with the congestion management guidelines

All ITC SPOCs are contractually obliged to deliver:

- o *Snapshot data*
- o *Metered imports and exports for all borders with ITC parties*
- o *and scheduled imports/exports for all borders with non-ITC parties*
- o Hourly capacity allocated in a manner not compatible with the congestion management guidelines

To the relevant Data Administrator



NON DELIVERY OF INFORMATION

- If information is not delivered, steps will be taken to notify parties of the problem
- This will involve:
 - o Sending an email to all SPOCs identifying parties which have not provided data.
 - o If no or insufficient / incompatible data is provided, relevant MC members will be informed.
 - o If no or insufficient / incompatible data is forthcoming, the contract requires the ex-ante financial spreadsheet to be used

A report will be regularly published on the ENTSO-E Extranet containing information on which Data is not delivered on time or to the required standard. Parties who have not delivered will be identified in this report..



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PROCESS FOR PUBLISHING & APPROVING INFORMATION

- There is a clear two step process for producing initial settlement information, for approving that information and for confirming that it is finalised
- *Step 1: Preliminary Settlement*
 - 50 Days after each settlement month the Data Administrators calculate the settlement results, a Preliminary Settlement Notification will be issued by ENTSO-E.
 - This Preliminary Settlement may still contain preliminary values for those ITC parties which have not delivered sufficient quality or incompatible data.
 - All parties should review this document, sign it if happy and return it to the Data Administrators via fax or E-Mail.
 - If a party wishes to object to the Preliminary Settlement Notification, they should alert ENTSO-E, the Data Administrators and all ITC parties.
 - If necessary (for example, because of an error) a revised settlement may be calculated.
 - Invoices should already be raised at this stage upon release of an accordant notice by the ENTSO-E secretariat



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PROCESS FOR PUBLISHING & APPROVING INFORMATION

- *Step 2: Final Settlement Notification*
 - Before the completion of the sixths calendar month after the settlement month a final settlement will be released.
 - This Final Settlement may still contain preliminary values for those ITC parties which have not delivered sufficient quality or incompatible data (between the preliminary and the final settlement ITC parties still have the opportunity to correct their data). For the final settlement, the MC must approve the use of preliminary data.
 - Invoices can then be raised

The ENTSO-E Secretariat will publish an initial settlement notification for each month both for the preliminary settlement and for the final settlement.

All parties should sign these initial settlement notifications and return them to the Data Administrators.

ENTSO-E will then publish a notice that all ITC parties have signed the settlement and can start invoicing each other .



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INVOICING

- Once the settlement notification is issued, parties should feel free to raise invoices

Invoices should only be raised once the notice has been issued. Any other invoices are invalid.



UPDATES TO CONTACT DETAILS

- In order to pay/receive invoices it is vital that accurate accounting information (including tax numbers) is available to all ITC parties
- It is also important that parties (including ENTSO-E) know who the point of contact is within each TSO
- To achieve this, the contract requires the creation of a Schedule (Schedule S) which contains these details
- It also requires all parties to provide notice of any changes to these details
- ENTSO-E maintains a single list of contact details accessible via the extranet
- If any party wish to make any change to account or contact details, it is required to inform ENTSO-E as soon as practicable

All parties are obliged to keep contact details (inc. a/c details, VAT codes etc) up to date. Any update should be sent to InterTSOCompensation@entsoe.eu

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Important ITC Contract details

- Under Regulation 838/2010/EU, ENTSO-E shall perform certain ancillary Data Administration tasks (i.e., publication of data), in cooperation with the Data Administrator
- This Agreement is concluded for an indefinite duration
- Framework Fund is set at its latest annual value of the annual cross-border infrastructure compensation sum (as referred to the ITC Guidelines), as determined by the Commission according to the ITC Guidelines
- ITC Parties acknowledge in good faith that the Commission may modify the size of the Framework Fund in accordance with the ITC Guidelines
- Whenever needed, the ITC Parties and ENTSO-E shall implement the practical measures for this modification
- ENTSO-E Market Committee shall be competent for deciding on such practical measures





YEARLY DATA COLLECTION

- Each Edge ITC Party shall charge and collect a Perimeter Contribution on scheduled imports and/or exports of electricity between the Edge ITC Party and the Perimeter Country(ies) under the terms and conditions of the Guidelines
- In case an Edge ITC Party is not able to collect the Perimeter Contribution on scheduled imports and/or exports of electricity between the Edge ITC Party and the Perimeter Country(ies), the said Edge ITC Party shall bear and pay the amount corresponding to the said Perimeter Contribution
- **Yearly data collection** to be performed by ENTSO-E Secretariat:
 - **Losses Costs**-value approved by the relevant regulators in the tariff setting process for the concerned Settlement Year shall be used;
 - **yearly Vertical Load**;
 - **Capacity allocated** in a manner not compatible with the Congestion Management Guidelines;
 - **Preliminary Ex Ante Financial Spreadsheet** including the preliminary Perimeter Contribution)
- ENTSO-E Secretariat shall submit, for approval, the above updated data/documents to the ENTSO-E Market Committee



MONTHLY DATA COLLECTION

- Each ITC Party shall, during the first 9 Business Days of the month following each Month, collect, assimilate and validate all data necessary as input for the calculation in respect of such Month, namely:
 - Comprehensive network description in snapshots
 - Hourly physical flows at every border, including borders with Perimeter Countries
 - Hourly netted import and export scheduled flows at every border with Perimeter Countries and
 - For each border that may be hosting capacities allocated in a manner not compatible with Congestion Management Guidelines, the hourly scheduled exchanges related to these capacities, and total scheduled exchanges
- The Monthly Information as well as the yearly data shall be used by Data Administrators for the preparation of the Settlement, the Compilation Report and the Report on Capacity Allocated in a Manner not Compatible with Congestion Management Guidelines as well as for the preparation of the Report on the Snapshots



Important ITC Contract details

- If a new tie-line between ITC Parties or between Edge ITC Parties and Perimeter Countries is put into operation, the concerned ITC Party/Parties shall notify the Data Administrator and the Parties about this fact without undue delay
- The concerned ITC Parties shall mention whether the capacity pertaining to the said new tie-line is allocated in a manner compatible with the Congestion Management Guidelines
- A Final Settlement Notification shall be issued by the Data Administrator together with the final reports
- An ITC Party which, on the basis of the calculation of its final position, is due to pay a Payable Amount in the Settlement Cycle is referred to as a "**Debtor Party**" and an ITC Party which, on the basis of such calculation, is due to receive a Receivable Amount in the Settlement Cycle is referred to as a "**Creditor Party**"
- Upon the determination of the final positions, the Data Administrator shall apply the final settlement algorithm in order to determine the final amount(s) and direction of payment(s) among the ITC Parties (the "**Settlement Payments**")
- The appropriate invoices (in the English language) relating to the Settlement Payments shall immediately be issued and sent by the relevant Creditor Party(ies) to the relevant Debtor Party(ies)

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No withholding: VAT issue

- All sums payable by an ITC Party under this Agreement shall be paid free and clear of any deductions, withholdings, set-offs or counterclaims (together "**Withholdings**"), save only as may be required by mandatory provisions of law
- If any Withholdings are required by law, the paying ITC Party shall pay such sum as necessary to ensure that the net amount received by the recipient equals the amount it would have been entitled to receive in the absence of a requirement to make a Withholding
- Any fees or charges relating to payments by ITC Parties to other ITC Parties are for the account of the relevant paying ITC Party.
- Following Council Directive 2003/92/EC that harmonises VAT rules governing the place of supply of the electricity transmission services as of 1.1.2005, the place where the transmission services are supplied shall be the place where the customer has established its business
- Therefore, **VAT shall not be charged on payments to be made under this Agreement**
- Some VAT adjustments in relation to non-EU countries may be inserted in the Agreement following the conclusion of an opinion on the issue that ENTSO-E shall ask to a tax consultant on behalf of the Parties





Confidentiality

- Information considered as confidential shall include all Commercially Sensitive Information, information clearly marked as "confidential" and information which by its nature must be considered or qualified as confidential, whether relating to a Party, a transmission network or the users of such networks (the "**Confidential Information**")
- The obligations of confidentiality shall apply to all Confidential Information obtained by a Party during the negotiation, conclusion, and/or performance of this Agreement (the "**Recipient**")
- All Parties have the obligation to organise their data handling in such a way as to minimise the risks of misuse or unauthorised access or disclosure of Confidential Information
- Any Party may require the other Parties to give proper assurances that this obligation is complied with
- One or more Party(ies) may withdraw from this Agreement under specific conditions
- The dispute resolution provisions of this Agreement shall only apply to disputes between Parties in relation to matters directly governed by this Agreement



CONGESTION MANAGEMENT IN SEE

Legal Basis

Basic elements for CACM

EU Target Market Model

SEE experiences: SEE CAO

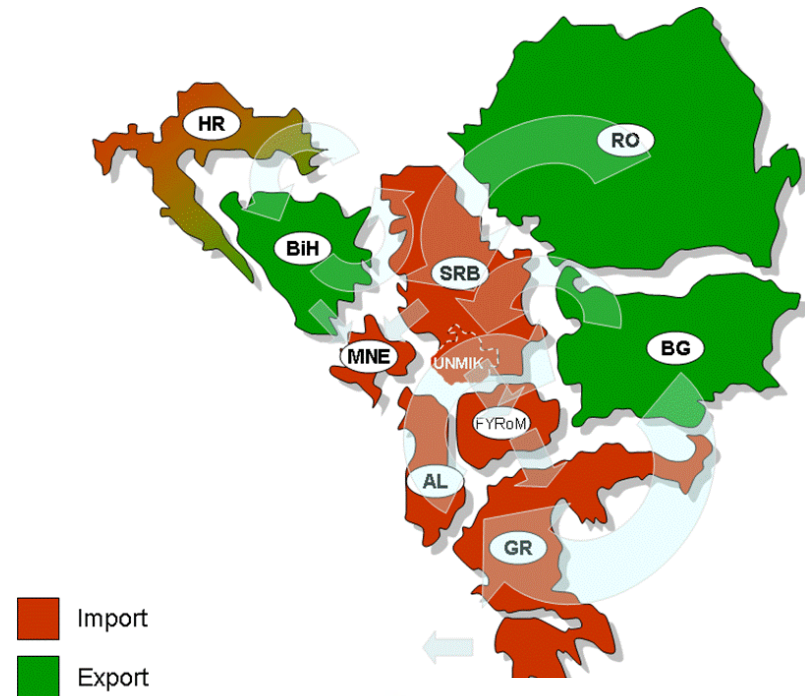


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Congestion Management in SEE

- SEE national transmission systems are faced with a complex international **electricity market, transits** and a **growing number** of market **participants** → SEE network designed during 70-80'ties
- Thus, Cross-Border **congestions occur** and create a **barrier** for international electricity trade within SEE (transits: North → South)
- Therefore it was necessary to **implement proper rules** for **Market-based Congestion Management**





Legal basis for Cross-Border issues in EU

Legal basis for cross-border issues defined within EU Legislation:

- Directive 2009/72/EC 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC
- Regulation (EC) No 713/2009 of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators
- Regulation (EC) No 714/2009 of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003
- **EU Legislation implementation within SEE Region** (for Contracting Parties): Each CP shall bring into force the laws, regulations and administrative provisions necessary to comply with Directive 2009/72/EC, Directive 2009/73/EC, Regulation (EC) No 714/2009 and Regulation (EC) No 715/2009, as adapted by the PHLG Decision (Jun/Oct 2011), by 1 January 2015
- **Task for CPs: Transposition of EU Legislation and Regulation provisions** within Local / National CPs legislation



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General Principles for Congestion Management

- *Regulation (EC) 1228/2003, Article 6:*
- “...Network congestion problems shall be addressed with non discriminatory **market based** solutions which give efficient economic signals to the market participants and transmission system operators involved...”
- “... The **maximum capacity** of the interconnections and/or the transmission networks affecting cross-border flows shall be **made available** to market participants, complying with safety standards of secure network operation ...”

No pro-rata allocation of capacity & No long term contracts



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Regulation: Requirements for allocation schemes

- “... The maximum capacity of the interconnections and/or the transmission networks affecting cross-border flows shall be made available to market participants, complying with safety standards of secure network operation....”
- “... Congestion management methods shall be market-based in order to facilitate efficient cross-border trade. For this purpose, capacity shall be allocated only by means of explicit (capacity) or implicit (capacity and energy) auctions...”
- “...Capacity allocation at an interconnection shall be coordinated and implemented using common allocation procedures by the TSOs involved. In cases where commercial exchanges between two countries (TSOs) are expected to significantly affect physical flow conditions in any third country (TSO), congestion management methods shall be coordinated between all the TSOs so affected through a common congestion management procedure...”



Congestion Management Guidelines: Transparency

“...TSOs shall publish all relevant data concerning cross-border trade on the basis of the best possible forecast. In order to fulfill this obligation the market participants concerned shall provide the TSOs with the relevant data. The way in which such information is published shall be subject to review by Regulatory Authorities. TSOs shall publish at least:

(a) **Annually**: information on the long-term evolution of the transmission infrastructure and its impact on cross border transmission capacity;

(b) **Monthly**: month- and year-ahead forecasts of the transmission capacity available to the market, taking into account all relevant information available to the TSO at the time of the forecast calculation (e.g. impact of summer and winter seasons on the capacity of lines, maintenance on the grid, availability of production units, etc.);

(c) **Weekly**: week-ahead forecasts of the transmission capacity available to the market, taking into account all relevant information available to the TSOs at the time of calculation of the forecast, such as the weather forecast, planned maintenance works of the grid, availability of production units, etc.;

(d) **Daily**: day-ahead and intra-day transmission capacity available to the market for each market time unit, taking into account all netted day-ahead nominations, day ahead production schedules, demand forecasts and planned maintenance works of the grid;...”

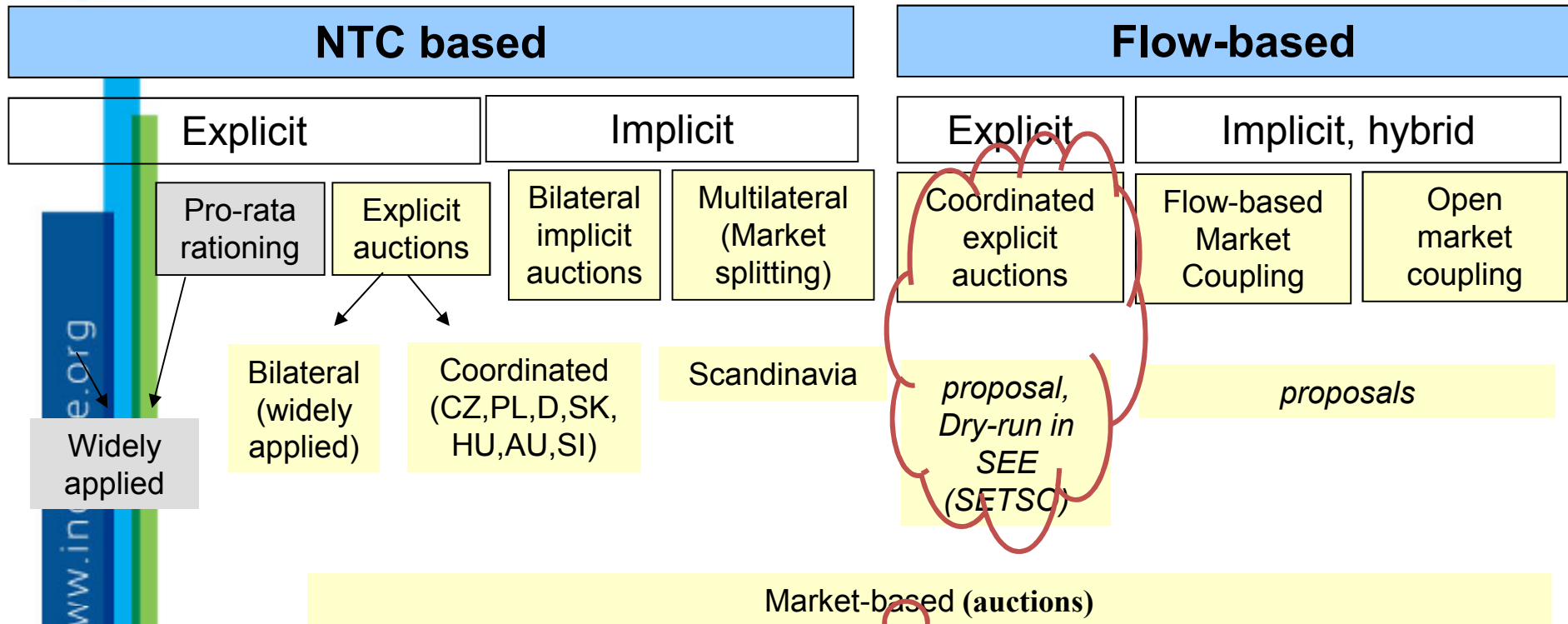


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Methods for Capacity Allocation- Classification



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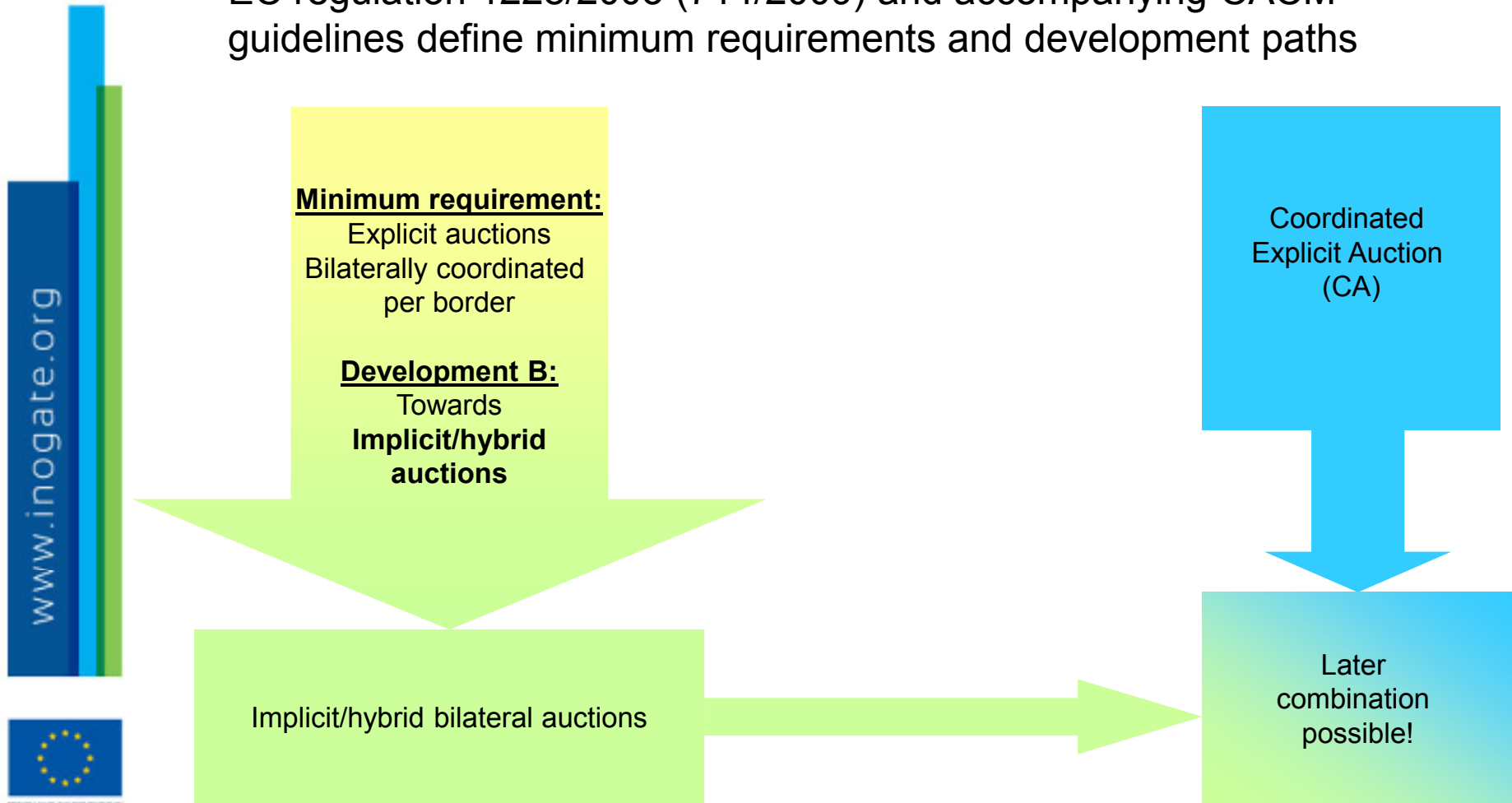


Ongoing implementation in SEE region: NTC-based-beginning, FBA- final goal



Congestion Management: What are the options for the future?

- EC regulation 1228/2003 (714/2009) and accompanying CACM guidelines define minimum requirements and development paths





Which development to prefer in SEE?

Development A: Coordinated explicit auction (CA)

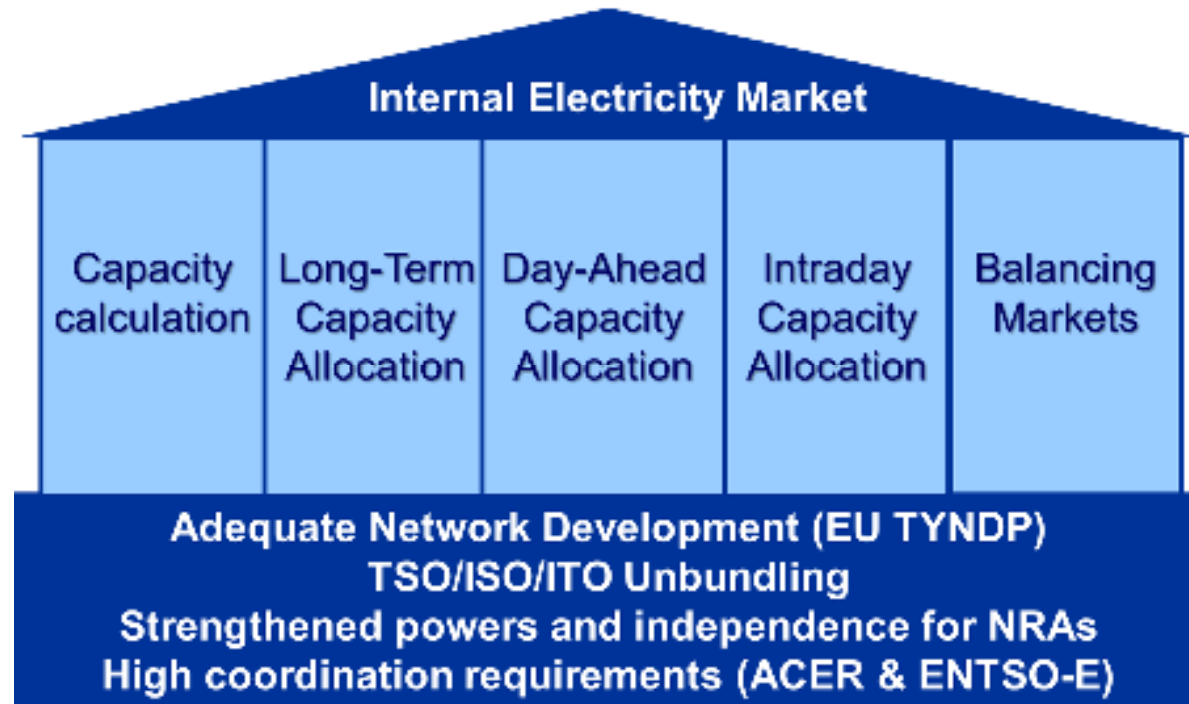
- Allows for improved consideration of physical interdependencies between the transmission capacities at different borders → Especially suited for highly meshed networks, such as in SEE
- Offers uniform and efficient cross-border capacity allocation throughout the region
- Has low requirements as to harmonisation of national markets → Optimal support for emerging SEE regional electricity market

Development B: Implicit / hybrid auctions

- Improved efficiency through coupling of capacity and wholesale electricity markets
- Requires power exchanges to provide standardised spot markets on national level
 - Required market maturity that is not reached yet
- For the time being, CA seems most desirable CM method for SEE
- Extension to multilateral hybrid auction is possible at a later stage



EU Target Model for Electricity Market Integration



- Common vision for completion of IEM in Electricity by 2014
- Electricity markets across Europe must share a set of common features and be linked by efficient management of interconnection capacities
- In order to achieve this: CACM and Balancing have been identified as priority areas → 3rd Legislative Package

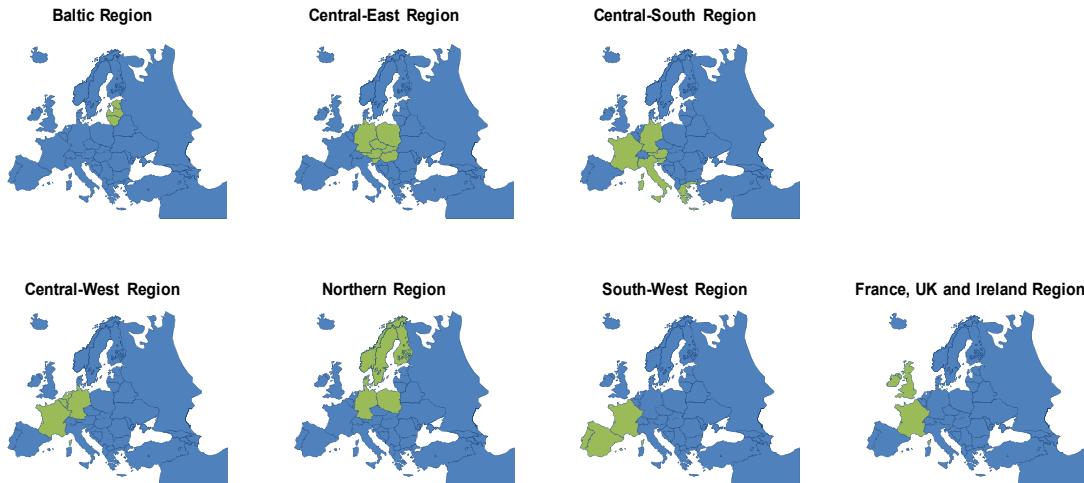


Implementation of CACM Target Model

- In order to implement **CACM Target Model for Electricity** across Europe, **four priority projects** have been identified:
 1. **Single European Price Coupling** aims at optimising the use of existing day-ahead cross-border capacities at European level, reducing the day-ahead price volatility and improving confidence in organised price references
 2. **Single European Continuous Implicit Mechanism for cross-border Intraday trade** aims at enabling market participants to adjust their position before the closure of the market and, possibly, short-term arbitrage. This Intraday timeframe is becoming increasingly important in the context of growing intermittent generation
 3. **European Platform for the allocation of Long-Term Transmission Rights** aims at delivering one single point of contact for the allocation of harmonised long-term transmission rights across Europe
 4. **Flow-Based Capacity Calculation Method for short-term capacity allocation in highly meshed networks** aims at improving the network security and the level of capacity made available to the market, by taking into account the influence of cross-border flows on the congested lines in a more transparent and effective way



Coordinated capacity allocation – recent developments in the EU: ACER Electricity Regional Initiatives



- EU-ACER: 7 Electricity Regions defined (ex-ERREG)
- Each Region is represented by the Leading Regulator within ERI
- Each Region has its RCC: discussion floor for NRAs
- Each Region chose its own way forward regarding cross-border capacity allocation mechanism (coordinated auctions, market coupling, etc.), which is in line with the Regulation (3rd Package)
- Each Region defined its Regional Action Plan regarding cross-border capacity mechanism
- Elaboration of the Cross Regional Action Plan, which would define common principles regarding cross-border issues on pan-European level and thus facilitate achieving of EU Target Market Model in 2014
- The 8th Region included in ACER ERI Quarterly Report as Annex



Ongoing development in different Regions

- **CWE-Region:**
 - Project for Market Coupling (TLC → MLC)
- **CEE-Region:**
 - Currently: Coordinated explicit NTC-based auctioning (CEE CAO in Freising, Germany)
 - Goal: Coordinated explicit flow-based auctioning
- **SEE-Region:**
 - Currently: Split 50/50 Explicit auctioning + Common Explicit auctioning at several borders
 - Goal: Coordinated Explicit flow-based auctioning (SEE CAO, Project Team Company in Podgorica, Montenegro)





EU Regional Highlights for 2012

- **NWE** intraday project to introduce an implicit intraday solution by the end of 2012 which facilitates hub-to-hub trading [Q4 2012]
- **SWE** border implementation of implicit intraday solution as part of NWE project [Q4 2012]
- **CEE** region decides on preferred approach to implement target model [Q3 2012]
- **CSE** region implement explicit allocation [Q2 2012] and agree roadmap toward target model [Q4 2012]
- **SEM-GB** border to implement explicit allocation [Q2 2012]





Status of Coordinated Auction (CA) in Europe

EU

- ACER ERI
- Initiatives (e.g. Open Market Coupling, Flow-based market coupling) are based on CA essentials
- Explicit coordinated auction based on composite NTCs (technical/commercial profiles) for time being in Central East Europe

SEE

- Analysis of CA as potential method for capacity allocation was initiated by TSOs in SEE region
- Dry-run application of CA in SEE (first time in Europe) provides realistic data and experience as a basis for practical implementation

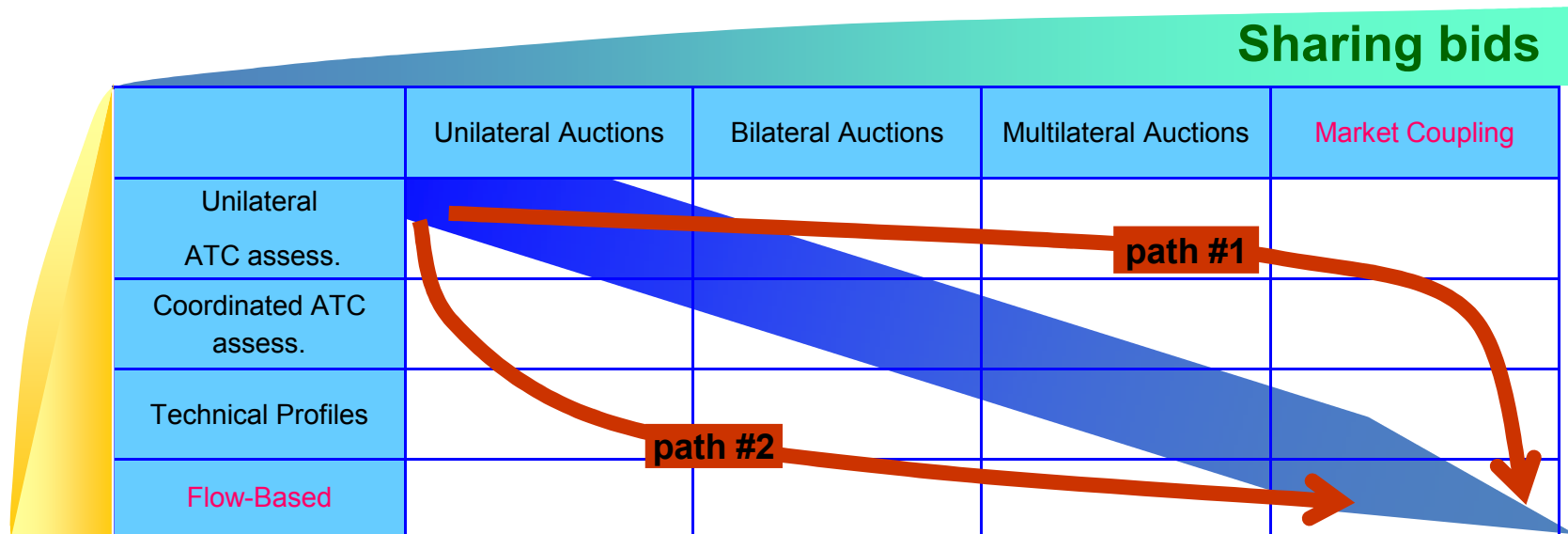
- By introducing explicit auctions, SEE followed the mainstream on the European continent and will to ensure EU compatibility
- By introducing a coordinated flow-based explicit auction, SEE will follow the European electricity market mainstream development



Developments: Flow-based market coupling

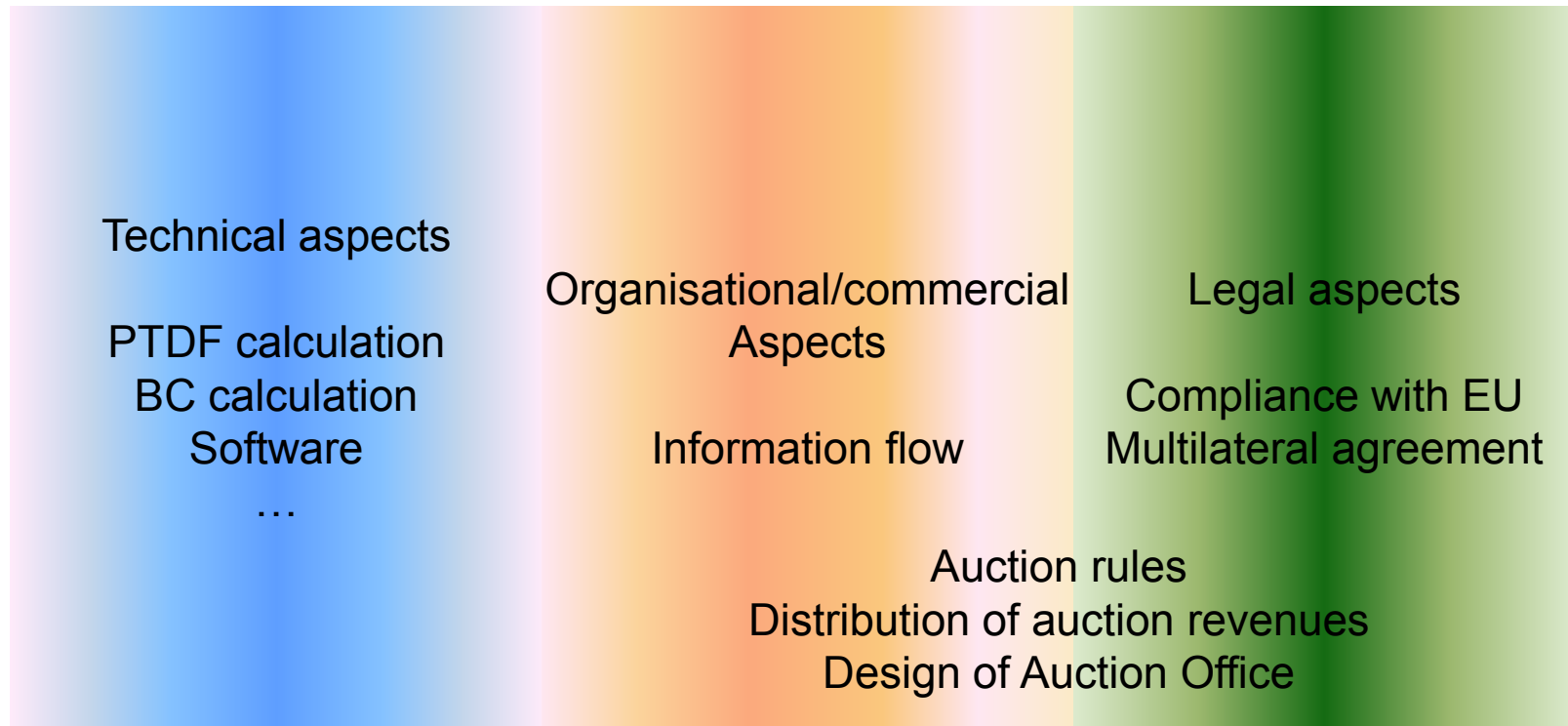
Two path towards social welfare maximization for regional capacity allocation

- ▶ market coupling first (sharing energy bids)
- ▶ flow-based modelling first (optimal use of the system)





Which aspects have to be considered in CA?



-
-

- Many aspects are interdependent and cannot be treated separately
- Many aspects require involvement of different stakeholders (e.g. TSOs, Regulators, Electricity traders)





SEE CACM process: Roles and responsibilities

TSOs

- Operation and analysis of dry-run application (until end of 2006)
- Drafting a harmonised procedure for CA (agreed by all participating TSOs)
- Coordination with other involved parties (Regulators, traders, ...)

Regulators

- Support and enforce CM development as part of implementation of Energy Community
- Approval of TSOs proposals related to organisational, commercial and legal aspects
- Verification of compliance with national legal framework and development schedules and with EU legal framework

Consultants

- Moderation and organisation of the further process preparing the implementation of CA in the SEE region
- Consultancy projects

- TSOs to develop concepts and make proposals
- Consultants to moderate and make recommendations
- Regulators to decide or approve



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Coordinated Explicit Flow-based Auctions

COORDINATED

...means: simultaneous capacity allocation at more than one border,

Not bilateral allocation

EXPLICIT

...means: process of allocation of transmission capacity only (MW),

without electricity trade (not implicit method)

FLOW-BASED

...means: with considering real power flow paths (through PTDFs) originated by the transactions, and physical limitations (BC).

Not based on programs constraints (NTC)

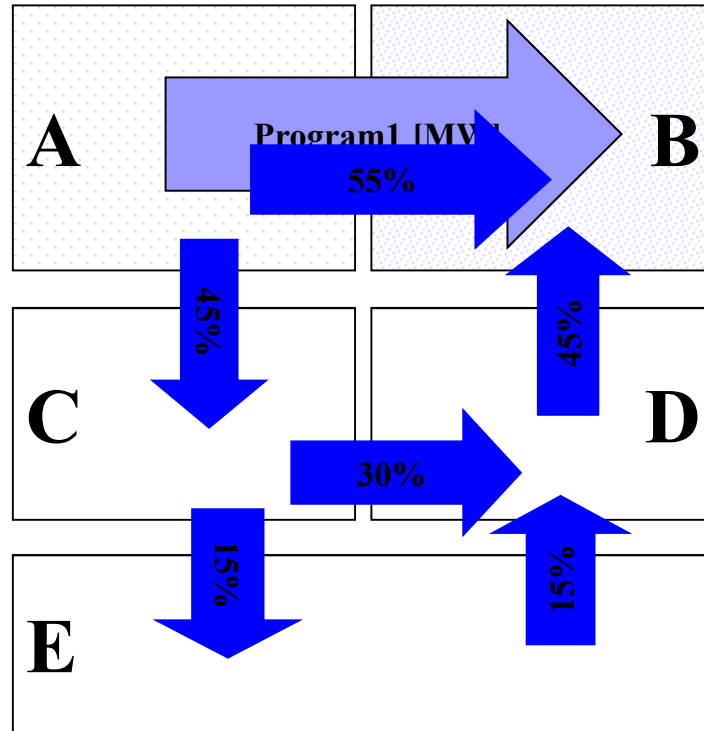
AUCTIONS

...means: market-based clearing, based on offered prices for transmission capacity.

Not pro-rata, Not first come-first served

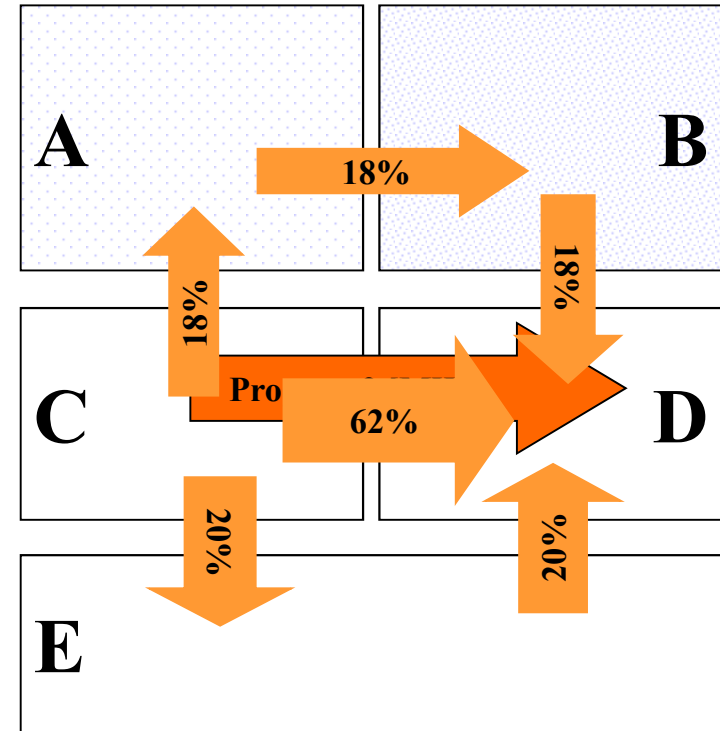


CA - following physical flows through PTDF



Exchange program between A and B
Corresponding distribution of real power flows i.e.

Power Transfer Distribution Factors

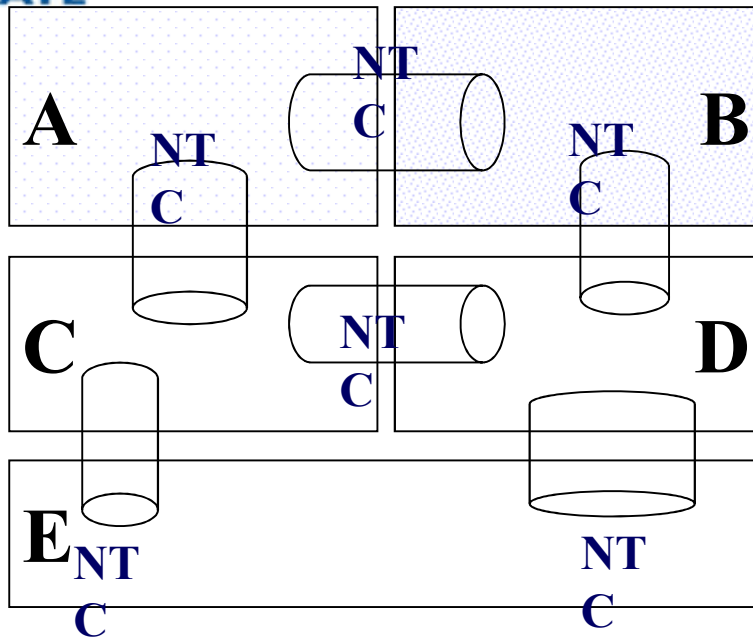


PTDF factors can be defined for scheduled exchange between each pair of zones, e.g. C→D

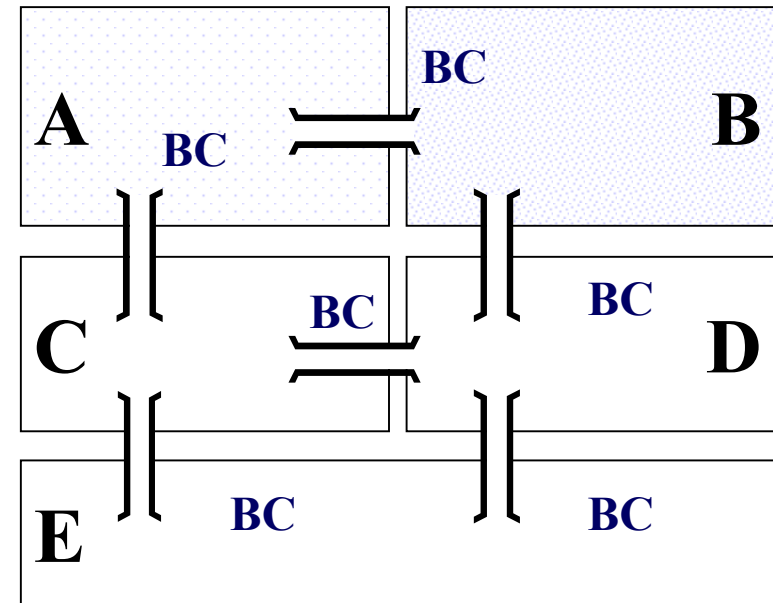
PTDF matrix easy to calculate – from load flow models



Constraints: Border Capacities (BC)



NTC means: What is the maximum allowable sum of commercial exchanges (“programs”) over some border?



BC means: What is the maximum allowable POWER FLOW over some border?

This power flow is the sum of the influences of all commercial exchanges (“programs”).

The programs are converted into power flows by using PTFs.



Definitions of physical transmission capacities

➔ **Dry run Report (published on ex-ETSO web-page):**
definitions of Total, Net, Available Border Capacities...

$$\mathbf{NBC = TBC - FRM - NF - OF}$$

Net Border Capacity (NBC),
Total Border Capacity (TBC),
Flow Reliability Margin (FRM)
Natural Flows (NF)
Outside Flows (OF)
UCTE

- *uncertainties*
- *for zero exchanges*
- *influence of rest of*

$$\mathbf{ABC = NBC - ANF}$$

Available Border Capacity (ABC),
Already Nominated Flows (ANF),
allocations

- *from previous*



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TSOs: To define technical parameters

- TSOs agree about network model to be used
- TSOs jointly calculate the PTDF matrix (or Auctioning Office do it...)

Programs	Borders	from to	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
			EPS TEL	EPS NEK	EPS ESM	EPS KESH	EPS EPCG	EPS ZEKC	EPCG ZEKC	EPCG KESH	ESM HTSO	TEL NEK	NEK HTSO	HTSO KESH	NEK TEIAS
EPCG	EPCG	PTDF %	*	*	*	*	*	*	*	*	*	*	*	*	*
	EPS	PTDF %	-11.8	1.7	1.5	-4.9	-59.7	-4.0	28.0	12.3	1.5	-10.6	-8.9	-7.4	0.0
	ZEKC	PTDF %	-0.3	0.8	1.0	-2.4	-34.7	19.0	59.3	6.0	1.0	-5.4	-4.6	-3.6	0.0
	ESM	PTDF %	5.4	8.6	60.9	-3.5	-63.7	-1.6	15.7	20.6	-39.1	13.4	22.0	-17.1	0.0
	HTSO	PTDF %	9.0	17.0	39.0	1.0	-61.0	2.0	14.0	25.0	39.0	18.0	35.0	-26.0	0.0
	KESH	PTDF %	8.6	4.5	10.0	21.5	-38.6	-1.2	5.7	55.7	10.0	8.3	12.8	22.8	0.0
	NEK	PTDF %	24.3	35.8	10.6	-4.1	-60.0	-1.4	24.0	16.0	10.6	41.7	-22.5	-11.9	0.0
	TEL	PTDF %	38.4	18.9	7.2	-4.1	-58.5	-0.7	27.3	14.2	7.2	-36.2	-17.3	-10.1	0.0
	TEIAS	PTDF %	23.5	35.2	11.4	-4.0	-59.9	-1.4	23.9	16.2	11.4	41.2	-23.6	-12.2	100.0
EPS	EPCG	PTDF %	11.8	-1.7	-1.5	4.9	69.7	4.0	-28.0	-12.3	-1.5	10.6	8.9	7.4	0.0
	EPS	PTDF %	*	*	*	*	*	*	*	*	*	*	*	*	*
	ZEKC	PTDF %	11.5	-0.9	-0.5	2.5	25.0	23.0	31.3	-6.3	-0.5	5.2	4.3	3.8	0.0
	ESM	PTDF %	17.2	6.9	59.4	1.4	-4.0	2.4	-12.3	8.3	-40.6	24.0	30.9	-9.7	0.0
	HTSO	PTDF %	20.8	15.3	37.5	5.9	-1.3	6.0	-14.0	12.7	37.5	28.6	43.9	-18.6	0.0
	KESH	PTDF %	20.4	2.8	8.5	26.4	21.1	2.8	-22.3	43.4	8.5	18.9	21.7	30.2	0.0
	NEK	PTDF %	36.1	34.1	9.1	0.8	-0.3	2.6	-4.0	3.7	9.1	52.3	-13.6	-4.5	0.0
	TEL	PTDF %	50.2	17.2	5.7	0.8	1.2	3.3	-0.7	1.9	5.7	-25.6	-8.4	-2.7	0.0
	TEIAS	PTDF %	35.3	33.5	9.9	0.9	-0.2	2.6	-4.1	3.9	9.9	51.8	-14.7	-4.8	100.0
EPCG	PTDF %	0.3	-0.8	-1.0	2.4	34.7	-19.0	-59.3	-6.0	-1.0	5.4	4.6	3.6	0.0	

- TSOs bilaterally calculate and harmonize BCs on their borders

A:	EPS	EPS	EPS	EPS	EPS	EPS	EPCG	EPCG	ESM	TEL	NEK	HTSO
B:	TEL	NEK	ESM	KESH	EPCG	ZEKC	ZEKC	KESH	HTSO	NEK	HTSO	KESH
BC' for direction A->B:	1000	1300	300	350	160	100	480	190	100	260	500	100
BC' for direction B->A:	600	460	1200	150	420	300	270	210	600	900	1200	250

- PTDF matrix and set of BCs for respective period (year, month, week, day) is offered to the auction

Market participants: Sending of bids

- The participants send the bids for transmission rights, e.g.: if market participant XY wants to buy the transmission rights:

Market participant name: XY

Time horizon: (e.g.) March 2006

Desired direction

Source: TEL

Sink: HTSO

Amount: 130 MW

Offered price: 2000 EUR/MW



Auctioning Office (CAO): Administration

- Auctioning Office administrates the clearing according to the received data from TSOs (*PTDF, BC*) and Market participants (*Bids*).
- CAO: Has no effect on the auction outcome
- CAO organization: under elaboration in SEE
- Simultaneous auction of transmission capacities for all concerned borders



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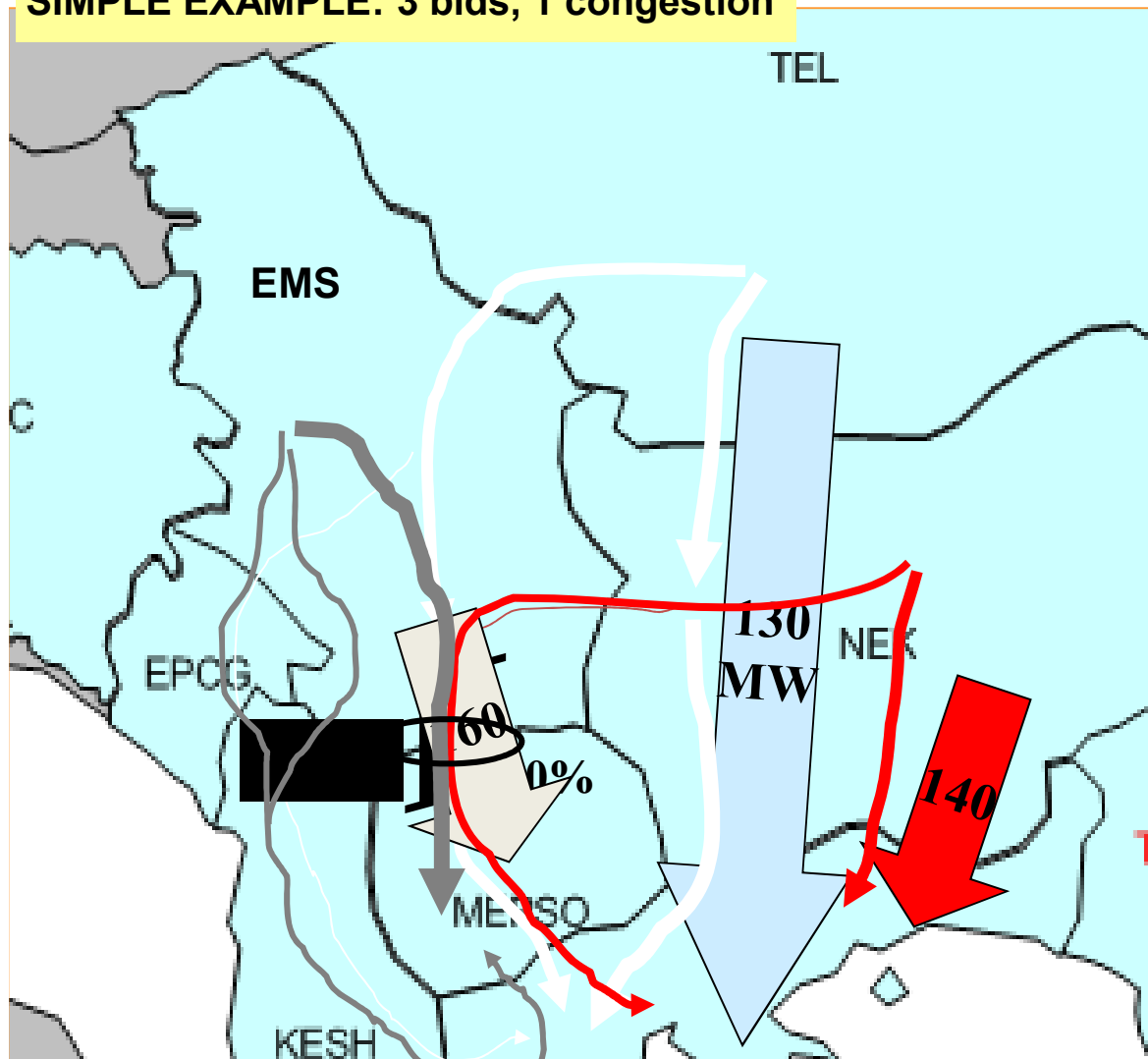
Clearing

- **Clearing criteria:**

$$[\text{Power flows on borders}] = [\text{Bids}] \times [\text{PTDF matrix}] < [\text{BCs}]$$

- Possible to have simultaneous congestions at multiple borders
- Number of bids can be very high (50, 100, more...)
- *Following slide: Simple example on SEE region: 3 bids, 1 border congested.... →*

SIMPLE EXAMPLE: 3 bids, 1 congestion



E.g. BC (EMS→MEPSO)=200 MW

Bid 1: RO-GR, 130 MW, 2000 €/MW

[PTDFs] x 130 → Border flows

At SR-MK border: PTDF=50%

Other bids: SR-MK, BG-GR

Flows caused by all 3 transactions

$\Sigma(\text{flows 1,2,3})$ on SR-MK border: 211, 11 MW of congestion!

Bid RO-GR_1: $p/\text{PTDF} = 2000/0.5 = 4000$
lowest offered price per 1 MW on congested border

Necessary decreasing: $11/0.5 = 22$ MW

Bid	Bid amount MW	Bid price EUR/MW	PTDF ems-mepsc %	Flows MW	p/PTDF
RO-GR_1	130.0	2000	50.0%	65.0	4000.0
SR-MK_1	160.0	3000	65.0%	104.0	4615.4
BG-GR_1	140.0	2000	30.0%	42.0	6666.7
			Sum:	211.0	

Payments by market actors / share

Accepted set of bids (RO-GR decreased for 22 MW): $130-22=108$

Bid	Bid_amount MW	Bid_price EUR/MW	PTDF eps-mepso %	Flows MW	p/PTDF	payment EUR/MW	payment EUR
RO-GR_1	108.0	2000	50.0%	54.0	4000.0	2000	216000
SR-MK_1	160.0	3000	65.0%	104.0	4615.4	2600	416000
BG-GR_1	140.0	2000	30.0%	42.0	6666.7	1200	168000
							800000

Last (partially accepted) bid RO-GR sets the marginal price: $MP = 2000 \text{ €}/\text{MW}$

Other bids that influence the congestion (SR-MK and BG-GR) pay according to their PTDF at congested border:

Final price SR-MK: $2000 \times 65/50 = 2600 \text{ €}/\text{MW}$

Final price BG-GR: $2000 \times 30/50 = 1200 \text{ €}/\text{MW}$

Total income: $2000 \times 108 + 2600 \times 160 + 1200 \times 140 = 800,000 \text{ EUR}$,

Share of revenues among the TSOs: many proposals, still open question ...



Advantages/prerequisites of Flow Based CA

Advantages - when compared to bilateral, NTC-based mechanisms:

- ✓ CA improve the network security (flow-based)
- ✓ CA enable better utilization of the grid - under investigation for SEE region!
- ✓ CA is transparent and more convenient for market actors
- ✓ First investigations show increased social welfare for the whole region; market income is depending on individual stakeholders – needs more discussions both in CEE and SEE region

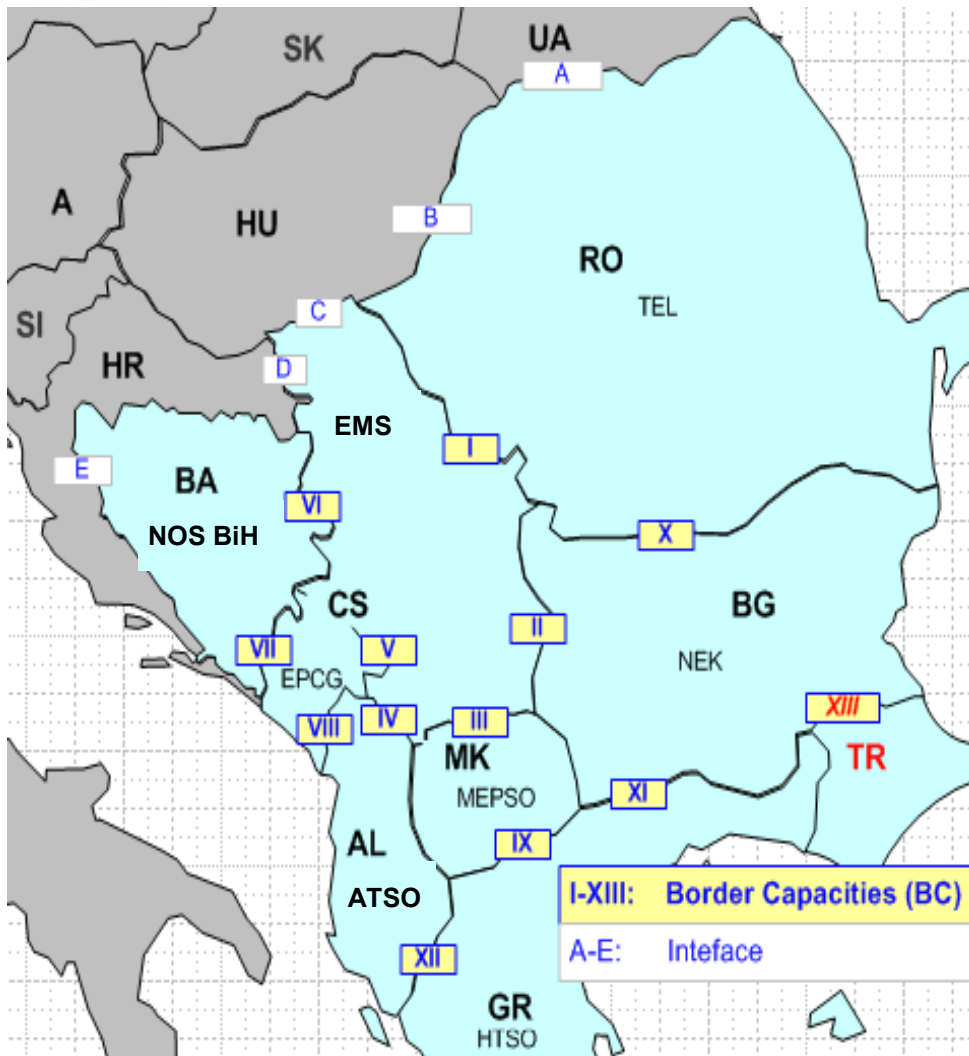
Prerequisites:

- ➔ Unbundling
- ➔ Close collaboration of TSOs
- ➔ Intensive data exchange
- ➔ Establishing the common Auctioning Office
- ➔ Joint design: TSOs, regulators, market participants





CA Dry-run implementation: basic info

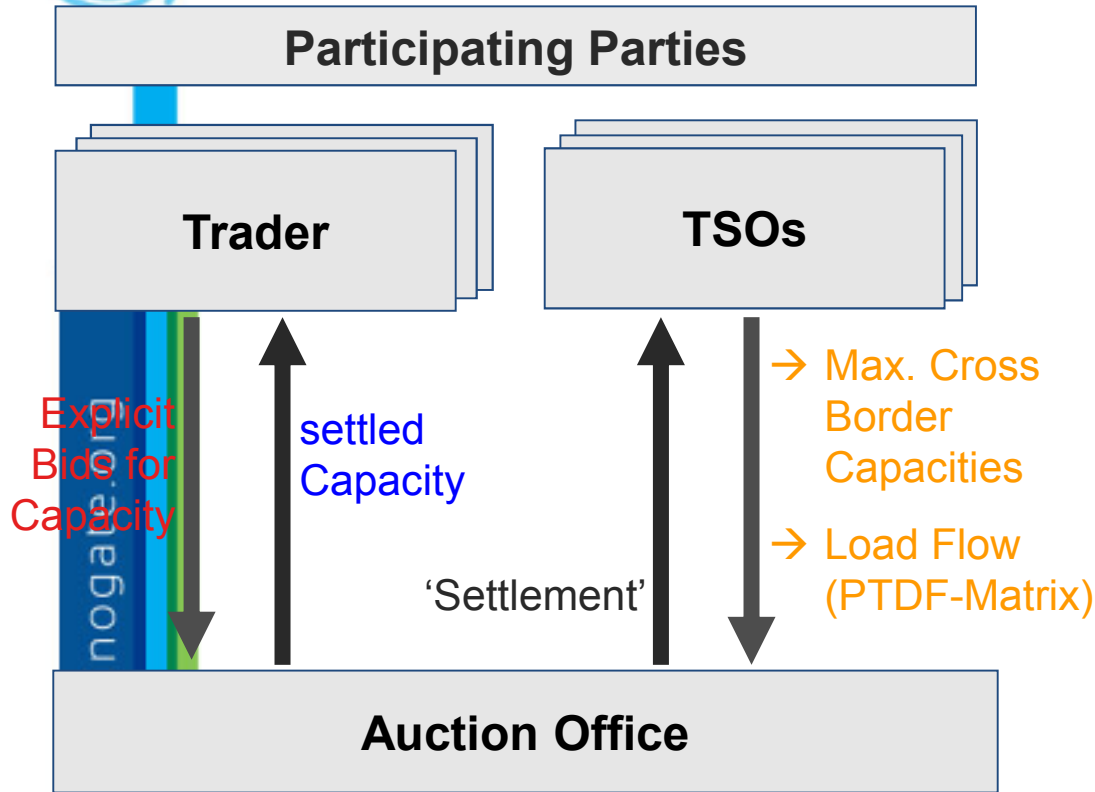


- Simulation of coordinated auction on monthly basis
- Started in January 2006 (for March 2006)
- 8 TSOs participate in dry-run
+Turkey +neighbours in LF model
- Rotation of the CAO role:

Round:	Who:	Status:
1	EKC	✓
2	EMS	✓
3	NEK	✓
4	EPCG	✓
5	HTSO	✓
6	NOS BiH	✓
7	ATSO	ongoing
8	TEIAS	ongoing
9	MEPSO	
10	TEL	



Concept of CA Dry-run in SEE-Region



- Each month another TSO is acting as an Auction Office
- Internet based Software DrCAT is used for clearing!

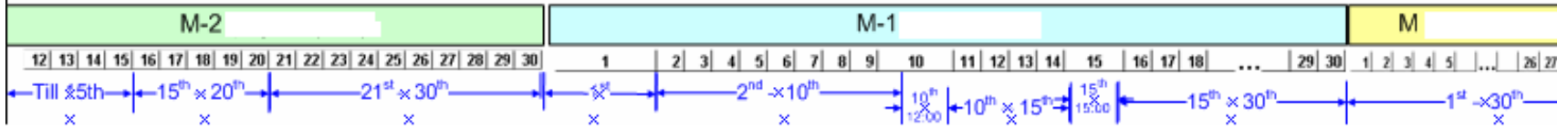
Participating TSOs in Dry-Run



Currently 9 TSOs are participating actively at the Dry-run!



CA Dry-run time schedule



MODEL EXCHANGE MODEL MERGING

Each TSO send the models reference into SEE monthly network model
 Merging of the models into SEE monthly network model
 Verification by TSOs

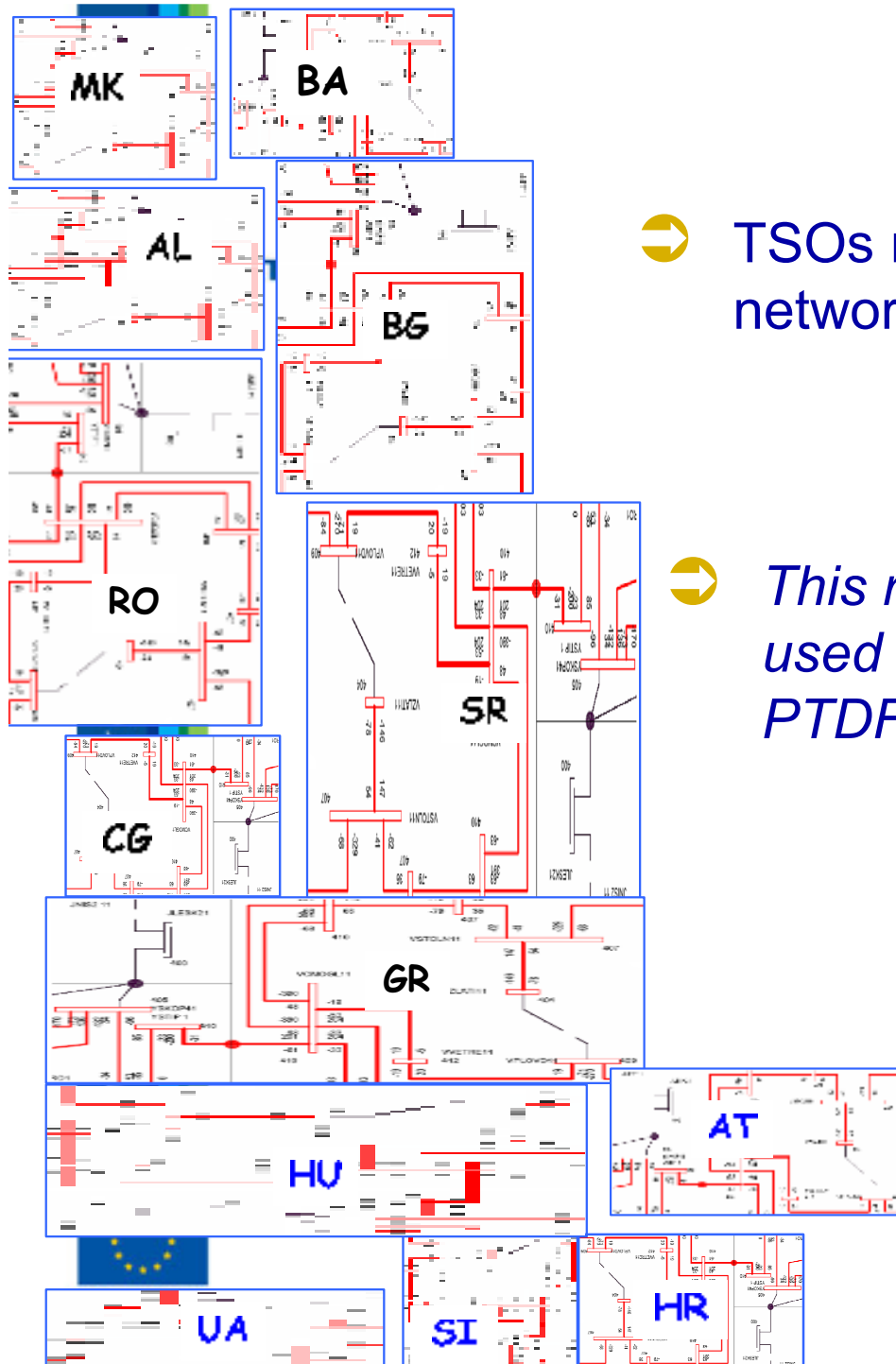
Near neighbours also included/ modelled:

+UA, HU, HR, SI, AT

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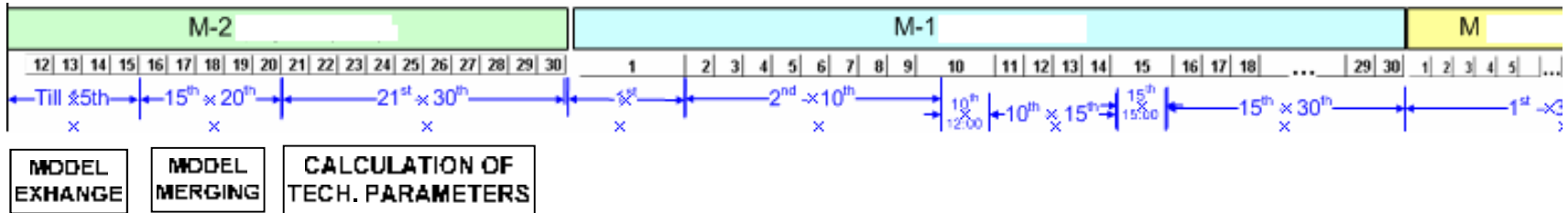
➔ TSOs made and exchange network models via e-mail

➔ *This regional network model is used for the calculation of PTDF and BC*

➔ Models are sent also to CAO, who merges them into Regional network load-flow model



CA Dry-run time schedule



Each TSO send the reference monthly network model to neighbours also included/ modelled: +UA, HU, HR, SI, AT

Merging of the models into SEB model Verification by TSOs

PTDF matrix

Border Capacities

Bilateral harmonization of BCs

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CAO: Calculation of
PTD Factors



Participating TSOs:

Calculation and bilateral
harmonization of Border
Capacities (12 borders, 24
directions)

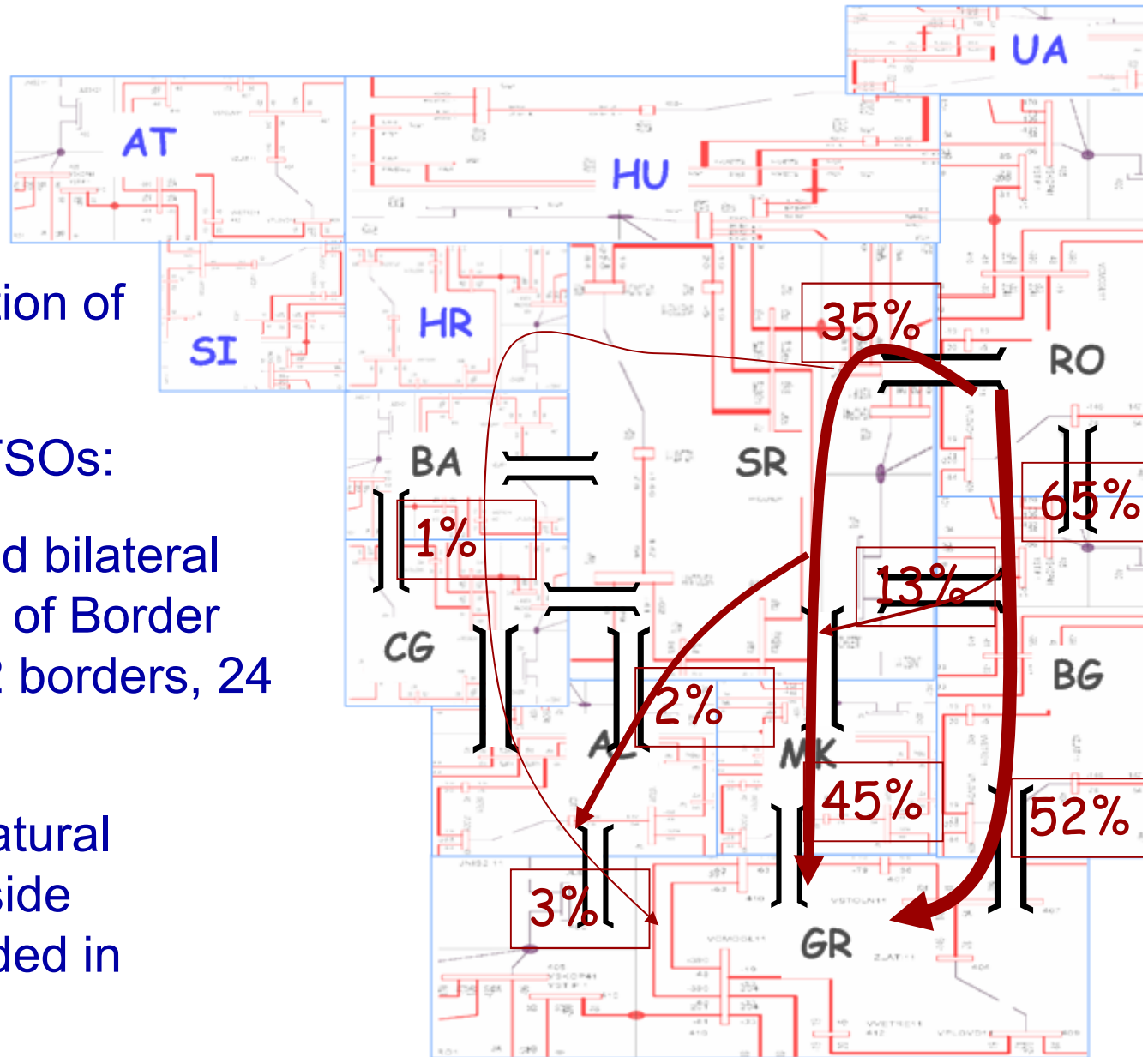


Influence of natural
flows and outside
systems included in
BCs

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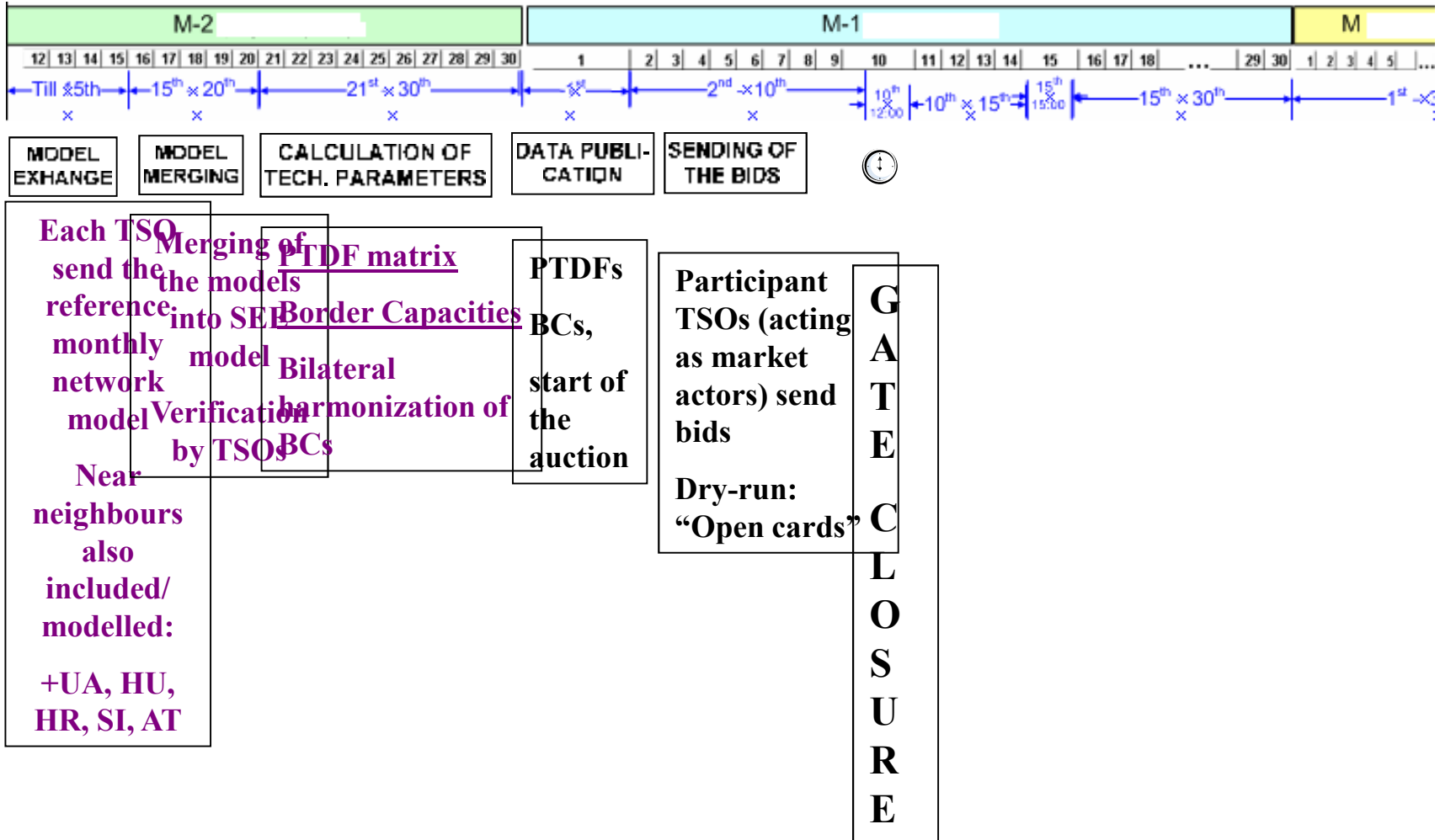
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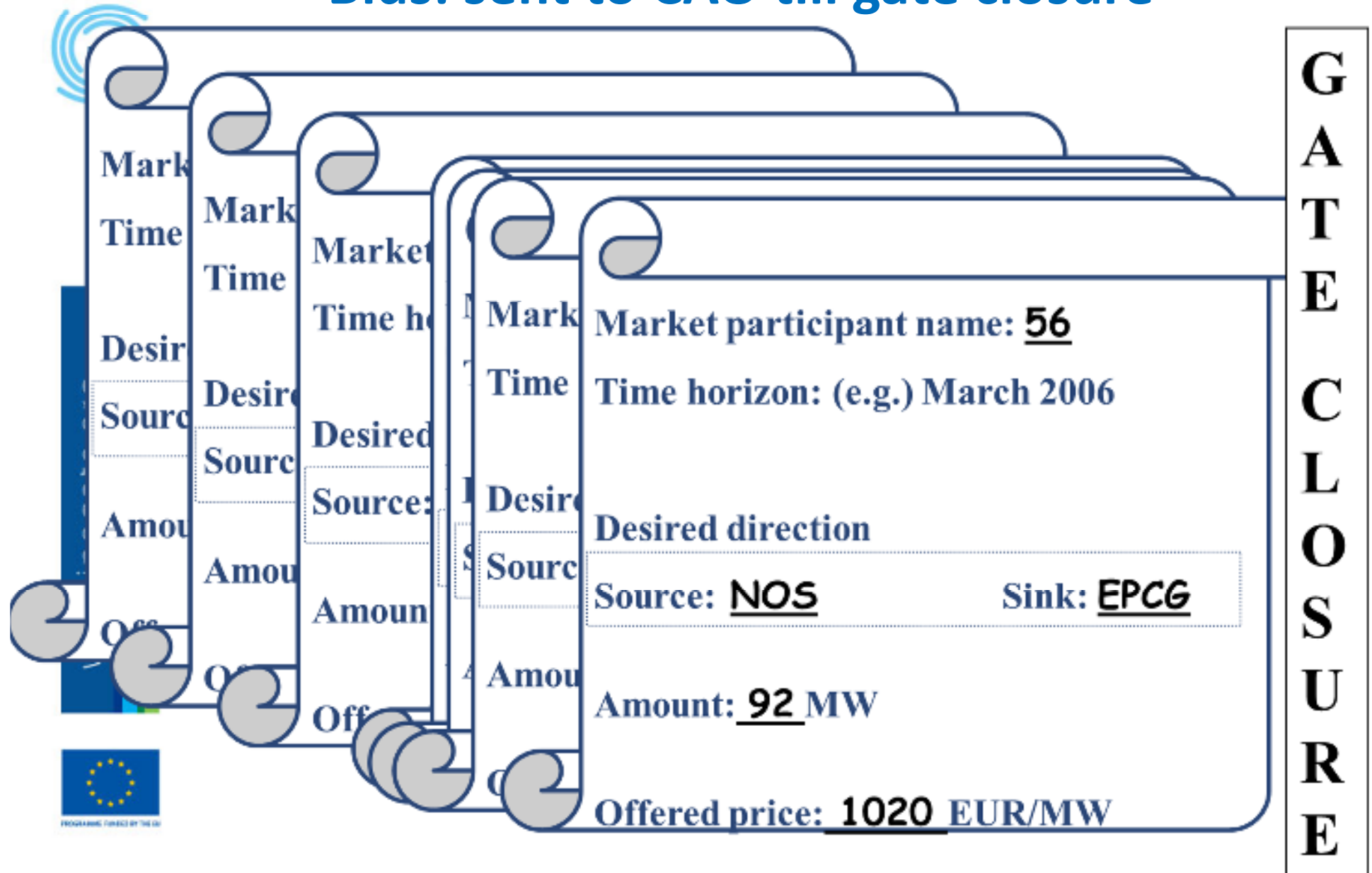


CA Dry-run time schedule

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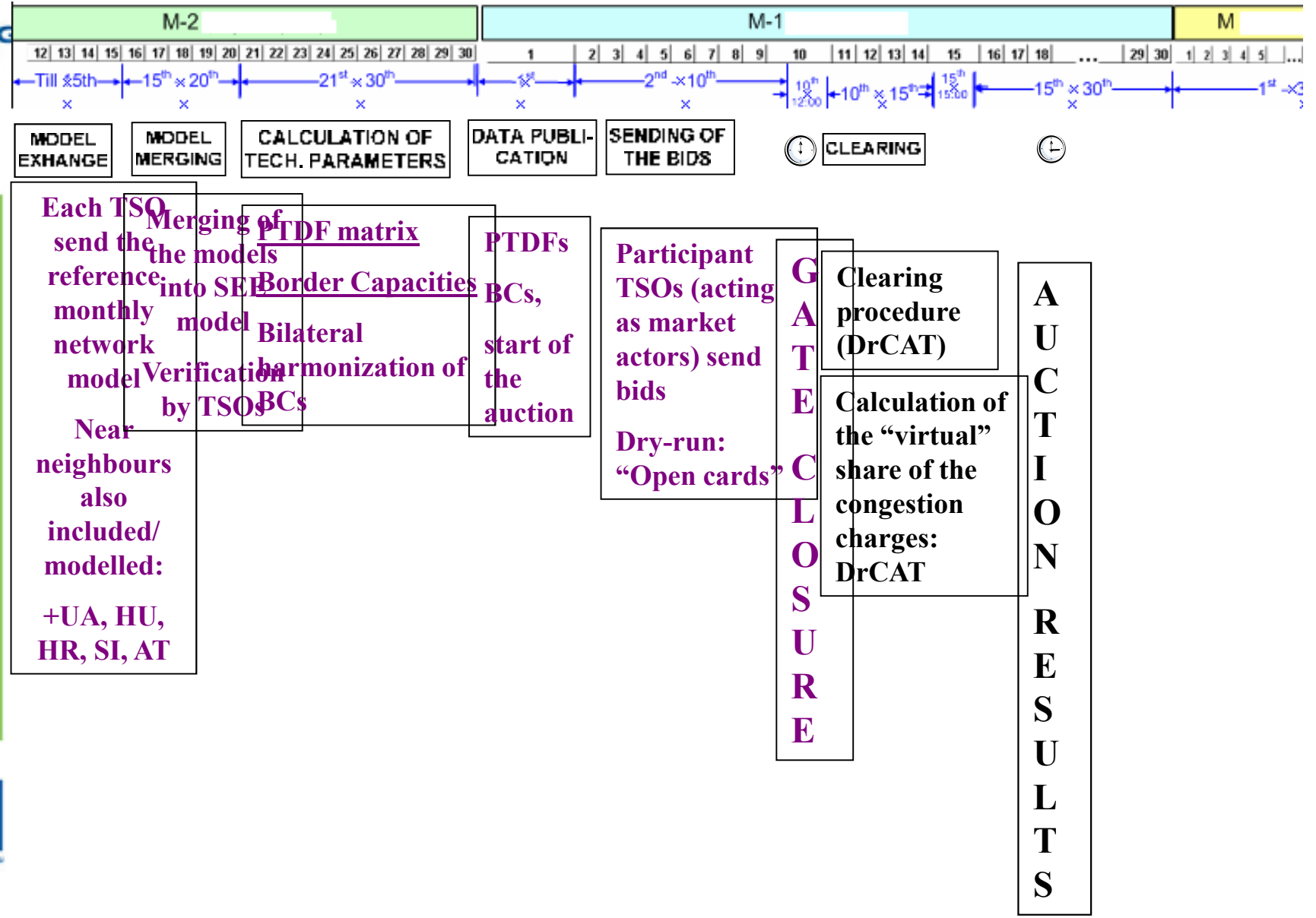
Bids: sent to CAO till gate closure



CA Dry-run time schedule



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Software tool DrCAT

- DrCAT... Dry-run Coordinated Auction Tool
 - WEB based software (accessible via internet) for clearing flow-based coordinated auctions
 - database concept for storing individual auctions and results (max. flexibility)
 - optimisation procedure (according to ETSO) is used for clearing the auctions
 - Different roles implemented (to simulate the “real life” user handling)
 - ...

SETSO NACMPF

powered by Verbund - APG

DrCAT

Dry-run Coordinated Auction Tool







EKC_BIDDER_Zoran Bidder
Click here to logout!

Home
Account
Auction
Results

01 dryrun March06

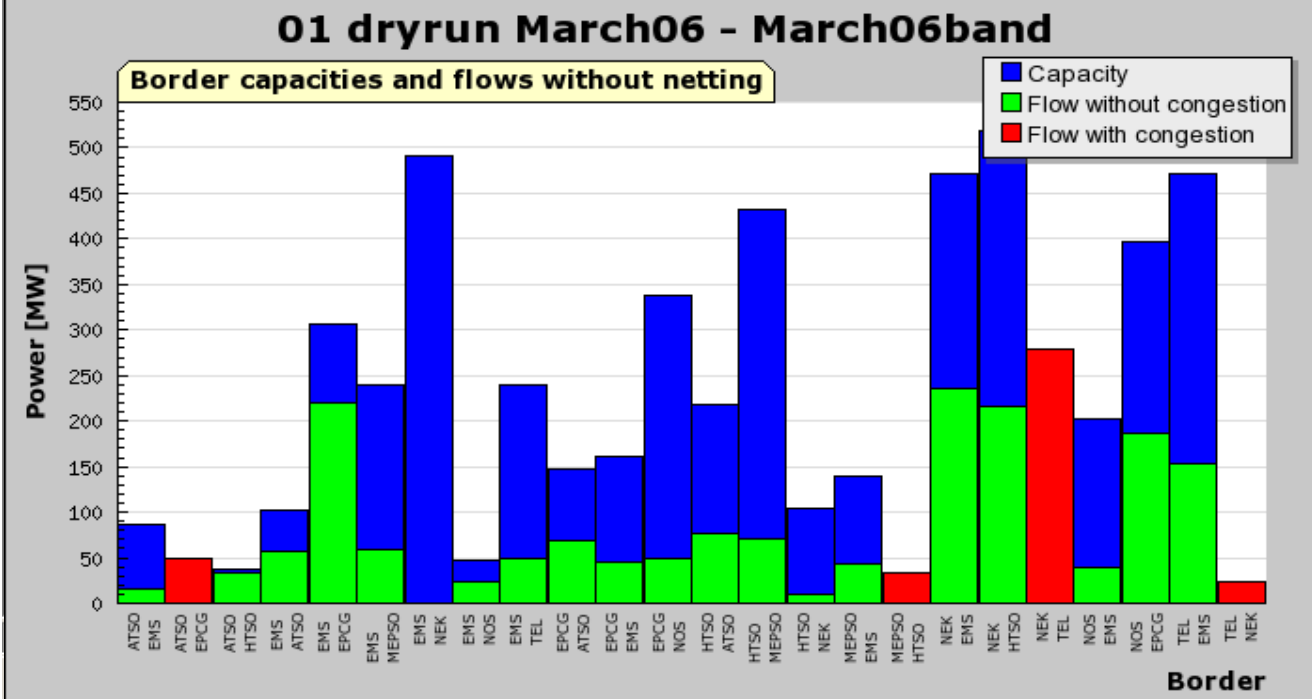
 Bid statistics

 Border flows

Border capacities and flows

Product: March06band - without netting

XLS-Export
CSV-Export



Capacity Usage [%]	Order by: Source - sink
17.70	
100.00	
85.55	
56.08	
72.13	
24.92	
0.03	
50.31	
20.48	
47.10	
27.54	
14.90	



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DrCAT methodology

- Market participants place bids (till now TSOs) consisting their desired transmission path from zone to zone, bid volumes and bid prices
- Objective is to maximize system usage – i.e. the social welfare (obligations, options)
- According to: line flows (PTDF), border capacity constraints
- Optimization calculates the clearing prices and volumes
- Individual results (allocated capacities and prices) are available

→ **According to ETSO* (2001) and recent developments as e.g. OMC****

*Coordinated Auctioning – A Market Based Method for Transmission Capacity Allocation in Meshed Networks.

** Open Market Coupling, proposal from EEX



The 8th Congestion Management Region - SEE

- The most pressing issue was the pending definition of a Congestion Management area in the South East European region and definition of consisting countries as prerequisite for SEE CAO establishment
- The need of a definition for SEE region became evident during the Action Plan drafting process for the SEE CAO as Regulation 1228/2003 and its Congestion Management Guidelines consists no definition for the SEE region
- At the same time, the definition is essential for the SEE CAO project as it predefines the future participants of the SEE CAO
- The so called 8th Congestion Management Region was established according to the approach used within the EU (ERGEG Electricity Regional Initiatives)
- The agreement on the South East European region was reached at the Ministerial Council in June 2008: The 8th Region was created by MC decision in June 2008
- The definition of the 8th Region was an important step towards the establishment of a SEE Regional Market for electricity



The 8th Congestion Management Region - SEE

- As a result, a common Coordinated Congestion Management method, including capacity allocation, is to apply for the **following territories**:
 - the **nine** Energy Community Treaty **Contracting Parties**
 - the neighboring countries **Bulgaria, Greece, Hungary, Romania and Slovenia**
 - **Italy** with regard to the interconnections between Italy and the CPs to the EnC Treaty (DC undersea cables)
 - **Moldova and Ukraine** are not technically in parallel synchronous operation within ENTSO-E, and thus cannot perform operationally CACM mechanisms in the 8th region



SEE
9 contracting parties
>20 borders
Population: 137,12 million





Regionally Coordinated Mechanism: SEE CAO



►► Legal requirement of regionally coordinated CAM & CMP



SEE Coordinated Auction Office (1)

- CEE and SEE TSOs decided to implement Explicit Flow-based CA mechanism in SEE Region ... vs. CWE, SWE and Nordic Region where Implicit NTC based mechanism is implemented (Market Coupling, Market Splitting)
- Coordinated Auctions and SEE CAO are in compliance with Regulation 1228/03 (714/2009) and CACM provisions
- Majority of EnC Contracting Parties supported the establishment of a Coordinated Auction Office in the SEE region + Turkish TSO is member of SEE CAO Project Team Company
- Via MoU the SEE TSOs of the Region supported the setting up of SEE CAO at the MC meeting on 11 Dec 2008 in Tirana
- PTC for SEE CAO established in Podgorica, Montenegro in June 2012
- First allocation procedure to be organized by SEE CAO: Yearly allocation for 2014





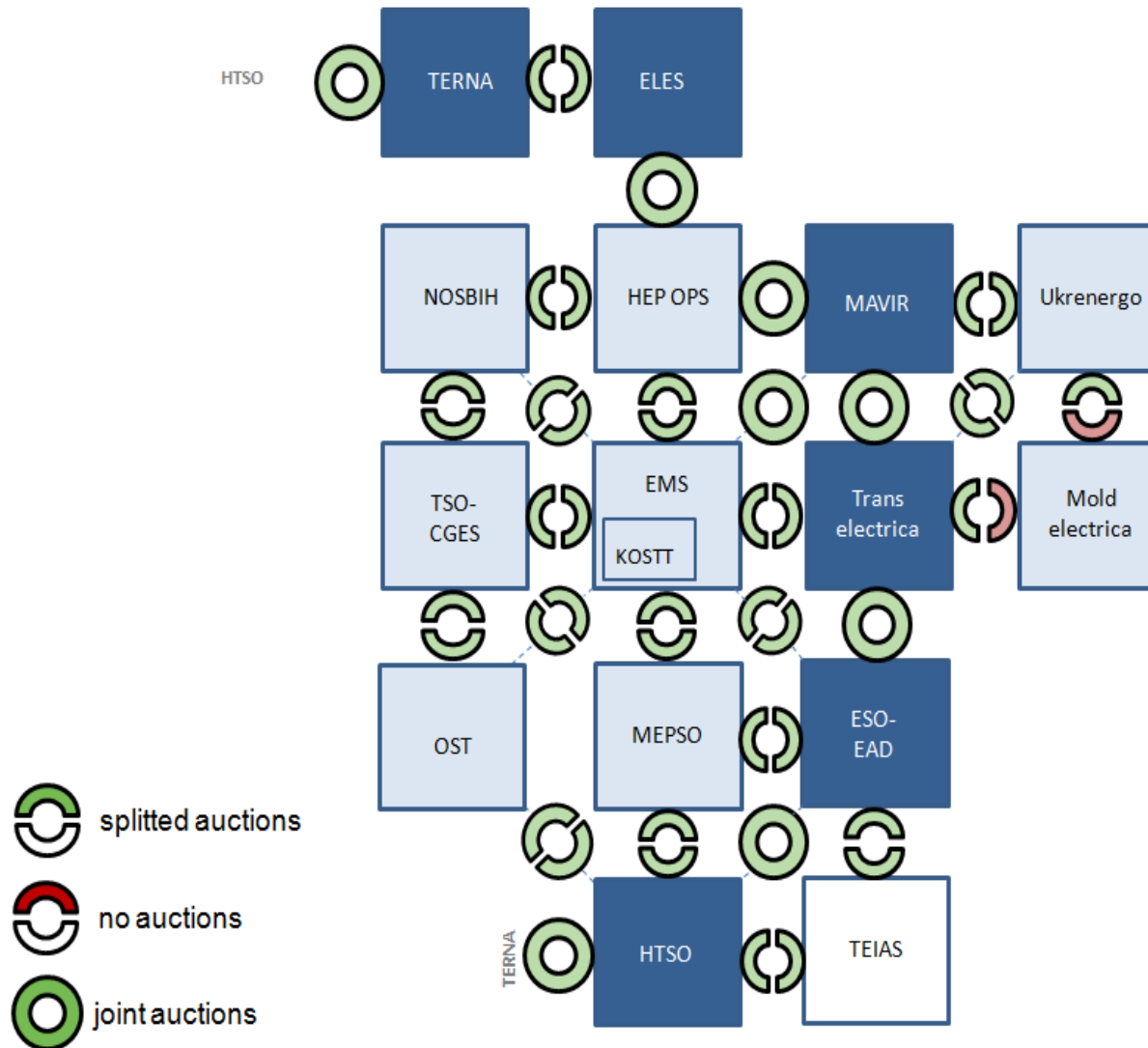
SEE Coordinated Auction Office (2)

- Steering Committee for Project Team was responsible for establishing SEE CAO: TSOs and donors participated in meetings –early 2009
 - Agreed structure for SEE CAO Project Team Company
 - Budget
 - Co-financing by IFI's (subject to TSO co-financing)
 - Structure: project company
 - Members
 - Project Team is not yet the CAO!
- Action Plan update was elaborated by SC Project Team (SEE TSOs)
- ECS studies related to SEE CAO (technical and legal study) done
- Project Team established with tasks to draft: Business Plan, Auction Rules, NTC vs. Maximum Flow approach, etc.
- NTC based approach for SEE CAO as the first step
- SEE Regulators will have to approve SEE CAO related rules and perform CA and SEE CAO Monitoring + define revenues distribution → regulators are waiting for SEE TSOs input



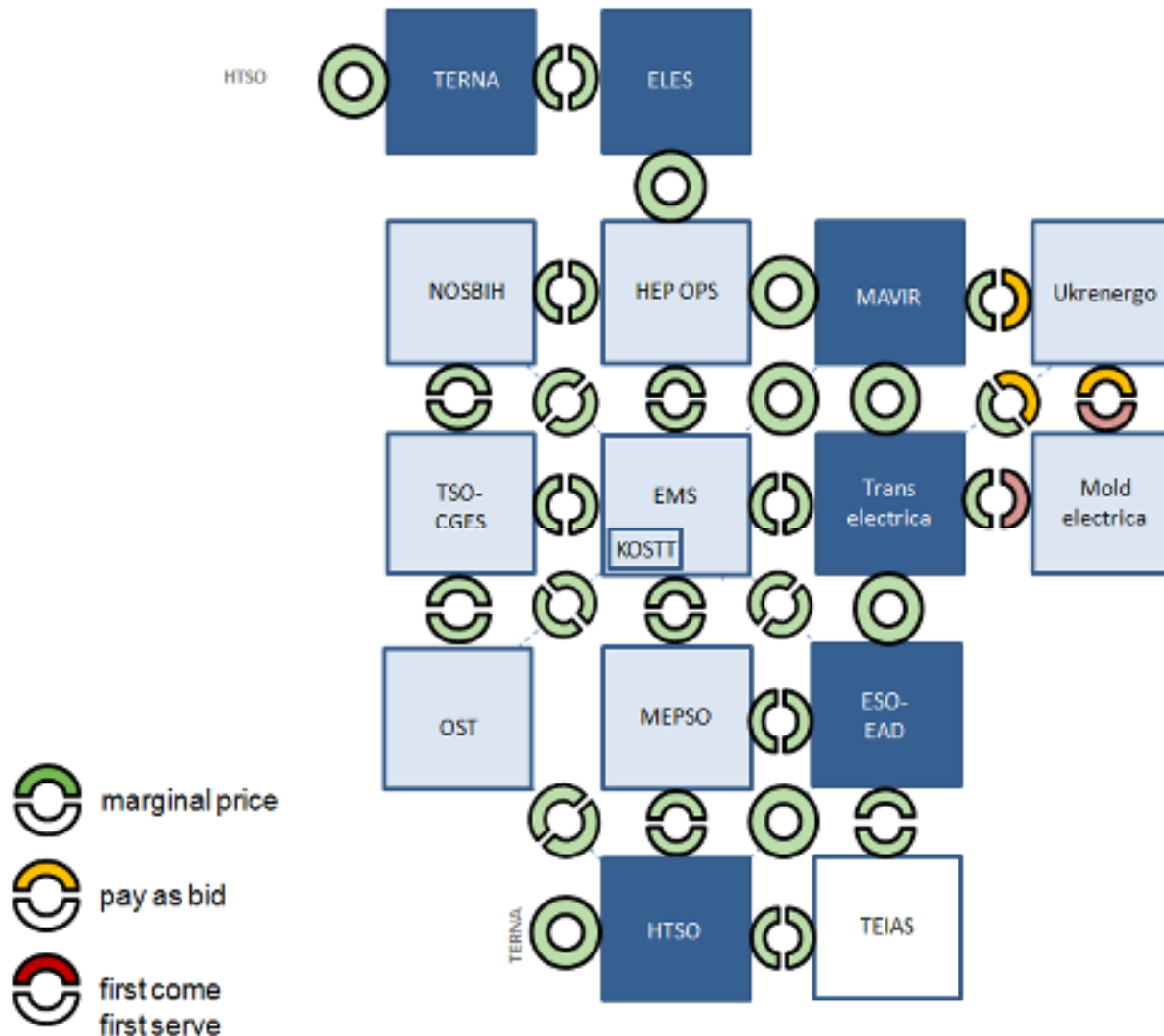


Cross Border Capacity Allocation Mechanisms in the 8th Region – Dec 2012





Mechanisms for Capacity Price determination in the 8th Region – Dec 2012





SEE Regulators' feedback on WMO process in SEE Region



- It is necessary to take an efficient Step-by-step approach when introducing WMO in the 8th Region
- WMO is mainly driven by political influence and national strategies !
 - Regulators could just support WMO and propose solutions, but cannot decide or make strong influence to decisions
- Regulators are supposed to implement the recommendations into their market models
- Regulators addressed the fact that the willingness of regulators to adapt their systems was not the key problem, but limitations related to their powers and acceptance by governments would exist
- Regulators should more actively raise the restriction of powers they are facing
- Ministries representatives and Governments to be much more involved in the implementation phase, as they are key elements and most responsible entities for accelerating wholesale market opening in the eight region
- SEE regulators support WMO process, advice and work on creating an appropriate regulatory framework for the proposed solutions



SEE WMO Implementation phase

- SEE Regulators - Need for WMO project in the 8th region to be fully in compliance with new developments in EU - Target Market Model, Framework Guidelines, Network Codes:
 - Main concept in line with EU developments
 - Need to adjust some details from the WB WMO Study
 - Ensure compatibility between the Consultant's/ECRB EWG and ENTSO-E RG SEE Action Plans
- Urgent involvement of SEE TSOs in the WMO Project was necessary, especially for drafting the SEE RAP
- Need for a realistic WMO Regional Action Plan which is fully harmonized between the Regulators (ECRB) and SEE TSOs (ENTSO-E RG SEE) and in compliance with EU TMM
- EnC CPs are responsible for elaborating National Action Plans (by Ministries, TSOs, NRAs and Power Exchanges, if applicable), based on Regional Action Plan
- Guidance received from PHLG and Consultants' proposal for National Action Plans is welcome
- Full implementation of National Action Plans is the prerequisite for the SEE RAP successful implementation



SEE RAP Document Structure

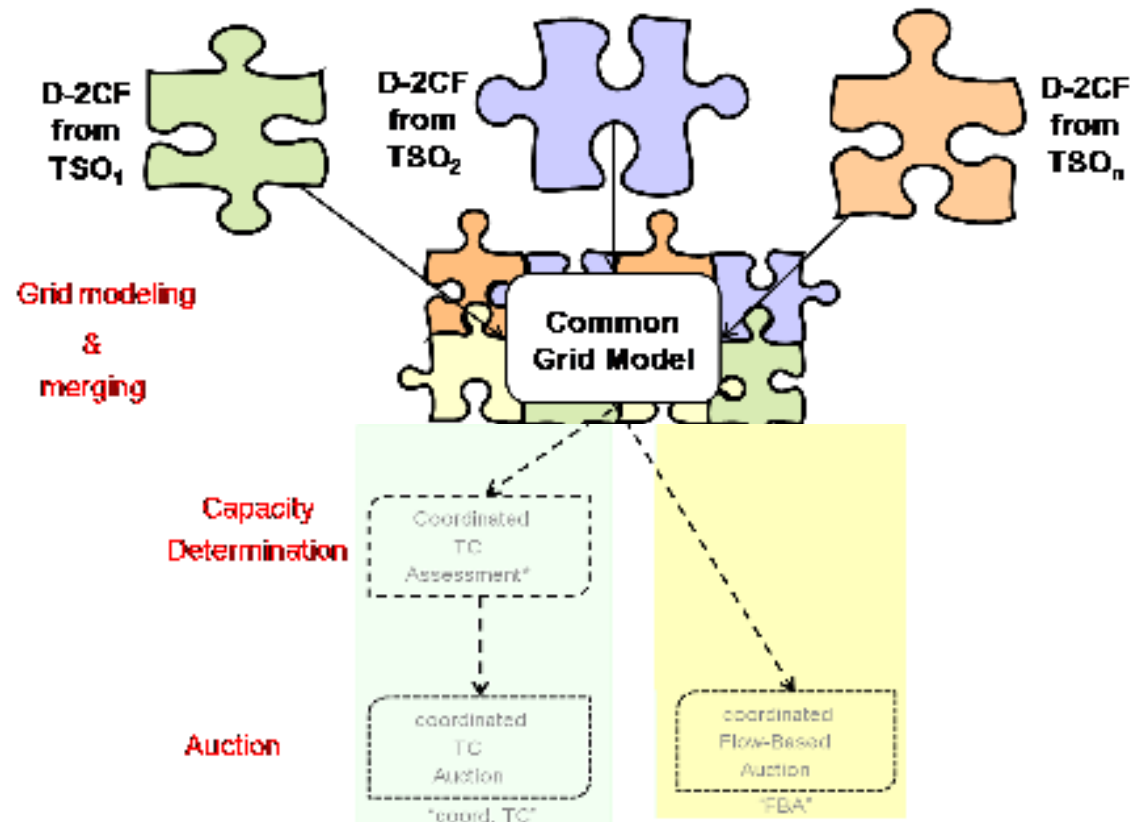
SEE Regional Action Plan structure comparable to Framework Guidelines structure:

- **CAPACITY CALCULATION**
- **FORWARD CAPACITY MARKETS**
- **DAY-AHEAD MARKET**
- **CROSS-BORDER INTRADAY MARKET AND BALANCING MECHANISM**



Capacity Calculation

- Development of common grid model and coordinated capacity calculation method in the SEE region in line with the EU Target Model





Forward Capacity Market

- Step by step (“glide-path”) approach
- Implementation of coordinated bilateral explicit auctions in the SEE Region
- Establishment of multilateral coordinated (NTC based) explicit auctions on several borders (based on technical and organizational feasibility)
- Establishment of centralized multilateral coordinated (NTC-based in a first step, flow based method is still under consideration) auctions on most of SEE borders
- Multilateral coordinated auctions on all borders within the SEE region (regional one-stop-shop or EU-wide solution)





Forward Capacity Market

MONTHLY ALLOCATION in SEE (September'10)



- Legend:
- EA Joint
 - EA Split






Forward Capacity Market

MONTHLY ALLOCATION in SEE (September'11)



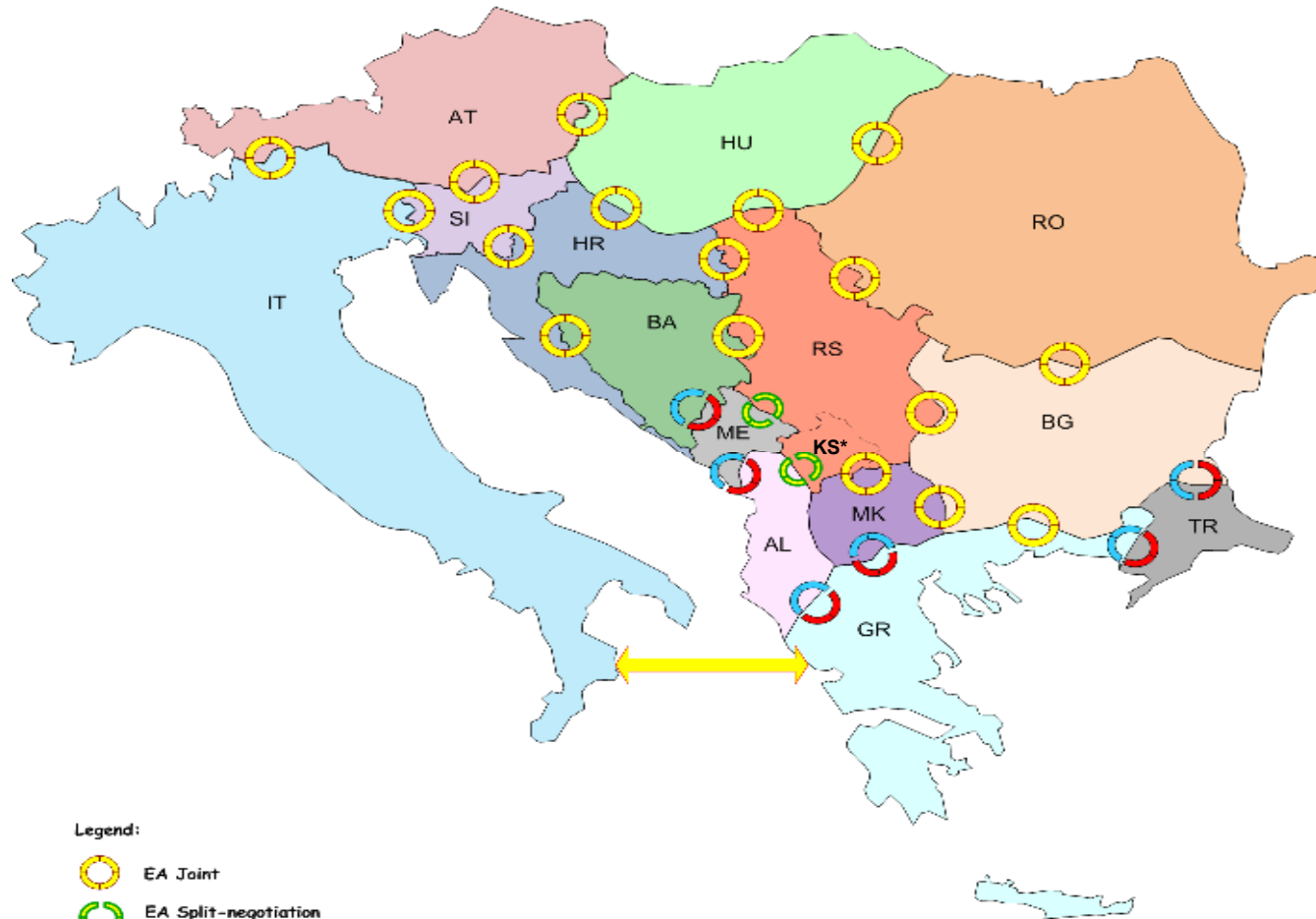
Legend:

-  EA Joint
-  EA Split - negotiation for Joint
-  EA Split






Forward Capacity Market

MONTHLY ALLOCATION in SEE (PLAN MID 2012)



Legend:

-  EA Joint
-  EA Split-negotiation for Joint
-  EA Split



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Day-Ahead Market

- Price Based Market Coupling as Target Model for SEE DAM
- Staged Implementation of the Regional DAM
- Parallel Development of Regional and Local Electricity Markets (each CP obligation and duty to make National Action Plan)
- Bilateral/ trilateral market coupling in the SEE region (nucleus approach or different regional initiatives)
- Integration with neighbouring regions/markets
- Pan-European market coupling including the SEE region operational



Day-Ahead Market - Explicit

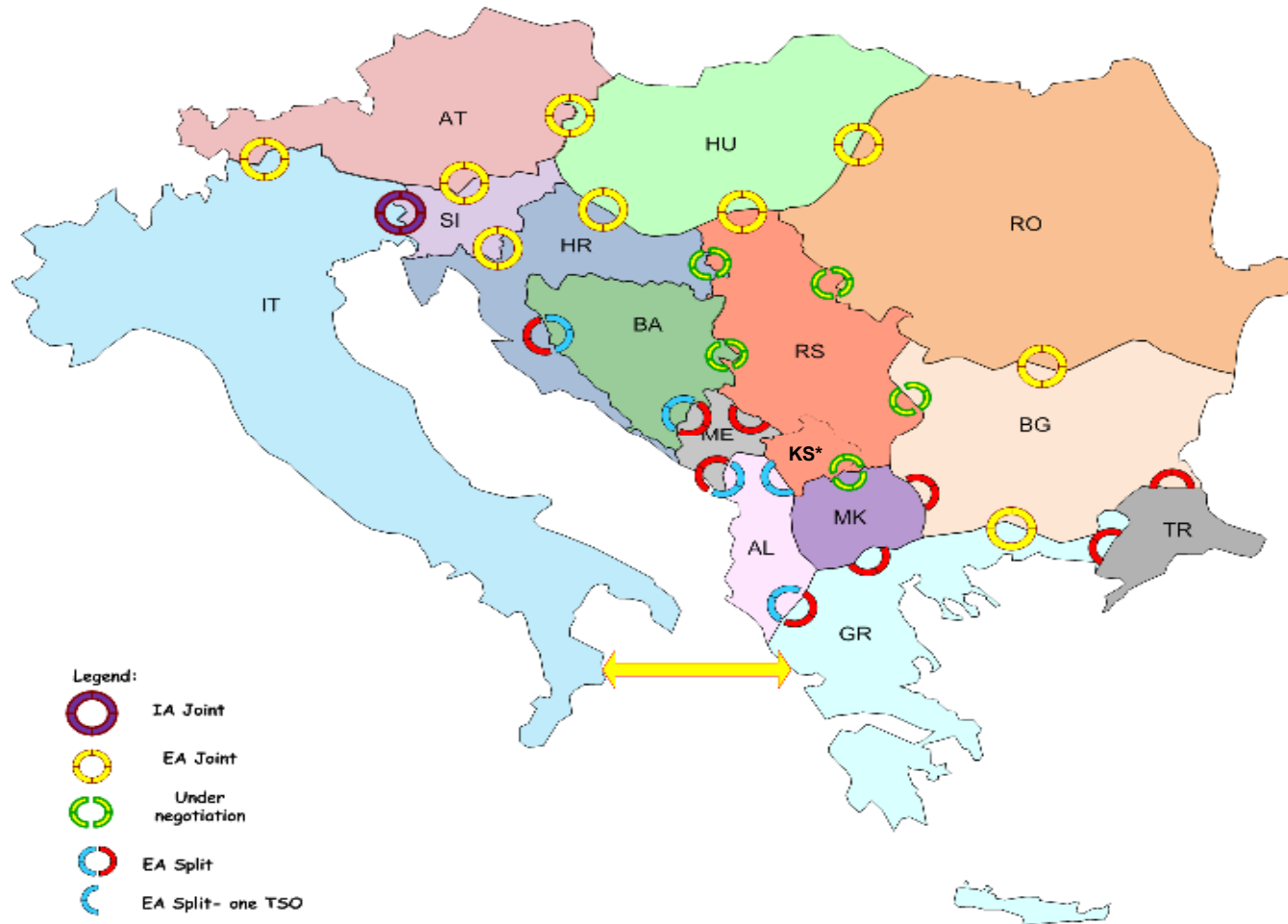
DAILY (D-1) ALLOCATION in SEE (September'10)





Day-Ahead Market - Explicit

DAILY (D-1) ALLOCATION in SEE (September'11)





Day-Ahead Market - Explicit

DAILY (D-1) ALLOCATION in SEE (PLAN MID 2012)





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XB Intraday Market

- Common regional solution for XB Intraday Market
 - First step as simple as possible (FCFS or pro-rata)
 - Interim step of sub-regional integration before implementing an entirely regional solution (market integration would start with a nucleus consisting of two to three jurisdictions)
 - Final solution in line with EU Target Model (continuous trading)
 - XB Balancing Market
 - Investigation of the options for integration of national balancing mechanisms (taking into consideration timeframe and results achieved on ENTSO-E level)
 - TSO-TSO mechanism without common merit-order list as an interim solution
 - Final solution – XB Balancing mechanism with common MO list



XB Intraday Market

INTRADAY in SEE (2011)



- Legend:**
-  Auction
 -  FCFS



XB Intraday Market

INTRADAY in SEE (PLAN MID 2012)



- Legend:**
-  Auction
 -  FCFS



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Governance

- **Top-Down Guidance:**
 - ✓ European regulation, Framework Guidelines on CACM, Network Codes
- **Governance within the SEE Region**
 - MC (supported with PHLG): General policy guidance to the process and harmonization of the national legal and regulatory frameworks
 - ECRB: Harmonization of Market Rules and Network Codes, Regional Market Monitoring Process
 - ENTSO-E RG SEE: Development of the regionally coordinated CACM mechanism and harmonization with the corresponding EU-wide mechanism
 - EnC Secretariat: Support to the Energy Community institutions in the Treaty implementation process
- **Governance at Local Level**
 - Development and implementation of the Local Action Plans



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CONCLUSIONS



Conclusion as message for future cooperation and experience exchange

- 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, by commonly agreed Regulations
- Energy Community Contracting Parties are using experience from EU Members States during 90ties and 2000 in order to develop the most appropriate cross-border mechanisms in the 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 tariffication
- 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 follow the justified EU mechanisms, which enables opening of the electricity markets with transparent and equal conditions for all market players



Thank You !

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