



Market meets security of supply: How can Regional Security Coordinators contribute?

Dr Nikolaos Athanasiadis, ADMIE

2nd of June 2016

Athens Forum

Introduction

1. Need for a RSC (Regional Service Coordinator)
2. Topics of the MLA that was signed among TSOs
3. Status of present and future RSCs in Europe
4. Development of the SEE RSC in Greece
5. Functions of a RSC based on the MLA agreement
6. Contribution of RSCs in market development
7. Conclusions

1. Need for a RSC

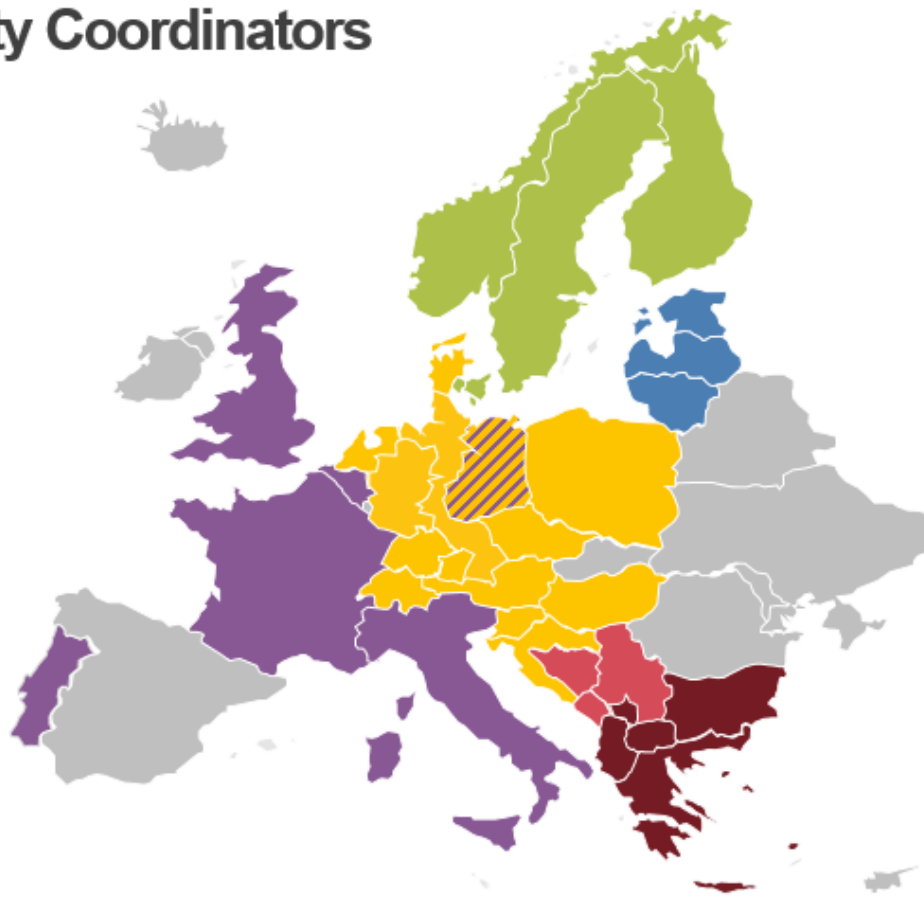
- UCTE System Split in 2006
- Increasing number of renewables in the last decade
- Increasing number of cross-border transactions and growing volatility of the market
- RSC increases the security and efficiency of coordinated system Operation:
 - minimised risk of large scale events,
 - reduced network costs,
 - Secured renewables integration.
- RSCs combine operational and market functions (e.g.: cross border capacity calculation), ensuring the best possible coherence between them.
See ENTSO-E policy paper, Nov 2014.
- SO GL, approved in May 2016 and soon to become EU law, obliges each TSO to participate at least in one RSC. Not more than 6 RSC across the EU.
- CACM and FCA, which are or will soon be binding in the EU, foresee a number of methodologies which can only be best implemented effectively in case a RSC exists

2. Topics issued of the MLA that was signed among TSOs

- **TSOs' MLA: framework for TSO coordination. Signed on 10th December 2015 at ENTSO-E Assembly**
- **The MLA covers for all ENTSO-E members:**
 - **minimum set of coordination functions to be provided by RSCs, taking into account the NC requirements**
 - **TSOs and RSC responsibilities: TSOs remain responsible for secure operation and any operational decision**
 - **obligation to ensure operational coordination between RSCs (e.g. remedial actions).**
 - **obligation to set up or join an existing RSC by 30 September 2016 to allow a coordinated provision of the services.**
- **TSOs joining the Agreement after 30 September 2016 shall procure the mandatory services within 2 months after becoming a Party of the Agreement.**

3. Status of present and future RSCs in Europe

Regional Security Coordinators



1. **TSCnet:** 13 TSOs, mainly from the CEE region and from Netherlands, Denmark, Germany, Switzerland. It has already been operating for many years
2. **CORESOS:** 50Hz, Terna, REN, RTE, Elia, National Grid. It has already been operating for many years

3. **Baltic:** 3 TSOs from Lithuania, Latvia, Estonia, to be developed

4. **SCC:** 3 TSOs from Serbia, Montenegro, Bosnia-Herzegovina. It operates since summer 2015

5. **Nordic:** 4 TSOs from Sweden, Norway, Finland, Denmark

6. **SEE RSC (to be established):** ADMIE, KOSTT, MEPSO, OST, TEIAS, ESO

4. Development of the SEE RSC in Greece

A new RSC will be established in the SEE region.

The RSC must have a regional dimension since it will incorporate functions relevant to the TSOs of the SEE region.

On 20th of November, MoU signed:

- ✓ **Between ADMIE, KOSTT, OST, TEIAS, ESO and MEPSO.**
- ✓ **Willingness to establish an RSC in Greece (likely in Thessaloniki).**

Working teams have been set up.

The SEE RSC is going to be established in Autumn 2016. Fully operational by the end of 2017.

Advantages:

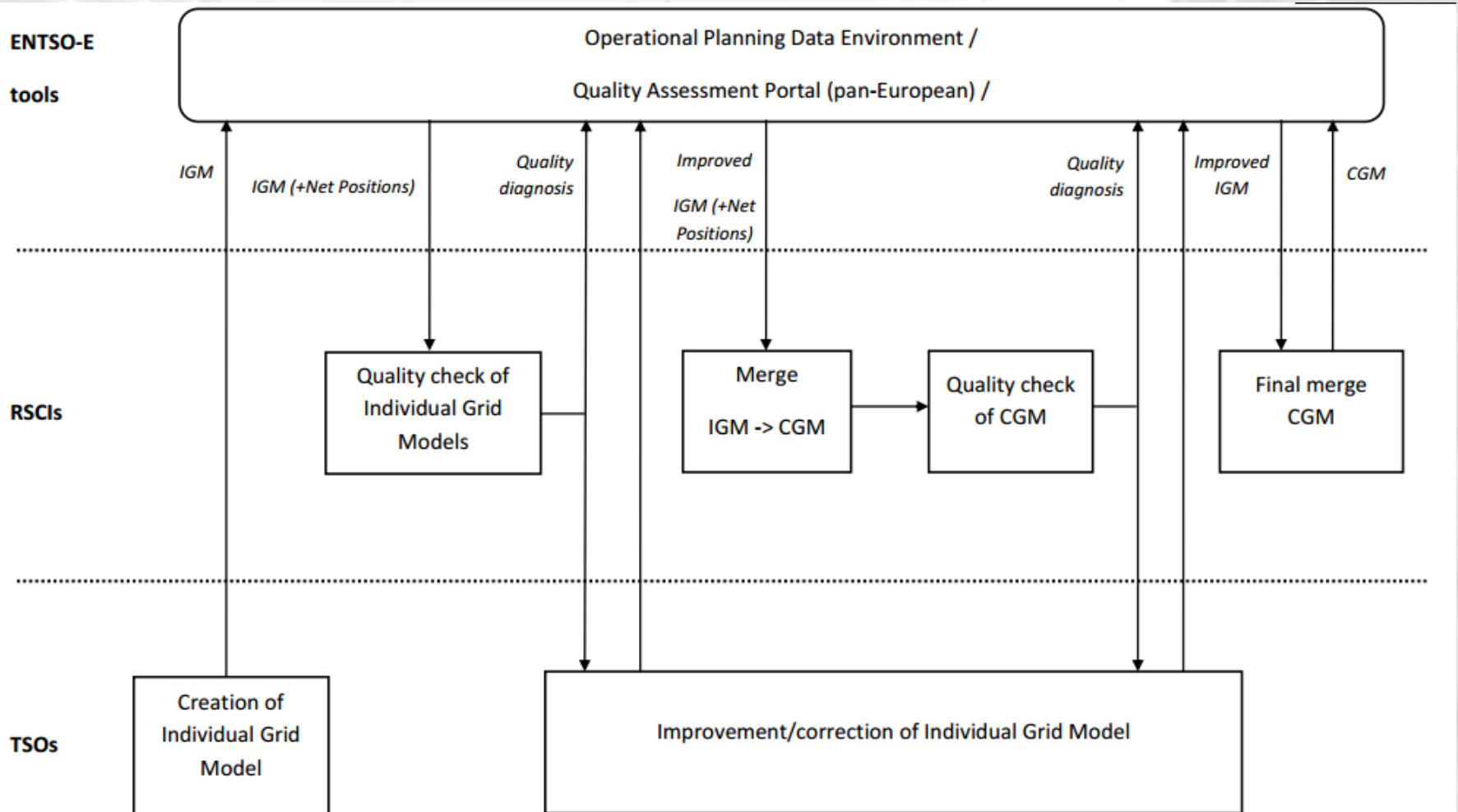
- increases system security;**
- important step towards market opening and regional market coupling in the SEE**
- contribute to the cooperation of the TSOs in the region**

5. Functions of a RSC based on the MLA agreement (1)

- a) Improved Individual Grid Model / Common Grid Model Delivery.
- b) Coordinated Security Analysis.
- c) Coordinated Capacity Calculation.
- d) Short and Medium Term Adequacy Forecasts
- e) Outage Planning Coordination.

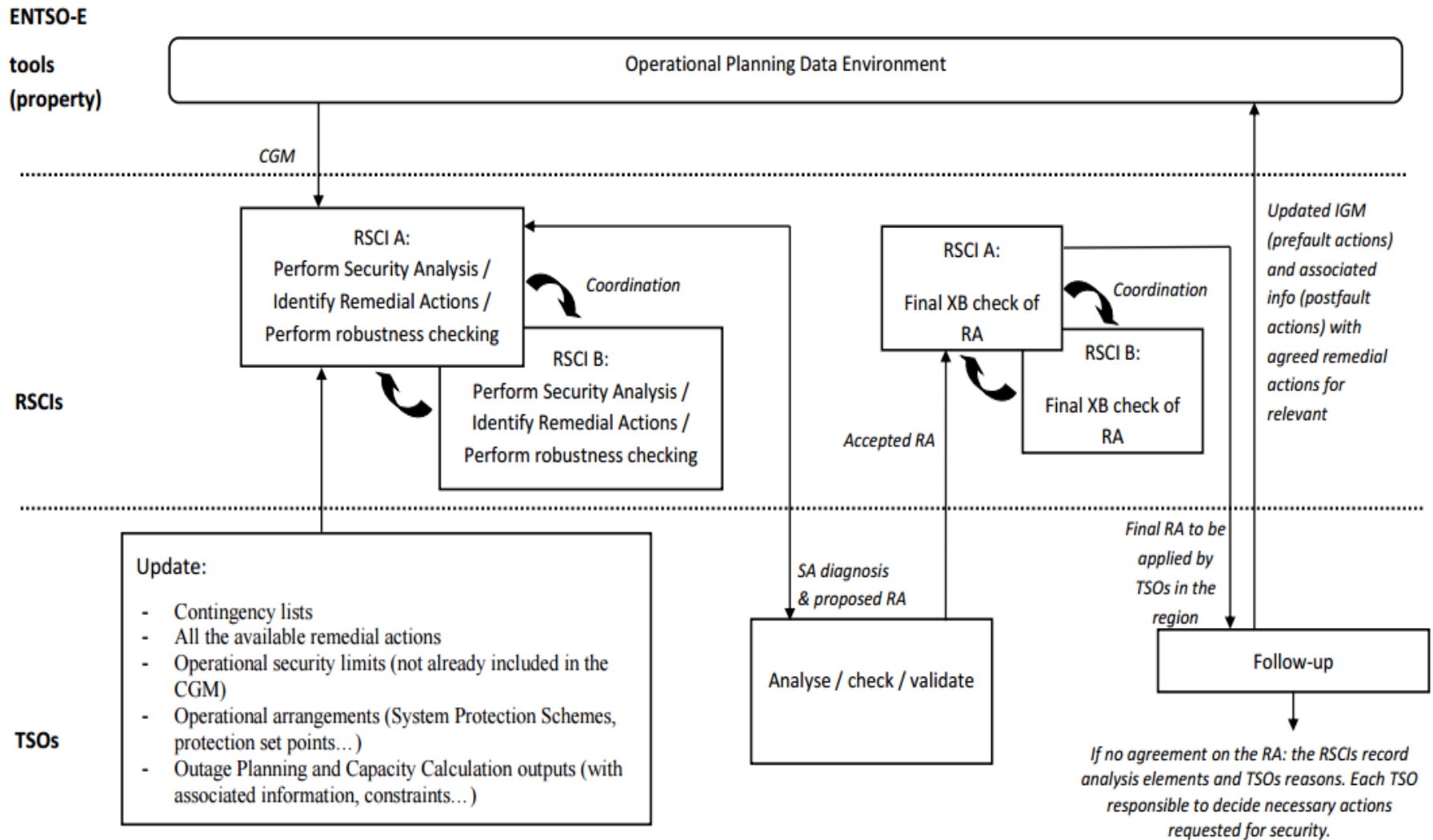
a) Improved individual grid models/common grid model delivery

Common Grid Model is used as the basis for all the remaining 4 functions



b) Coordinated security analysis

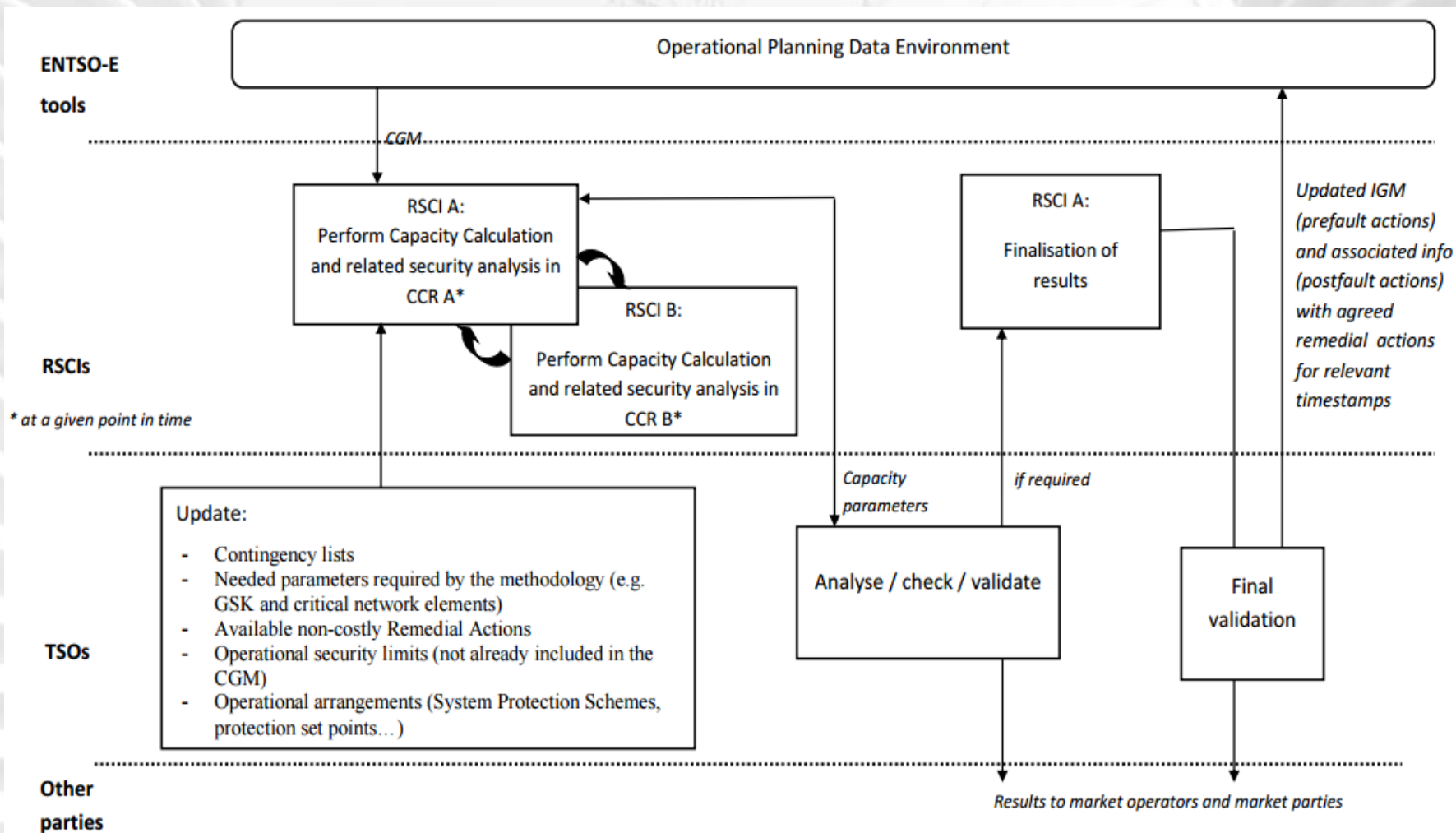
This process includes: (i) N-1 contingency analysis ; (ii) Remedial actions



c) Coordinated capacity calculation

This service applies regional coordinated methodologies to calculate the available capacity (NTC or FB parameters). It optimises cross-border capacities, while ensuring system security.

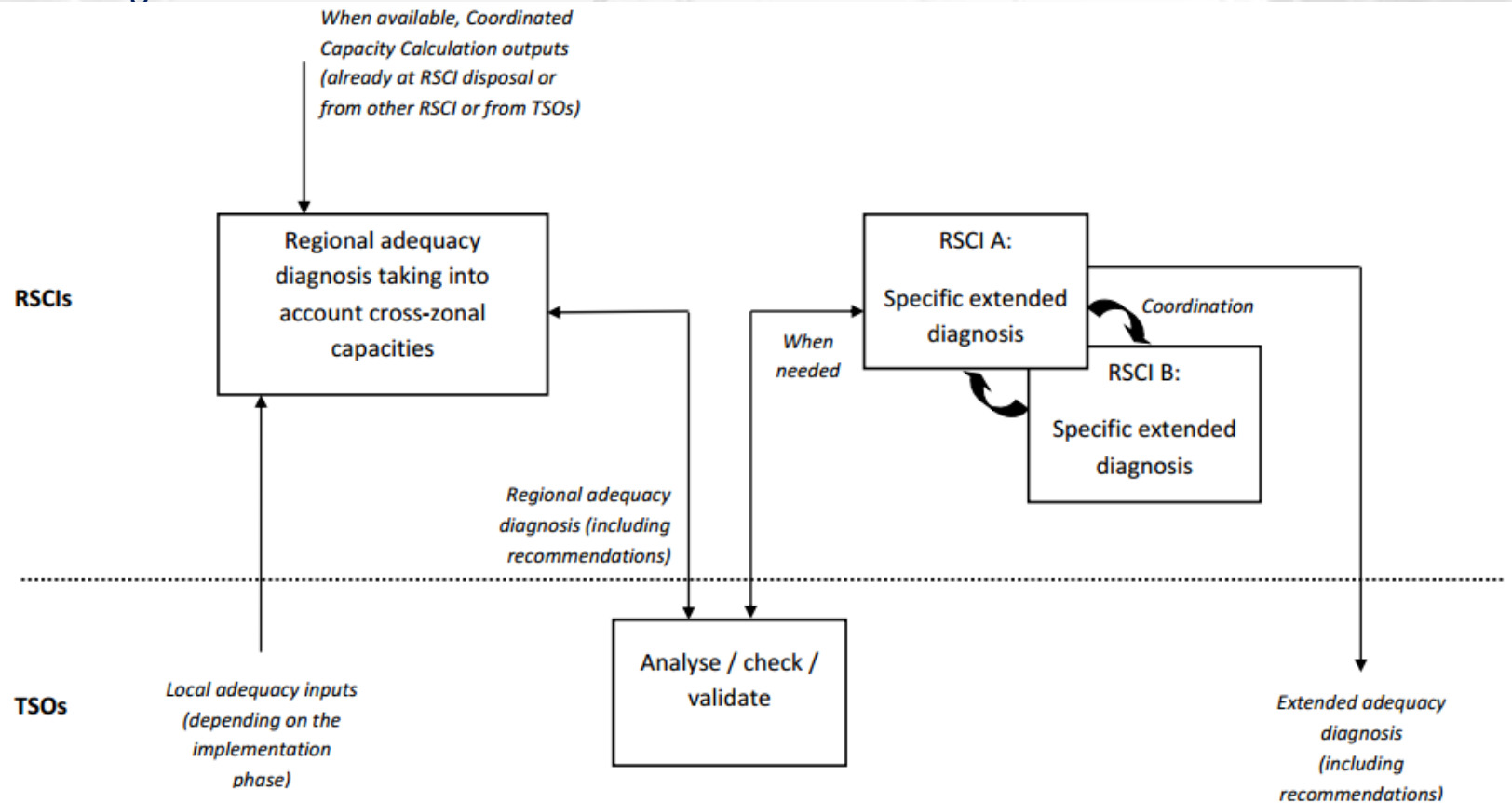
This service is requested for, at least: (i) D-2 (for Day-Ahead capacity allocation), and (ii) D-1/Intraday (for intraday capacity allocation).



d) Short and medium term adequacy forecasts

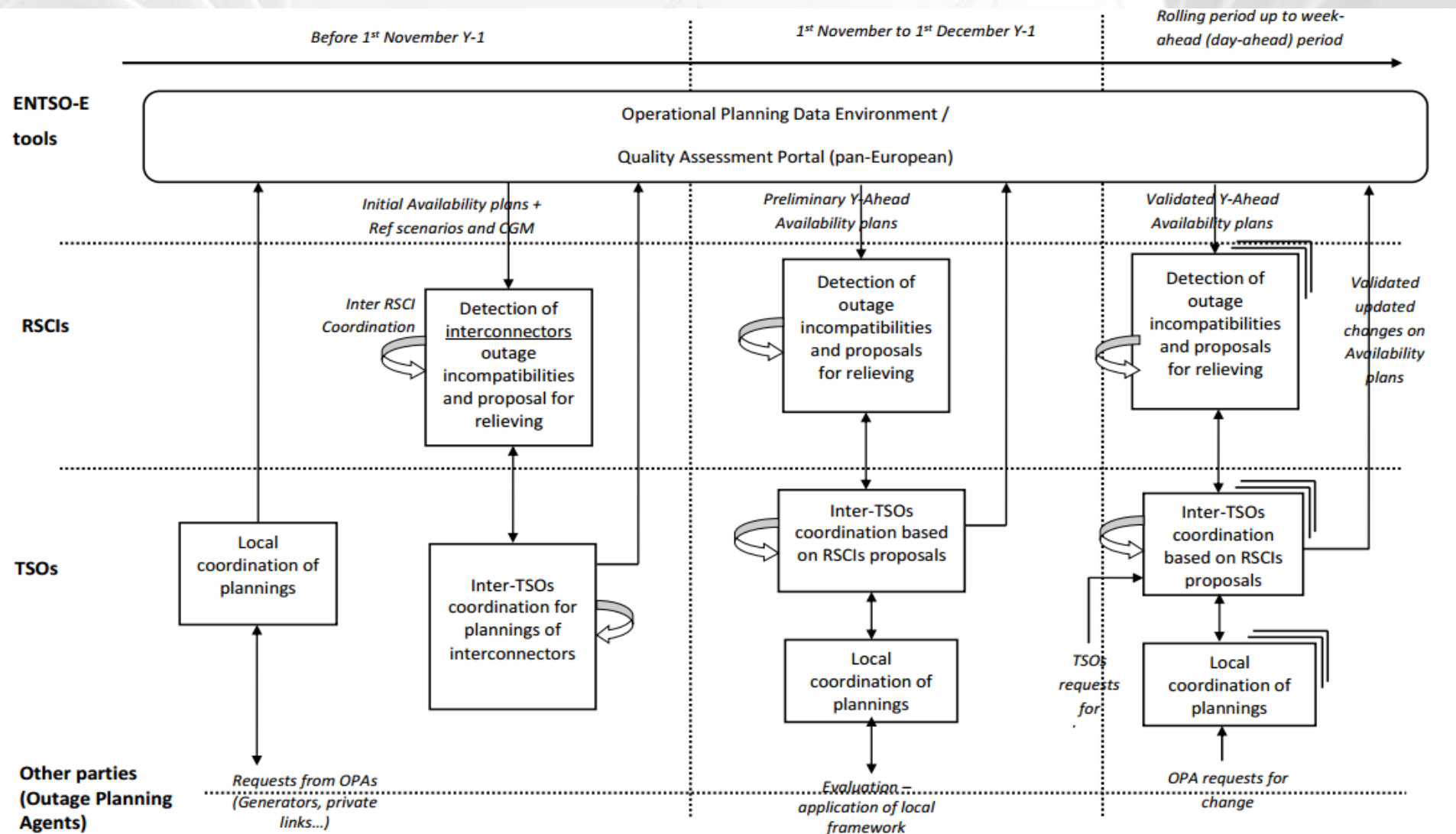
SMTA is used for:

- ⑩ National medium and short term view
- ⑩ Regional medium and short term view



e) Outage planning coordination

This service (i) identifies outage incompatibilities between relevant assets whose availability status has cross-border impact and (ii) proposes solutions to relieve these incompatibilities



6. Contribution of RSCs in market development (1)

RSC facilitate TSO's implementation of CACM (DA and ID market) and FCA (long term market):

- **Coordinated Capacity Calculator establishment (CACM, FCA)**
- **Capacity calculation methodology (CACM, FCA)**
- **Redispatching methodology (CACM)**
- **Redispatching cost methodology (CACM)**

The RSC will enforce the market development in the region, through the effective implementation of the methodologies.

6. Contribution of RSCs in market development (2)

-Capacity calculation

- a) Coordinated NTC (ATC) calculation at the borders of bidding zones, or
- b) Flow-based calculation of network limits, at areas where interdependency among systems is very high

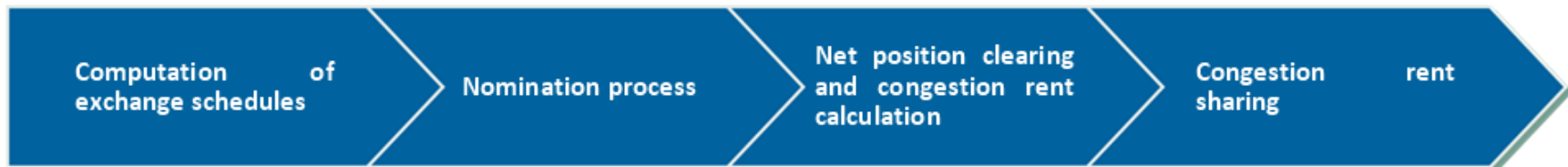
Pre - Coupling



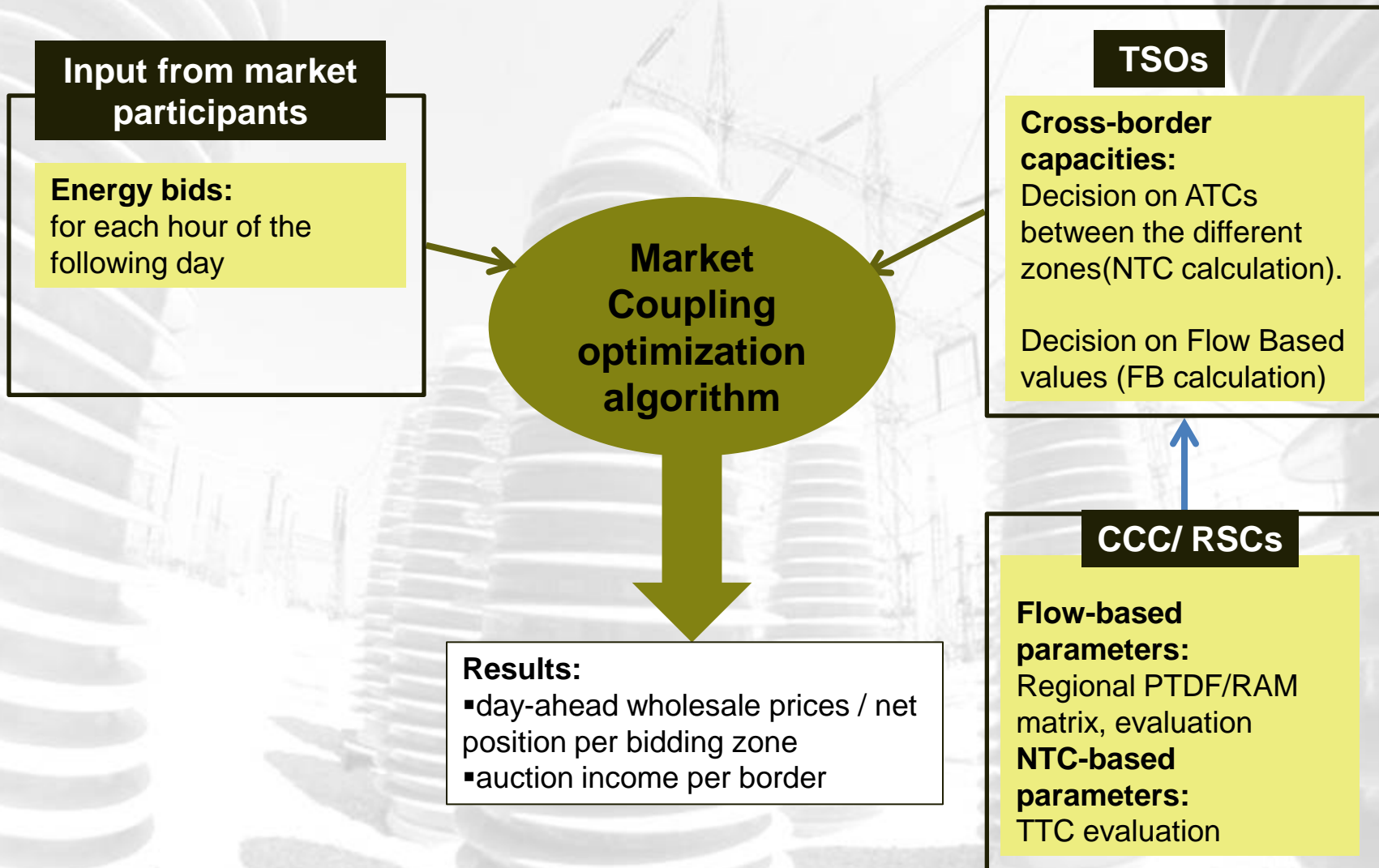
Coupling



Post - Coupling



6. Contribution of RSCs in market development (3)



7. Conclusions

- A number of RSCs are already developed or are going to be developed in the near future. For the time being, the majority of functions concern system operation and grid security.**
- The ongoing market progression leads to an increased RSC influence. RSCs contribute to important TSO functions related to market design.**
- With the introduction of market coupling, especially on a flow based manner, RSCs become a very important entity for the market development.**



Thank you

nathanasiadis@admie.gr
