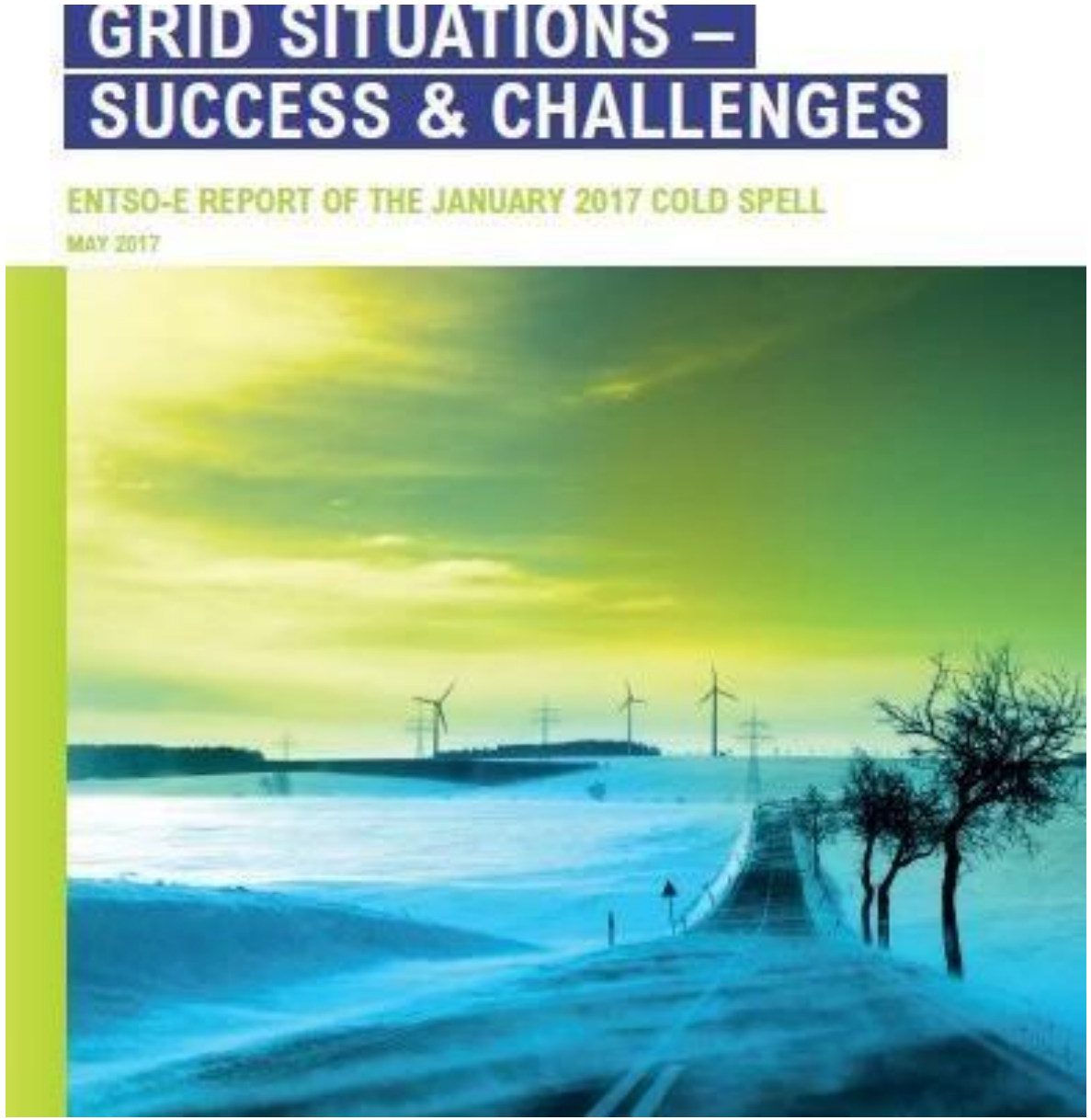
Task Force Critical Grid Situations

Electricity Coordination Group meeting 18 January 2018



- In January 2017, an unexpected cold spell caused extreme temperatures in eastern and western European countries. The core period of cold weather in eastern Europe was observed in the second week, and it reached the western European countries in the third and fourth week of January 2017.
- Extreme temperatures led to increased demand, unplanned outages of lines (e.g. in Italy) and tense electricity generation. Markets were tight and the remaining available generation capacity low - or temporarily zero - in some countries. Emergency measures were taken by TSOs to ensure uninterrupted supply and secure system operations.
- Market situation during the cold spell in France, Belgium, Germany, Switzerland, Italy, Greece, Romania and Bulgaria is described on following slides.

Task Force Scope

1. Examine the preliminary Conclusions and Recommendations from the Cold Spell Report

2. Develop a programme for implementation of process improvements (including the actions, the owner of the actions and the time-frame for implementation)

3. Implementation of process improvements for any Critical grid Situation

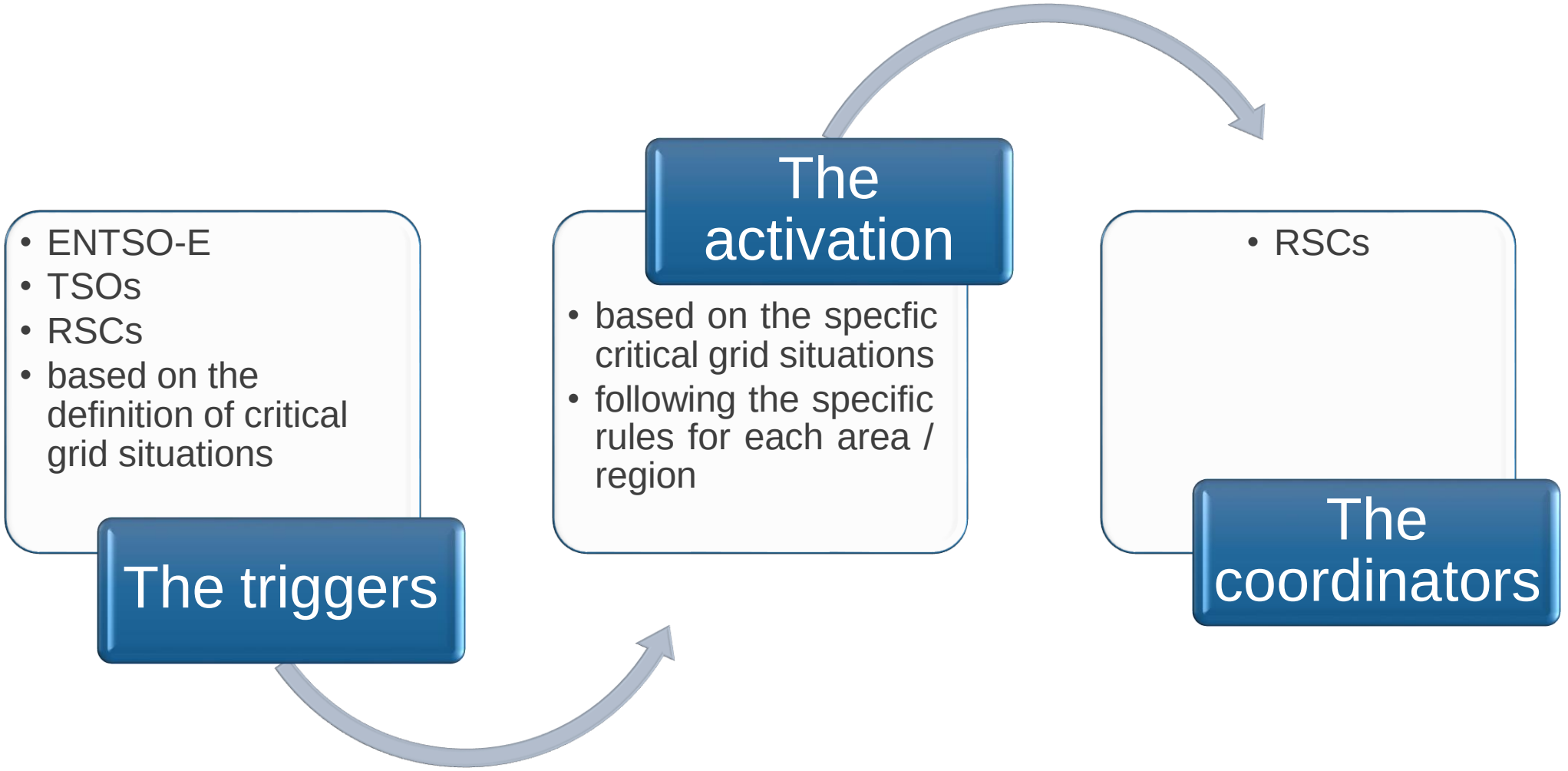
4. Analyse the market impacts of the Cold Spell

Definition of Critical Grid Situation (CGS)

A Critical Grid Situation is a potential emergency state, c.f. SO GL article 18(3), identified in the operational planning phase. During a Critical Grid Situation the available regular countermeasures are exhausted and therefore TSO(s) are required to take regionally coordinated extraordinary countermeasures.

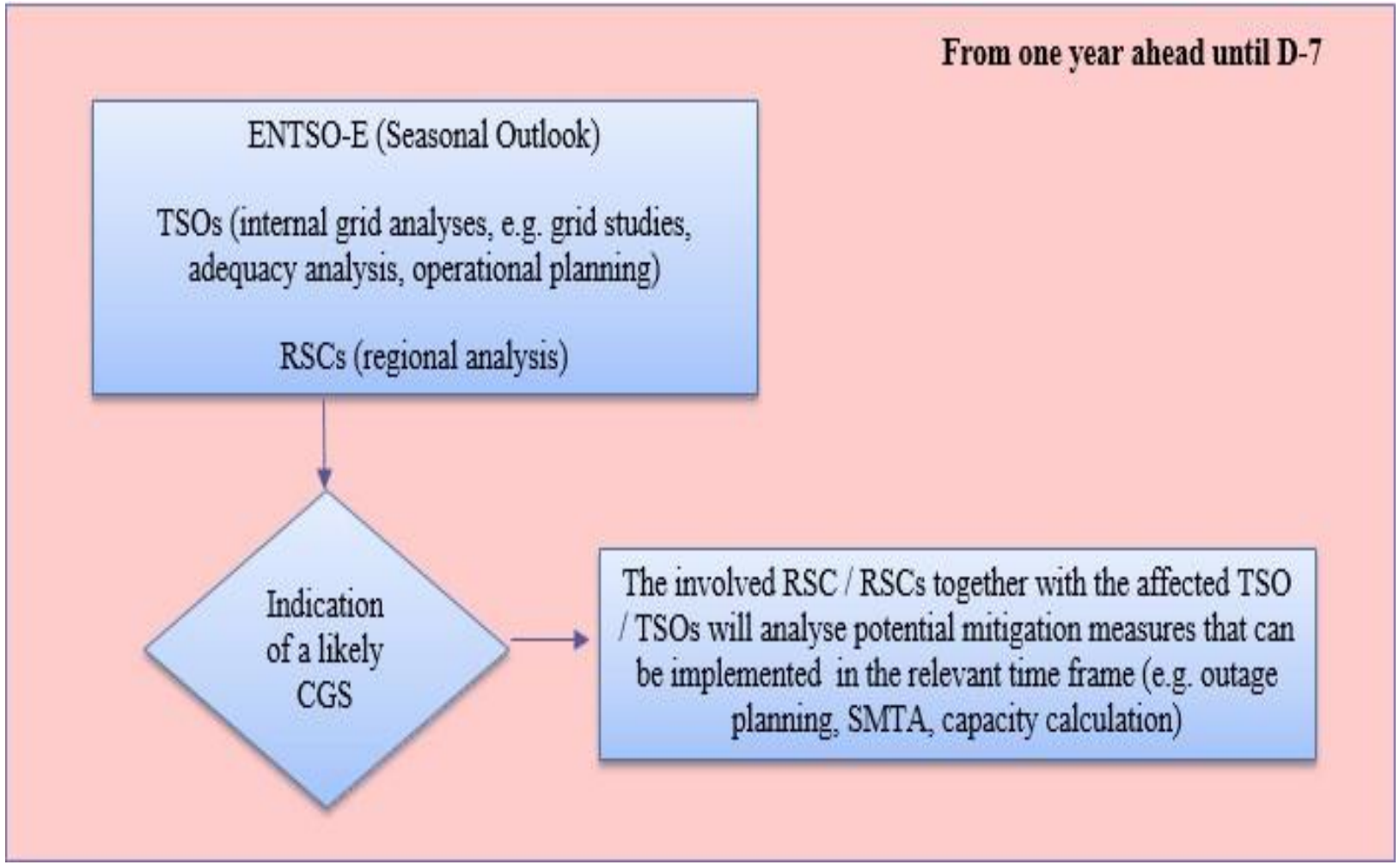
Definition to be applied to Operational planning and coordination (D-7 to D-1 and Intraday processes)

Coordination Process for CGS



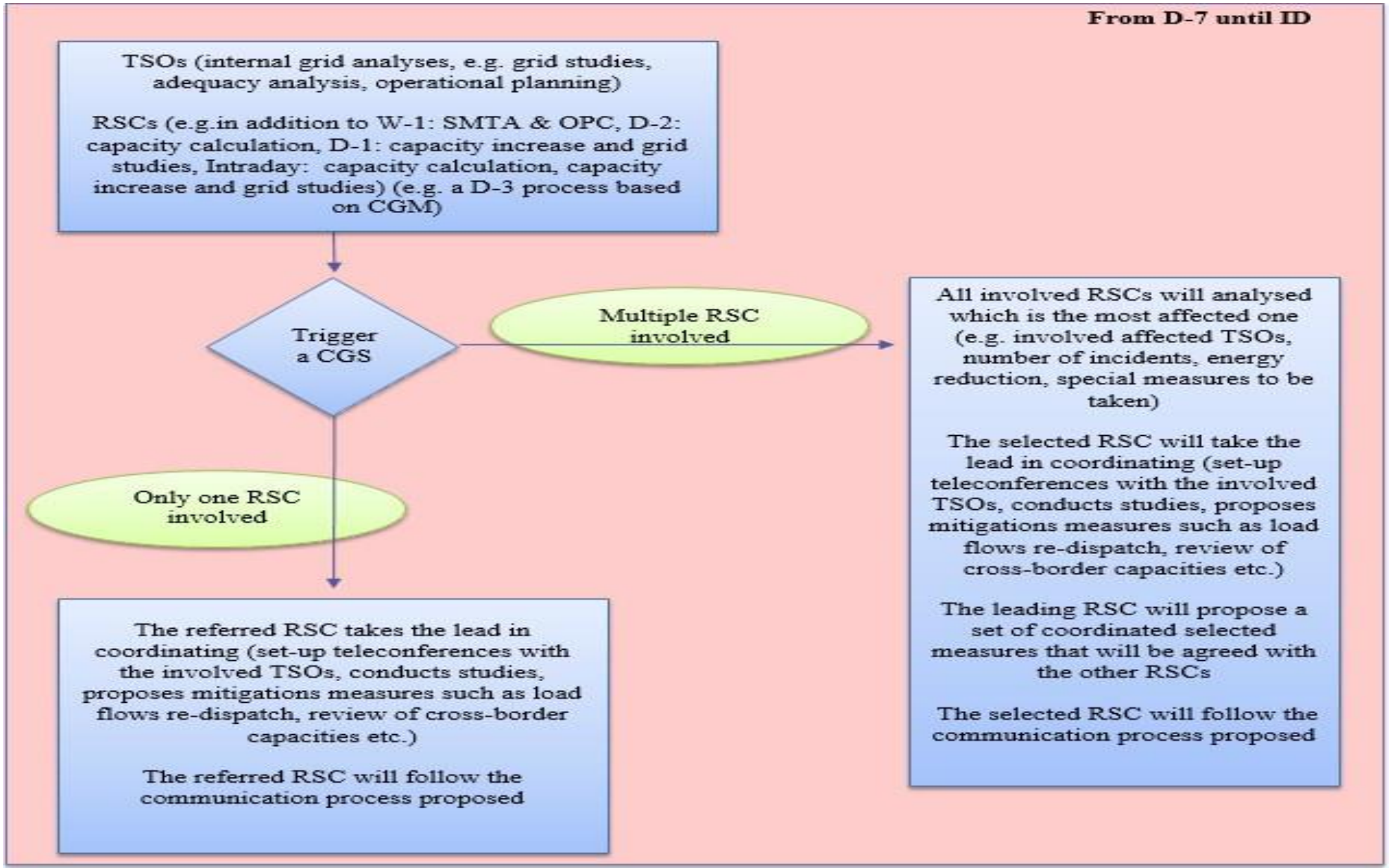
The Coordination Process for critical grid situations is defined by three main categories: the triggers, the activation process and the coordinators (all details included in the Final Report)

Coordination of CGS – 1 Year out until D-7

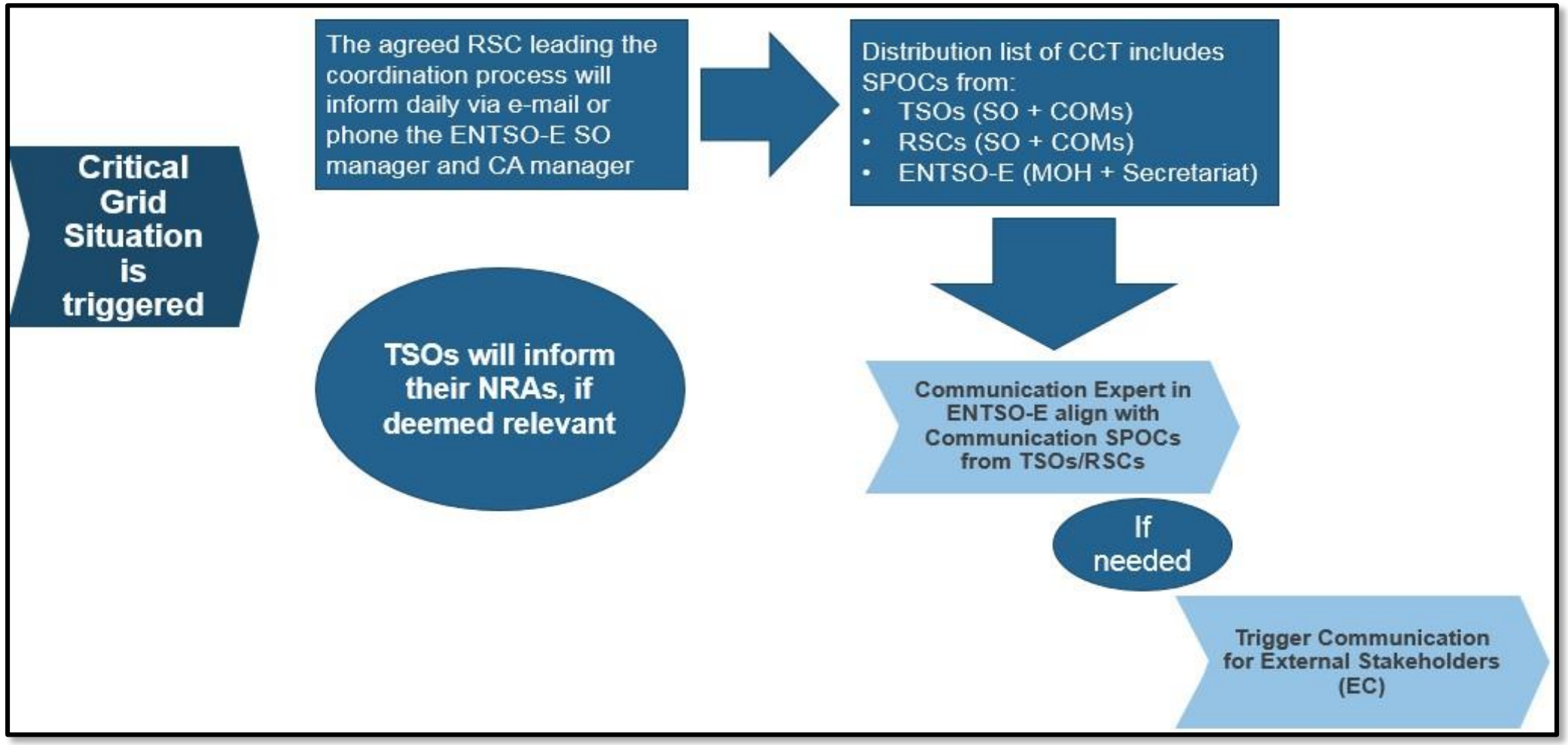


Flowchart diagrams covering the Coordination Process during a CGS

Coordination of CGS D-7 to Intra Day



Communication Process for CGS



Market Impacts of the Cold Spell

Market demand:

- Cold spell was unexpected, however, short-term forecasts have helped to hedge the risk of volatile markets to some extent.

Market supply:

- The supply side had been driven to its limit in certain countries in particular due to the unavailability of generation capacities. The supply side was struggling to serve the high demand and some countries had to rely on imports. The supply margins[1] dropped to zero in some hours, but major supply disruptions did not occur.

Electricity Pricing:

- Mature markets (in western Europe) behaved as expected and prices signaled the scarce situation.

Market Integration:

- Market integration and coordinated actions among TSOs played a key role in dealing with extreme situations. Without cross-border exchanges some countries, for example Belgium, Italy or Switzerland, might have faced shortages in supply.
- Bulgaria has implemented a long-term export ban beginning from 13.01. It caused price deviations from neighboring countries. While prices in Bulgaria stabilized, prices in Romania and Greece started to increase. Price spreads grew continuously over January 2017.

System Balance:

During the cold spell, system balance reserves were not activated to their limits (lacking data for eastern European Markets). This indicates that the market did not rely on the balancing system even scarce situation

Please see ENTSO-E website for published Market Report – Annex to ENTSO-E Report on Managing CGS

Impact of Storms on Transmission Network Integrity

- High winds in early December caused some localized network disruption in Northern France, Belgium and Slovenia but no impact on security of the transmission system.
- Heavy snowfalls in early January caused some network disruption in the North West of Italy and Southern Germany but had no impact on security of supply.
- High winds have caused wind generation cut out and challenges to Energy Balancing but no impact on adequacy.

Winter Outlook identified Adequacy risk in the event of a Cold Spell.

- Week's commencing 8th and 15th January were identified as the most critical weeks for system adequacy this winter in the event of very low temperatures and low wind.
- All TSO's have reported no issues with system adequacy this winter to date and no adequacy issues are forecast for the remainder of the period.