

FIRST JOINT REPORT ON THE PROGRESS AND POTENTIAL PROBLEMS WITH THE

IMPLEMENTATION OF INTRADAY AND DAY-AHEAD COUPLING AS WELL AS FORWARD CAPACITY ALLOCATION

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European Network of
Transmission System Operators
for Electricity



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1 INTRODUCTION

Article 82(2)(a) of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (hereafter referred to as the '**CACM Regulation**') requires ENTSO-E to monitor the progress and potential problems with the implementation of the day-ahead and intraday coupling.

Moreover, Article 63(1)(a) of the Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation (hereafter referred to as the '**FCA Regulation**') requires ENTSO-E to monitor the progress and potential problems with the implementation of forward capacity allocation.

To fulfil the aforementioned requirements, ENTSO-E has committed, under its CACM Monitoring Plan¹⁾ and FCA Monitoring Plan²⁾, to provide annual joint reports on the progress and potential problems with the implementation of forward capacity allocation and single day-ahead and intraday coupling (hereafter referred to as the '**Market Report**')³⁾. This is the purpose of this document.

In addition to the progress and potential problems with the implementation of forward capacity allocation, and single day-ahead and intraday coupling, this Market Report provides an account of the current state-of-play and the challenges in the implementation as well as recommendations for further development of the single day-ahead and intraday coupling, in line with Article 31(3)(h) of the CACM Regulation, and the forward capacity allocation, in line with Article 26(3)(f) of the FCA Regulation. Moreover, indicators are provided for assessing and following in the longer term the efficiency of the single day-ahead and intraday coupling in accordance with Article 31(3)(g) of the CACM Regulation.

The Market Report is organised into the following four chapters: Chapter 2 introduces the transversal progress of the single day-ahead and intraday coupling as well as the forward capacity allocation based on the various tasks put upon all TSOs and all Nominated Electricity Market Operators (hereafter referred to as '**NEMOs**') by the CACM and FCA Regulations. Chapter 3 recounts the progress made to date and the potential problems with the implementation of the single intraday and day-ahead coupling in line with the CACM Regulation, while Chapter 4 recounts the progress made to date and the potential problems in forward capacity allocation in line with the FCA Regulation. Chapter 5 contains a concise summary of the previous chapters, and a glossary is included at the end for convenience.

¹⁾ Prepared and submitted by ENTSO-E to ACER on 2 February 2016 in accordance with Article 82(3) of the CACM Regulation (hereafter referred to as the '**CACM Monitoring Plan**'), and subsequently amended on 24 April 2018.

²⁾ Prepared and submitted by ENTSO-E to ACER on 14 April 2017 in accordance with Article 63(2) of the FCA Regulation. (hereafter referred to as the '**FCA Monitoring Plan**'), and subsequently amended on 12 April 2018.

³⁾ ENTSO-E has already published three reports monitoring the progress and potential problems with the implementation of the day-ahead and intraday coupling, following the entry into force of the CACM Regulation (hereafter referred to as the '**CACM Market Reports**'): the [first report](#) was delivered in August 2016 and specifically covered the period from the date of entry into force of the CACM Regulation (14 August 2015) onwards. The [second report](#) was made available in February 2017, building upon the first report with a special emphasis on the six months following the initial report delivery. The [third report](#) was delivered in August 2017 covering the six months after the delivery of the second report. Following the entry into force of the FCA Regulation, the CACM Market Report is replaced by this Market Report which extends the CACM Market Report to the progress and potential problems in the implementation of the forward capacity allocation.

2 REGULATORY DEVELOPMENT OF THE ELECTRICITY MARKETS

The CACM Regulation requires all TSOs, all NEMOs as well as jointly all TSOs and NEMOs to develop deliverables for the implementation of the single intraday and day-ahead coupling. The FCA Regulation requires all TSOs to develop deliverables for the implementation of the forward capacity allocation. This chapter lists the state of play of these pan-European deliverables¹⁾.

2.1 CACM REGULATION

2.1.1 ALL TSOs DELIVERABLES

Capacity Calculation Regions (Art. 15(3) CACM Regulation). The proposal for an amendment of the Capacity Calculation Regions (hereafter referred to as 'CCR') as defined by ACER's [decision](#) of 17 November 2016 for the addition of the HVDC interconnectors between the United Kingdom and Belgium (the Nemo Link) to the Channel CCR has been approved by all the NRAs. The last NRA notified its approval on 14 February 2018. In parallel, a second draft proposal for amendment of the CCRs has been prepared by all TSOs to accommodate changes in three CCRs (Hansa, Core and Channel). This draft was subject to public consultation in November – December, and the [final draft](#) was submitted to NRAs on 17 April 2018. The legal deadline for the NRAs' decision on the proposal is 17 October 2018.

Intraday cross-zonal gate opening and gate closure times (Art. 59 CACM Regulation). On 14 June 2017 all NRAs requested amendments to the all TSOs' proposal for [intraday cross-zonal gate opening and gate closure times](#), developed in accordance with Article 59 of CACM Regulation. All TSOs submitted the [amended proposal](#) on 28 August 2017. On 24 October 2017, the NRAs asked ACER to

decide on their behalf. ACER ran discussions with the CCRs and then held a public consultation in January 2018. ACER issued its [decision](#) on 24 April 2018.

Calculation of scheduled exchanges resulting from single intraday and day-ahead coupling (Art. 43 and 56 CACM Regulation). On 25 September 2017, all NRAs asked all TSOs to resubmit by 31 December 2017 the proposal for calculating scheduled exchanges resulting from single intraday and day-ahead coupling. TSOs held a public consultation and received a Shadow Opinion from NRAs. To allow TSOs to properly handle the received comments, NRAs agreed to give time until February 2018 to resubmit the proposals. All TSOs approved the [amended proposal](#) on 20 February, and accordingly resubmitted it to their respective NRAs while ENTSO-E provided it to ACER on 28 February 2018.

Intraday Capacity Pricing (Art. 55(3) CACM Regulation). All TSOs proposed a [single methodology for pricing intraday cross-zonal capacity](#) (hereafter referred to as ['CZID-CP'](#)), in accordance with Article 55 of the CACM Regulation, which is based on implicit auctions complementing continuous trading mechanism on European level. The all TSOs' pro-

¹⁾ At the time of drafting of this report, the implementation of the regional deliverables is being organised, including the coordination by ENTSO-E. The state of play of these deliverables shall accordingly be included in the next Market Report.

posal for CZIDCP is under the NRAs' consideration. Initial timing for the NRAs' decision was 28 February 2018, but the NRAs announced that they will need more time to issue this decision as they can only do so after ACER has decided on the intraday cross-zonal gate opening and gate closure times (decision issued on 24 April 2018, see above). Therefore, on 23 February 2018 ACER decided on an extension of the period within which all NRAs shall reach an agreement on the all TSOs' proposal for CZIDCP by six months, until 28 August 2018.

Congestion Income Distribution (Art. 73 CACM Regulation). Upon all NRAs' request, all TSOs submitted an amended methodology by 21 April 2017. On 14 June 2017 all NRAs requested that ACER decide on this methodology. ACER issued its decision on the CACM Congestion Income Distribution Methodology on 14 December 2017 (available [here](#)). All TSOs are now moving towards the implementation phase.

Day-ahead firmness deadline (Art. 69 CACM Regulation). On 15 May 2017 all NRAs unanimously approved the all TSOs' proposal for the [day-ahead firmness deadline](#). The TSOs shall implement the day-ahead firmness deadline on a bidding zone border immediately when both the capacity calculation methodology and the day-ahead market cou-

pling operator function (developed in accordance with Articles 20 and 7(3) of the CACM Regulation) are implemented on this bidding zone border.

Common Grid Model Methodology (Art. 16 and 17 CACM Regulation). All TSOs submitted to their NRAs the amended [Common Grid Model](#) (hereafter referred to as 'CGM') methodology by 11 March 2017. On 11 May 2017, the amended Common Grid Model Methodology (CGMM) pursuant to CACM Regulation was approved by all NRAs. The implementation of the methodology is ongoing.

2.1.2 ALL NEMOs DELIVERABLES

The drafts of all NEMO deliverable proposals, except for the plan of the market coupling operator function, are available on the [Europex website](#).

Plan for the market coupling operator function (Art. 7(3) CACM Regulation). NEMOs are implementing the plan approved by all NRAs on 16 June 2017. In accordance with Article 7(3) of the CACM, the plan needs to be implemented at the latest by 12 months following its approval.



CEPS CONTROL ROOM



PICTURE COURTESY OF EIRGRID

Day-ahead and intraday algorithms (Art. 37 CACM Regulation). All NRAs requested amendments to the NEMOs' proposal for the day-ahead and intraday algorithms (joint decision all NRAs on 24 July 2017 and last individual NRA decision received on 30 August 2017). The NEMOs submitted their revised proposal to all NRAs on 13 November 2017. On 30 January 2018, all NRAs asked ACER to decide on the revised proposal. ACER conducted a public consultation until 18 May. ACER's decision is expected by 30 July 2018 at the latest.

Maximum and minimum prices (Art. 41 and 54 CACM Regulation). All NEMOs submitted to their NRAs on 14 February 2017 their proposal on harmonised maximum and minimum clearing prices to be applied in all bidding zones which participate in single day-ahead and intraday coupling, in accordance with Articles 41 and 54 of CACM Regulation. NRAs asked ACER to decide on the matter. On 14 November 2017 ACER issued its decisions on the harmonized maximum and minimum clearing prices for single day-ahead and intraday coupling (decisions available [here](#) for intraday, and [here](#) for day-ahead).

Back-up methodology (Art. 36 CACM Regulation). All NRAs requested amendments to the NEMOs' back-up methodology (joint decision all NRAs on 24 July 2017 and last individual NRA decision received on 30 August 2017). The

NEMOs submitted their revised [proposal](#) on 13 November. All NRAs approved the proposal on 23 January 2018.

Multiple Nominated Electricity Market Operator arrangements (Art. 45 and 57 CACM Regulation). Based on the common work, all TSOs and all NEMOs have adapted the multiple NEMOs' arrangements proposal (hereafter referred to as the '**MNA Proposal**') which was submitted by each TSO to the relevant NRAs in accordance with Articles 45 and 57 of the CACM Regulation.

Multi-NEMOs' proposals for cross-zonal capacity allocation and other necessary arrangements have to be developed by the TSOs in bidding zones where more than one NEMO offers trading services. In the event a NEMO is approved by the NRA to become a market operator in a bidding zone where a NEMO is already operating, the TSO has to develop an MNA Proposal. The MNA Proposal covers both arrangements for single day-ahead coupling (hereafter referred to as 'SDAC') and single intraday coupling (hereafter referred to as 'SIDC') in the bidding zones of both pre-coupling and post-coupling arrangements that shall give more than one NEMO in one bidding zone non-discriminatory access to cross-zonal capacity in the day-ahead and intraday timeframe. This ensures fair and non-discriminatory treatment of market participants, TSOs and NEMOs creates a level playing field

for NEMOs, promoting effective competition in the generation, trading and supply of electricity and simultaneously ensuring operational security and optimising the calculation and allocation of cross-zonal capacity. Moreover, these arrangements are focused on data exchange and financial arrangements to comply with the requirements of Articles 45 and 57 of the CACM Regulation, respecting the need for a fair and orderly market and fair and orderly price formation, and ensuring and enhancing the transparency and reliability of information. The proposed MNA Proposals are flexible to more NEMOs, in case more NEMOs wish to join at a later stage.

Technical solutions used in the MNA Proposal should ensure the maximum effectiveness of the process. To this end, data exchange between the TSOs and NEMOs should be carried out using standard electronic formats complying with the standards specified by ENTSO-E for data exchange between market participants. The NEMOs will be responsible for acting as central counterparties (hereafter referred to as 'CCPs') for clearing and settlement of the exchange of energy in accordance with Article 68(3) of the CACM Regulation. Each NEMO shall be connected to one CCP and set up the required contractual and financial arrangements. The CCP will clear the contracts resulting from the day-ahead and intraday trade with the market participants. CCP will provide hub nominations to the TSOs. It is up to the CCPs to agree how the clearing between them within a bidding zone should be managed. The leading principles should be that it should be done in an efficient manner and in as low cost a manner as possible.

2.2 FCA REGULATION

The FCA Regulation, which entered into force on 17 October 2016, sets out rules regarding the type of long-term transmission rights (hereafter referred to as 'LTTRs'), and the way holders of transmission rights are compensated in case their right is curtailed. The overarching goal is to promote the development of liquid and competitive forward markets in a coordinated way across Europe and provide market participants with the ability to hedge their risk associated with cross-border electricity trading. To deliver these objectives, several steps are required. They are being implemented, as described in this section.

HAR – Harmonised Allocation Rules (Art. 51 FCA Regulation). Six months after the entry into force of the FCA Regulation, all TSOs have to develop and submit a proposal for the harmonised allocation rules for LTTRs (hereafter

Products accommodated (Art. 40 and 53(4) of CACM Regulation). All NRAs requested amendments to the NEMOs' proposals on products that can be considered in the single day-ahead and single intraday couplings (joint decision NRAs on 24 July 2017 and last individual NRA decision received on 30 August 2017). The NEMOs submitted their revised proposals on 13 November 2017. All NRAs approved the proposals on 23 January 2018.

2.1.3. JOINT WORK OF ALL TSOs AND NEMOs

Extension of the non-disclosure agreement. The non-disclosure agreement that came into effect in February 2016 to allow the exchange of confidential information between all TSOs and NEMOs for the implementation of the single day-ahead and intraday coupling under the CACM Regulation welcomed two new parties since the last Market Report, taking stock of their upcoming participation in the single day-ahead and intraday coupling.

Day-to-day management of the single day-ahead and intraday coupling (Article 10 of the CACM Regulation).

In parallel with the finalization of the DA operational agreement for the implementation of Article 10 of the CACM Regulation (being the ID one already stipulated), all NEMOs and all TSOs are in the process of setting-up a common governance framework for the day-to-day management of both the single day-ahead and intraday coupling.

referred to as 'HAR'). The proposal for the HAR was put to public consultation between 16 January and 17 February 2017. The FCA Regulation also allows for regional specificities to be reflected in border or regional specific annexes of the HAR proposal, as described in Article 52(3). During the public consultation, a public workshop took place on 3 February 2017 which gave interested stakeholders and various organisations impacted by the HAR the opportunity to raise questions and ask clarifications from the TSOs. All TSOs submitted the HAR proposal and the regional or border specific Annexes to the relevant NRAs in April 2017. On 17th August 2017, all NRAs requested ACER to adopt a decision on the HAR pursuant to Article 4(10) of the FCA Regulation. ACER adopted its [decision](#) 03/2017 on 2 October 2017. The approved rules apply to the long-term allocations for 2018.

It is worth noting that the version of the HAR submitted in April 2017 was the outcome of previous steps taken as part of the early implementation of the FCA Regulation. In coordination with all NRAs and interested stakeholders, all TSOs and ENTSO-E had decided to develop, adopt and implement the HAR before the FCA Regulation was in force. The first HAR proposal was approved by all NRAs in 2015 and applied for the long-term auctions of 2016. After the positive vote of the Electricity Cross Border Committee on the FCA Regulation in October 2015, all TSOs in coordination with all NRAs and interested stakeholders decided to update the HAR to further align it with the FCA Regulation draft that had been voted on. This process ended in summer 2016 when TSOs submitted the updated version of the HAR. All NRAs adopted the rules, which applied for the long-term auctions in 2017.

Decision on cross-zonal risk hedging opportunities (Art. 30 FCA Regulation). Art. 30 of the FCA Regulation foresees that each TSO on a bidding zone border shall issue long-term transmission rights unless the NRAs of the bidding zone border have adopted coordinated decisions not to issue LTTRs on the bidding zone border based on an assessment, which shall identify whether the electricity forward market provides sufficient hedging opportunities in the concerned bidding zones. This assessment should follow Art. 31(3)(a) and (b), ensuring the use-it-or-sell-it (hereafter referred to as 'UIOSI') rule for physical transmission rights (hereafter referred to as 'PTRs') and financial transmission rights (hereafter referred to 'FTR') options / obligations.

Between April and November 2017, each TSO submitted a proposal to their relevant NRAs for the regional design of long-term transmission rights by which the introduction of LTTRs was made.

Single Allocation Platform and the respective cost sharing methodology (Art. 49 and 59 FCA Regulation). One of the key requirements of the FCA Regulation is the establishment of a Single Allocation Platform (hereafter referred to as 'SAP') at European level. This central platform should aim at facilitating the allocation of LTTRs and the transfer of these rights among market participants. In addition, it should contribute to a transparent and non-discriminatory allocation of LTTRs. All TSOs have developed and submitted to all NRAs the proposal for the establishment and development of the SAP as well as for the SAP cost sharing methodology in mid-April 2017, in line with the legal deadline (six months after the entry into force of the FCA Regulation). The SAP proposal has three parts: (i) general rules; (ii) governance principles of the SAP and its functional requirements; and (iii) the SAP Cost Sharing Methodology.

On 18 September 2017, all NRAs adopted the position that the SAP proposal and SAP cost sharing methodology meet the requirements of the FCA Regulation and as such can be approved by all NRAs. All NRAs adopted their decisions on the proposal in December. In accordance with the FCA Regulation, the SAP should be operational within 12 months after the all NRAs' approval. Forward capacity allocations on direct current interconnectors shall take place on the SAP no later than 24 months after the all NRAs' approval.

Congestion Income Distribution (Art. 57 FCA Regulation). The FCA congestion income distribution methodology (hereafter referred to as 'FCA CID') is to be submitted within six months after the approval of the methodology for sharing congestion income referred to in Article 9(6) (m) and Article 73 (a) and (d) of the CACM Regulation. On 29 May 2018, all TSOs approved the FCA CID proposal for submission to all NRAs by 14 June 2018 at the latest. All NRAs have six months to reach an agreement. The proposal is based on the CACM congestion income distribution methodology, as approved by ACER.

Common Grid Model Methodology (Art. 17 and 18 FCA Regulation). The common grid model methodology (hereafter referred to as 'CGMM') describes the legally binding rules for the preparation of individual grid models ('IGMs') and their merging into the CGM. All TSOs are required to prepare the CGMM by three European Regulations, namely the CACM, the FCA and Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereafter referred to as the 'SO Regulation'). At the explicit request of all NRAs, a separate version of the CGMM was prepared for each of the three Regulations. The three versions of the CGMM are referred to as CGMM-v1-plus (for the CACM Regulation), CGMM-v2-plus (for the FCA Regulation) and CGMM-v3 (for the SO Regulation). In addition to the CGMM, the above-mentioned Regulations require all TSOs to develop a generation and load data provision methodology (hereafter referred to as 'GLDPM'), which sets out rules ensuring that all TSOs have the data they require in order to build their IGMs. There are two versions of the GLDPM, the GLDPM-v1 (pursuant to the CACM Regulation) and the GLDPM-v2 (pursuant to the FCA Regulation). There is no GLDPM-v3, i.e. no GLDPM pursuant to the SO Regulation, because the SO Regulation itself contains dedicated rules on data exchange in its Articles 40 to 53.

As for the methodologies for long-term time-frames prepared pursuant to the FCA Regulation, the **CGMM-v2** was initially submitted to all NRAs for approval in July 2017. NRAs requested an amendment and the amended methodology - referred to as '**CGMM-v2-plus**', with the suffix 'plus'



denoting that this is an amended version. Formal approval decisions need to be made on national level and is expected by 14 July 2018. The 'GLDPM-v2' was approved by all NRAs in December 2017.

The three versions of the CGMM and the two versions of the GLDPM are jointly referred to as the CGM-related methodologies. All versions of the methodologies were drafted, reviewed by all TSOs, consulted publicly, and approved for submission to all. The contents of the three versions of the CGMM is very similar, even though different time frames are covered. The CGMM-v1-plus covers the (D-2) and (D-1) time frames, the CGMM-v2-plus covers the (Y-1) and (M-1) time frames, and the CGMM-v3 covers the (Y-1), (D-1) and intraday time frames. Apart from procedural provisions (such as on subject matter and scope, definitions etc), the CGMM contains both rules for the process to be applied when preparing IGMs and CGMs, and the data to be included in IGMs (and thus CGMs).

3 PROGRESS AND CHALLENGES OF SINGLE INTRADAY AND SINGLE DAY-AHEAD COUPLING

3.1 SINGLE INTRADAY COUPLING

The pan-European single intraday coupling serves, at the time of this report, 26 countries¹⁾. In total, 31 TSOs and 16 NEMOs cooperate under the agreement aimed to govern the SIDC, namely the intraday operational agreement (hereafter referred to as 'IDOA').

SIDC enables continuous cross-border trading across Europe and is based on a common IT system with a shared order book, a single capacity management module and a shipping module. The common IT system accommodates the continuous matching of bids and orders from market participants in one bidding zone with bids and orders coming from its own bidding zone and from any other bidding zone within the project's reach while cross-zonal capacity is still available. It further allows for the participation of multiple NEMOs per country.

3.1.1 GOVERNANCE

The pan-European SIDC is governed by the IDOA. This agreement is for the cooperation of NEMOs and TSOs regarding the establishing, amending and operation of the SIDC. It was agreed by all NEMOs and TSOs of the EU Member States plus Norway, but excluding Slovakian parties.

The signatory parties of the agreement are as depicted in Figure 1:

- **NEMOs:** BSP Energy Exchange LL C, Croatian Power Exchange Ltd., EirGrid plc, EPEX Spot Belgium SA, EPEX SPOT SE, EXAA Abwicklungsstelle für Energieprodukte AG, Gestore dei Mercati Energetici S.p.A, HUPX Hungarian Power Exchange Ltd, Independent Bulgarian Energy Exchange, Nord Pool AS, OMI, POLO ESPAÑOL, S.A., Operator of Electricity Market S.A., Operatorul Pieței de Energie Electrică și de Gaze Naturale S.A., OTE, a.s., System Operator for Northern Ireland Ltd, Towarowa Giełda Energii SA.
- **TSOs:** Amprion GmbH, Augstsprieguma tīkls, Austrian Power Grid AG, BritNed Development Limited, C.N. Transelectrica S.A., ČEPS a.s., CREOS Luxembourg S.A, HOPS d.o.o., Electricity System Operator EAD, Elering AS, ELES Ltd., Elia System Operator SA/NV, Energinet Elsystemansvar, EirGrid plc, Fingrid Oyj, Independent Power Transmission Operator S.A, Litgrid AB, MAVIR – Magyar Villamosenergia-ipari Átviteli Rendszerezirányító Zártkörűen Működő Részvénytársaság, National Grid Interconnectors Limited, Polskie Sieci Elektroenergetyczne S.A., Red Eléctrica de España, S.A.U., REN – Rede Eléctrica Nacional, S.A., Réseau de Transport d'Electricité, System Operator for Northern Ireland Ltd, Statnett SF, Svenska Kraftnät, TenneT TSO B.V, TenneT TSO GmbH, Terna – Rete Electrica Nazionale S.p.A, Transnet BW GmbH, 50Hertz Transmission GmbH.

¹⁾ The countries are: Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Spain and Sweden.

The IDOA sets forth the rights and obligations of NEMOs and TSOs in respect to the implementation of the CACM Regulation, which requires the cooperation of all TSOs and NEMOs at European level, including sharing of common NEMO and TSO costs. The complementary regional intraday auctions as referred to in Article 63 of the CACM Regulation and the post-coupling processes (including rights and obligations of central counterparties (hereafter referred to as ‘CCPs’) in that context) are outside the scope of the IDOA and are set forth in local arrangements.

The contractual framework is complemented by a NEMO only agreement, the All NEMOs intraday operational agreement (hereafter referred to as ‘ANIDOA’), a TSOs only agreement, the TSOs cooperation agreement for intraday coupling (hereafter referred to as the ‘TCID’) and by local arrangements which contribute to the operation of the SIDC by specifying or completing the general principles described in the IDOA.

The general joint NEMO and TSO governance structure is described in the IDOA. However, at the time of the writing of the report, this operational governance has not been finally specified. It is foreseen that jointly agreed operational governance structure will be implemented by end of 2018.

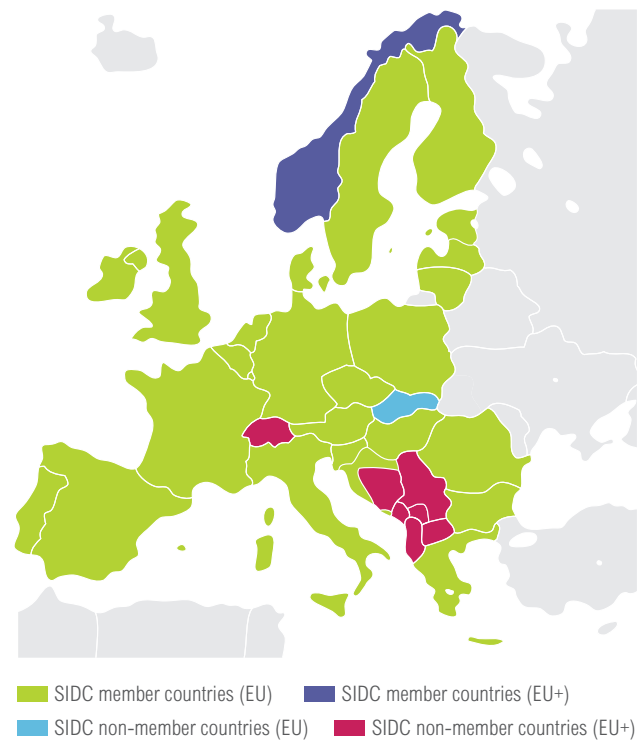


Figure 1: Countries of Single Intraday Coupling (As of July 2018)

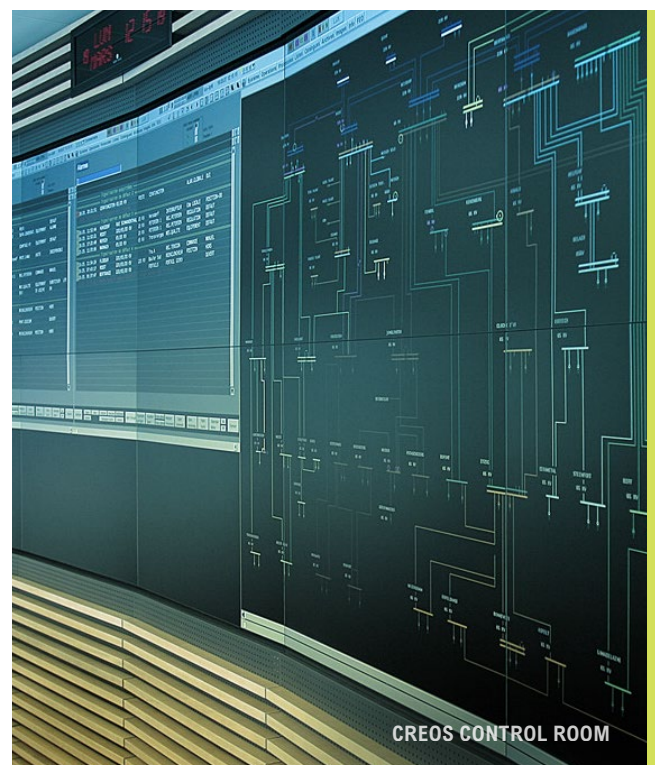
3.1.2 OPERATIONS

SIDC is operational in 14 countries as of 12th June, with first deliveries on 13th June 2018.²⁾

In the crucial first 30 days of operations, no major incidents have occurred which would have triggered a stop of the SIDC IT systems and a ‘roll-back’ to the previous IT systems (e.g. Elbas for the Nordic/Baltic region, ICS for the CWE region). In summary, almost 500k trades were executed in XBID/SIDC in the first 18 days of operations.

In contrast to the single day-ahead coupling, the operational monitoring of SIDC is much more complex, as a continuous trading mechanism is applied. As a first measure, SIDC monitors service levels/boundaries which were contractually agreed with the relevant service providers. As such, for example, the technical response times of ‘Order Execution’ or ‘SM Files Generation’ are logged. Moreover, the limits of the topology as well as the usage of the system are monitored³⁾

In the course of further development of SIDC, additional measures to monitor and improve operations are regularly reviewed and if needed introduced via the OPSCOM.



²⁾ See also: http://www.elia.be/en/about-elia/newsroom/news/2018/20180614_Successful-launch-XBID-Solution-and-10-associated-Local-Implementation-Projects

³⁾ Market related indicators such as prices and volumes are available via the relevant NEMOs.

3.1.3 EVOLUTION

The extension of SIDC is organised via dedicated Local Implementation Projects (hereafter referred to as ‘LIPs’).

As of July 2018, 6 LIPs⁴⁾ are established and plan to jointly go-live in the second quarter of 2019.⁵⁾ The depiction as well as the current status of the established LIPs are provided below.

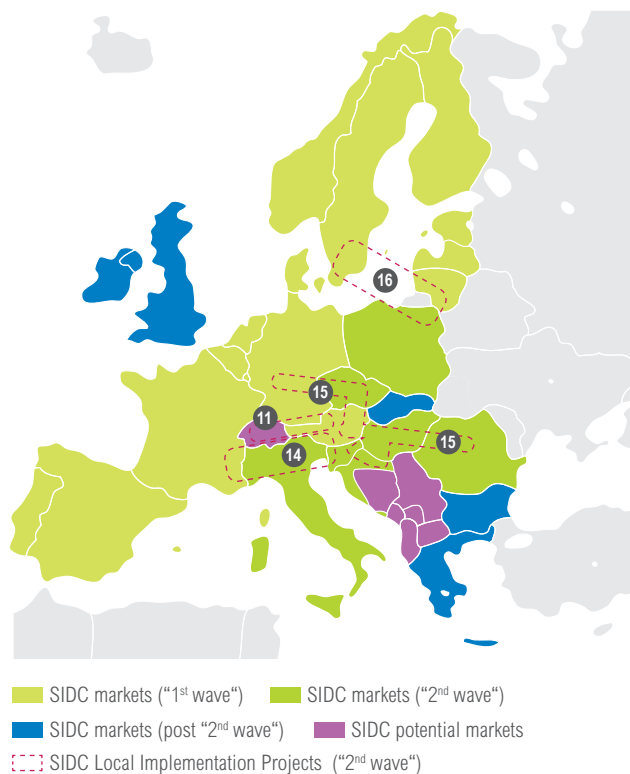


Figure 2: Current state-of-play of Single Intraday Coupling (As of July 2018)*

LIP 7 is called the BritNed LIP and incorporates the BritNed HVDC interconnector and the borders of Great-Britain and the Netherlands. The participating TSOs are BritNed Development Ltd, National Grid Electricity Transmission plc and TenneT TSO B.V. EPEX is the participating NEMO. The key prerequisite for this LIP to go-live is the introduction of losses in the SIDC. Therefore, this LIP intends to go-live only once this feature is implemented in the SIDC IT system.

LIP 10 is called the IFA LIP and covers the FR and GB borders via the HVDC interconnector named Interconnexion France-Angleterre (hereafter referred to as ‘IFA’). Réseau de Transport d’Electricité and National Grid Electricity Transmission plc are participating in the project as TSOs. EPEX and Nord Pool are participating NEMOs. The key prerequisite for this LIP to go-live is the introduction of losses in the SIDC. Therefore, this LIP intends only to go-live once this feature is implemented in the SIDC IT system.

LIP 14 is called Italian Northern Borders (hereafter referred to as ‘IBWT’) and covers the borders IT-FR, IT-CH, IT-SI, IT-AT, AT-SI as well as IT-GR. The parties to this LIP are the TSOs TERNA - Rete Elettrica Nazionale SpA, Réseau de Transport d’Electricité, Swissgrid ag, ELES, d.o.o., Austrian Power Grid AG and Independent Power Transmission Operator S.A.. The involved NEMOs are GME, EPEX, Nord Pool, EXAA, BSP and Lagie.

LIP 15 covers the borders DE-CZ, AT-CZ, AT-HU, HR-HU, SI-HR, SI-HU⁶⁾ as well as HU-RO.⁷⁾ The parties to this LIP are the TSOs 50Hertz Transmission GmbH, TenneT TSO GmbH, Austrian Power Grid AG, ČEPS a.s., ELES, d.o.o., HOPS d.o.o., MAVIR – Magyar Villamosenergia-ipari Átviteli Rendszerirányító Zártkörűen Működő Részvénytársaság and C.N. Tranelectrica S.A. The involved NEMOs are BSP, CROPEX, EPEX, Nord Pool, OTE, HUPX and OPCOM.⁸⁾

LIP 16 covers the border of Lithuania and Poland borders as well as Sweden and Poland. The parties to this LIP are the TSOs Litgrid AB, Svenska kraftnät and Polskie Sieci Elektroenergetyczne S.A.. The involved NEMOs are Nord Pool, TGE and EPEX.

In order to go-live in a structured manner, the SIDC has jointly agreed on activities and deliverables as well as responsibilities assigned to the project bodies and to LIPs. These include, amongst others: go-live check list and script; launch strategy and planning (assumption that all parties of a LIP go-Live at the same time i.e. a big bang); operational organisation (IC, OPSCOM, etc.); IDOA and local agreements; operational training; go-Live readiness monitoring; NEMO members testing; central communication to market participants on go-live status and the alignment of decentralized communications with LIPs, etc.

⁴⁾ As Swissgrid has left SIDC in January 2017 based on the negative feedback of the European Commission to include the Swiss borders, LIP 11 is for the time being on hold. This LIP covers the border of Switzerland and Austria. Austrian Power Grid AG and Swissgrid ag are participating in the project as TSOs. EPEX and Nord Pool are participating NEMOs.

⁵⁾ Depending on the timeline/releases of the SIDC IT infrastructure provided by DBAG.

⁶⁾ This border is not in operation yet, but expected in 2021

⁷⁾ The TSO and NEMO of Slovakia are not part of this LIP. The Polish TSO (see also LIP 16) has asked for adherence to LIP 15 in a letter dated 21 June 2018.

⁸⁾ EXAA is only an observer to this LIP.

* LIP 7 and LIP 10 are not depicted in this Figure as both LIPs demand the functionality of losses for go-live which will – most likely – not be available for the second wave.

Next to the coordinated go-live of the LIPs, the inclusion of additional interconnectors (e.g. Cobra cable between NL and DK) within the current topology are facilitated via the standard change control process of the SIDC.

Further extensions of the SIDC are currently not formalized. For example, an interim intraday solution in Ireland and Northern Ireland is currently being developed with the possibility of having cross-border auctions.

3.2 SINGLE DAY-AHEAD COUPLING

The pan-European single day-ahead coupling (hereafter referred to as '**SDAC**') serves, at the time of this report, 27 countries. In total, 28 TSOs and 15 NEMOs intend to cooperate under the agreement aimed to govern the SDAC, namely the day-ahead operational agreement (hereafter referred to as '**DAOA**').

The SDAC makes use of a common price coupling algorithm, called PCR EUPHEMIA, to calculate electricity prices across Europe and to implicitly allocate auction-based cross-border capacity. In parallel to the Multi-Regional Coupling project (hereafter referred to as '**MRC**'), the 4M Market Coupling project (hereafter referred to as '**4M MC**') also applies PCR EUPHEMIA until the Core Flow-Based Market Coupling Project is implemented.

3.2.1 GOVERNANCE

In the last quarter of 2017, the MRC Joint Steering Committee (hereafter referred to as '**MRC JSC**') agreed to define the development of the DAOA as a project, with clear deadlines and deliverables. All TSOs and all NEMOs mandated the MRC, inviting all TSOs and all NEMOs to be responsible for developing and drafting the DAOA for go live of SDAC in October 2018, bearing in mind that further adaptations may be needed in a next stage following the outcome of Article 10 CACM Regulation discussions on the joint organisation of the SIDC and SDAC coupling by all NEMOs and all TSOs. At the time of this report, the DAOA is being finalised. It is planned to be signed by the parties in September 2018 and to enter into force in October 2018.

Regarding the future technical evolution of SIDC, the full compliance with the CACM Regulation requirements is a key challenge, e.g. the pricing of intraday capacities, the handling of direct current losses or the application of flow-based parameters. These features are currently being specified and are to be included by use of change requests at a later stage. Moreover, additional investments in the technical infrastructure of SIDC are likely to be needed in order to be able to handle the integration of additional bidding zones and borders in the future.

The signatory parties of the agreement are planned as depicted in Figure 3 on the following page:

- **NEMOs:** BSP Energy Exchange LL C, Croatian Power Exchange Ltd., EPEX Spot Belgium SA, EPEX SPOT SE, EXAA AG, Gestore dei Mercati Energetici S.p.A, HUPX Hungarian Power Exchange Ltd, Independent Bulgarian Energy Exchange EAD, LAGIE S.A., NORD POOL AS, OMI POLO ESPAÑOL S.A., OTE a.s., OKTE a.s., Operatorul Pieței de Energie Electrică și de Gaze Naturale S.A., Towarowa Gielda Energii SA, System Operator for Northern Ireland Ltd and EirGrid plc.
- **TSOs⁹⁾:** IPTO – Independent Power Transmission Operator S.A., Svenska Kraftnät, Amprion GmbH, Austrian Power Grid AG, AS Augstsprieguma tīkls, BritNed Development Limited, ČEPS a.s., Creos Luxembourg S.A., EirGrid plc, ESO – Electroenergien Sistemen Operator EAD, Elering AS, ELES, d.o.o., Energinet, Elia System Operator SA/BV, Fingrid Oyj, HOPS d.o.o., Litgrid AB, MAVIR – Magyar Villamosenergia-ipari Átviteli Rendszerirányító Zártkörűen Működő Részvénytársaság, National Grid Electricity Transmission plc, PSE - Polskie Sieci Elektroenergetyczne S.A., Red Eléctrica de España S.A.U, Rede Eléctrica Nacional, S.A., Réseau de Transport d'Electricité, Slovenská elektrizačná prenosová sústava, a.s., System Operator for Northern Ireland Ltd, Statnett SF, TenneT TSO B.V., TenneT TSO GmbH, Terna – Rete Elettrica Nazionale SpA, TransnetBW GmbH, C.N. Tranelectrica S.A., 50Hertz Transmission GmbH.

The DAOA sets forth the rights and obligations of NEMOs and TSOs in respect to the implementation of the SDAC, including the common operation and further development

⁹⁾ EMS, MEPSO, Nemo Link and Swissgrid, have been requested to become part of the SDAC DAOA as observers.

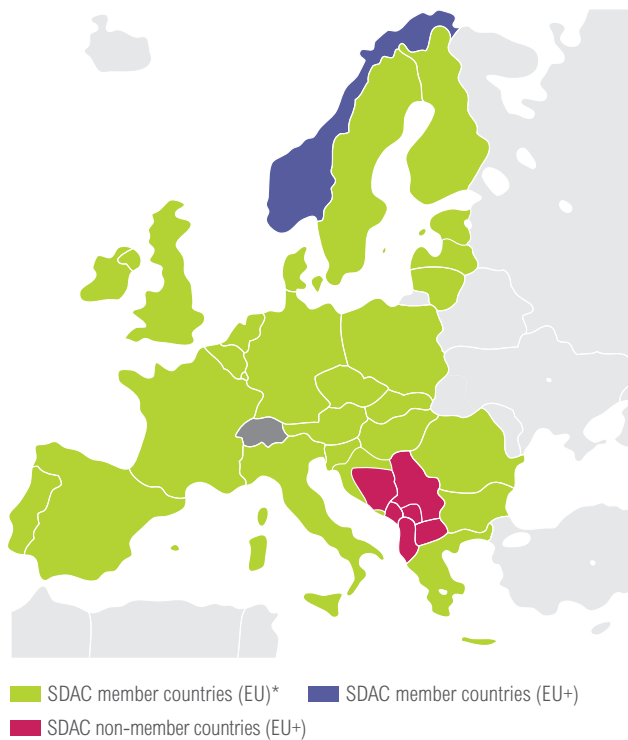


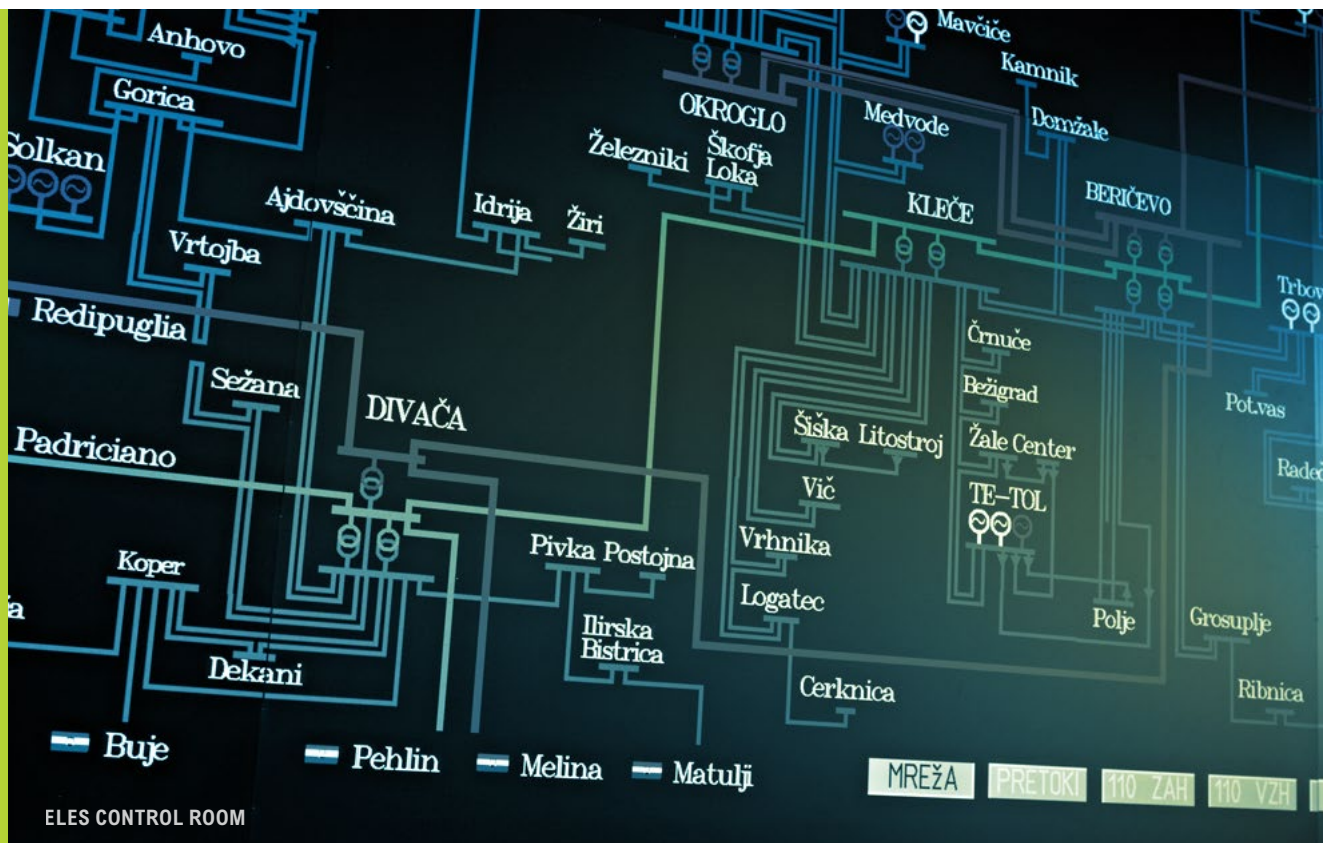
Figure 3: Countries of Single Day-ahead Coupling (As of July 2018)

* Planning as of July 2018

thereof. As the SDAC is an implementation of the CACM Regulation, it requires the cooperation of all TSOs and NEMOs at the European level.

The contractual framework is complemented by a NEMOs only agreement, the All NEMOs day-ahead operational agreement (hereafter referred to as 'ANDOA'), and all TSO only agreement, the TSOs cooperation operational agreement (hereafter referred to as 'TCOA') and by local arrangements which contribute to the operation of the SDAC by specifying or completing the general principles described in the DAOA.

The general joint NEMO and TSO governance structure is described in the DAOA. However, at the time of the writing of this report, the operational governance has not been finally specified. It is foreseen that the jointly agreed operational governance structure will be implemented by the end of 2018.



3.2.2 OPERATIONS

In SDAC, two coupling projects are in parallel in operation using infrastructure based on EUPHEMIA. These projects are MRC and 4M MC.

The depiction as well as the current status of SDAC markets is provided in the Figure 4.

3.2.2.1 Operations of MRC

At the time of this report, MRC integrates 20 countries¹⁰⁾, representing close to 90 % of the European electricity consumption.

MRC continues to successfully operate without full decoupling. In fact, no decoupling of markets have occurred since the start of this project in February of 2014. However, several operational incidents have occurred. They are analysed frequently and changes, e.g. of processes, are introduced to mitigate relevant risks via OPSCOM.

As shown in figure 5, in total 85 incidents in MRC occurred in the period from February 2015 until end of May 2018.¹¹⁾ The types of incidents are categorised as ‘Human Error’ (in total 14 incidents; depicted in red), ‘Technical Error’ (in total 46 incidents; depicted in orange), combined ‘Human and Technical Error’ (in total 5 incidents; depicted in purple) as well as ‘Others’ (in total 12 incidents; depicted in blue). In re-

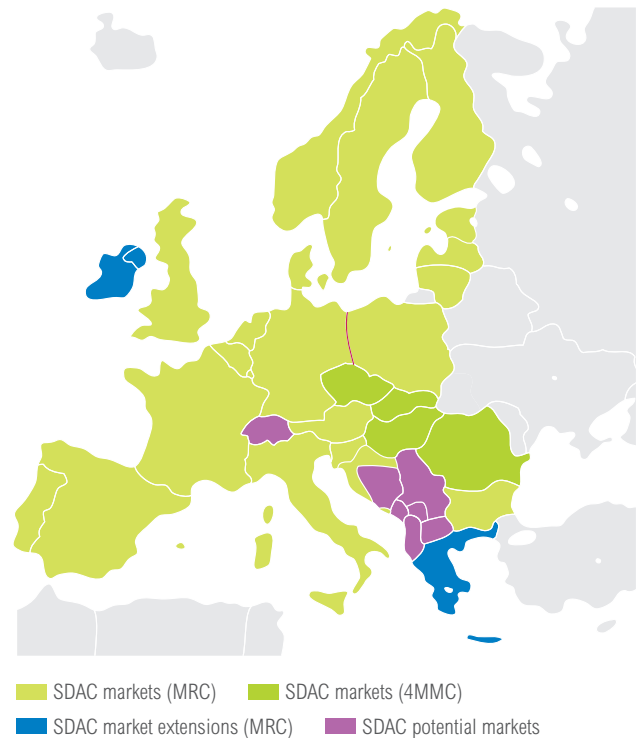


Figure 4: Current state-of-play of Single Day-ahead Coupling (As of July 2018)*

spect to the severity, only 39 incidents were visible to Market Participants (i.e. could not be solved within the procedural timings).

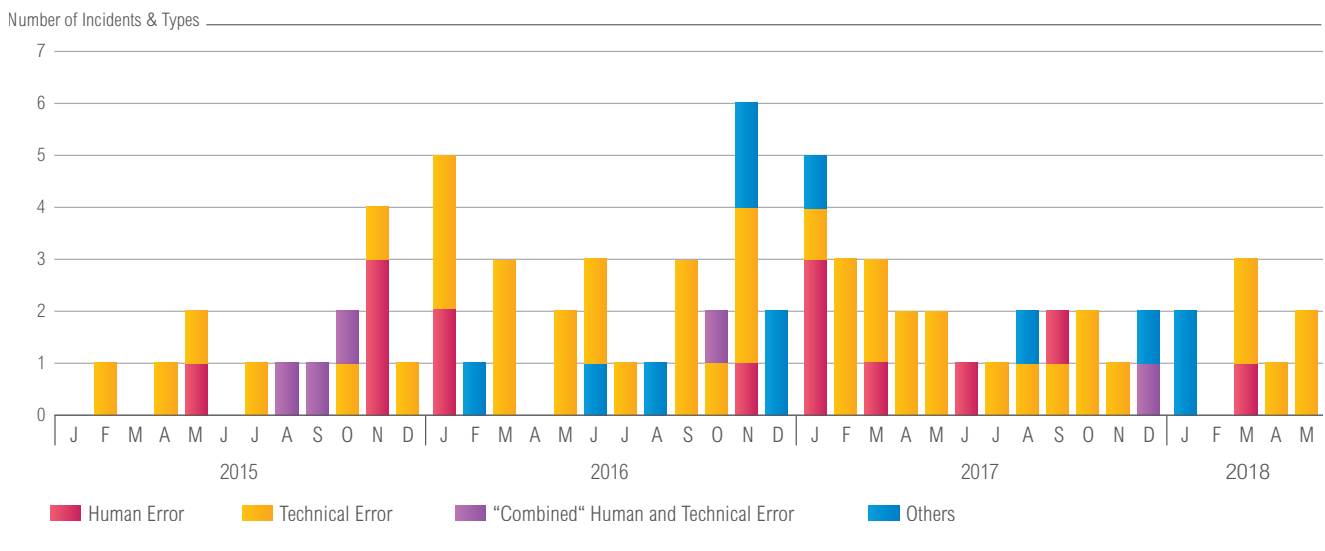


Figure 5: MRC operational indicators (based on the regular operational reporting of MRC OPSCOM**)

¹⁰⁾ The MRC operational countries are: Austria, Belgium, Croatia, Denmark, Estonia, Finland, France, Germany, Great Britain, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovenia, Spain and Sweden.

¹¹⁾ NWE day-ahead market coupling went live on 4 February 2014. As of 24 February 2015 MRC (incl. ES, PT and IT) is in operation and monitored accordingly.

* The bidding zone of Bulgaria operates under MRC without cross-zonal capacities.

** Data from February 2014 until the end of 2014 is not yet available

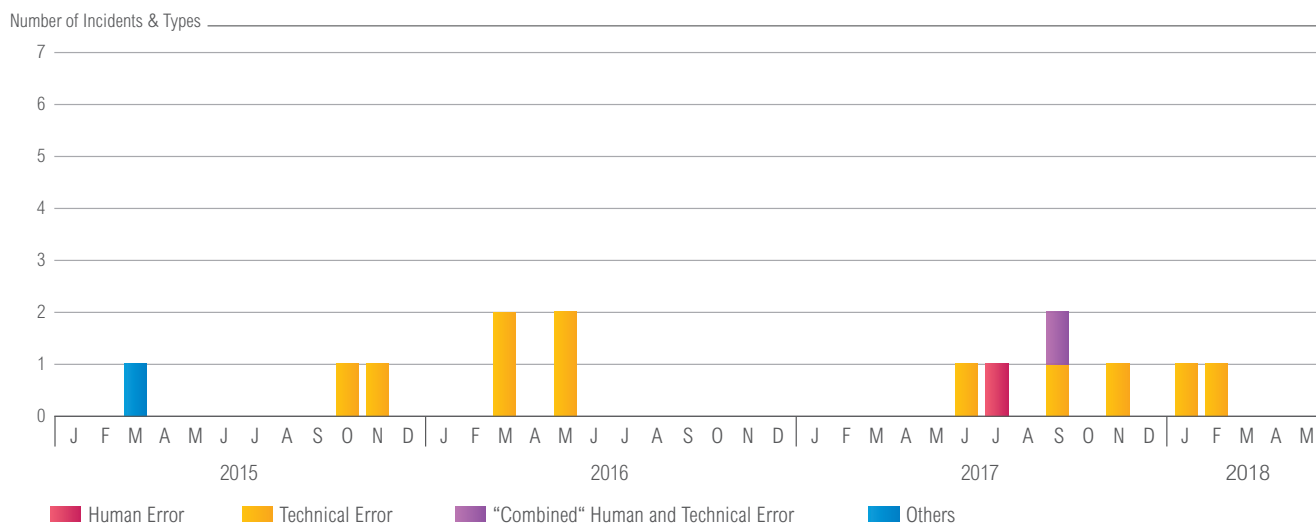


Figure 6: 4M MC operational indicators*

3.2.2.2 Operations of 4M MC

Since the start of the 4M MC on 19 November 2014, it has operated successfully with only 14 minor incidents and one occurrence of decoupling. The 4M TSOs and NEMOs solved the problems immediately, analysed the causes and improved their processes to mitigate the risk of other possible incidents (see figure 6).

On 19 March 2016 a technical issue (incorrect Java behaviour) led to a decoupling. A problem with downloading ATC data caused a breach of deadline on 20 September 2017. All 13 other incidents were just minor issues without visibility for market participants.

3.2.3 EVOLUTION

In the timeline shown in table 1, the steps for extending the SDAC are depicted in chronological order. In line with CACM Regulation, the capacity calculation methods applied for the extension can be either: (a) coordinated net transmission capacity (hereafter referred to as 'CNTC') based capacity inputs; (b) flow based (hereafter referred to as 'FB'); or (c) CNTC based and FB in succession. In any case, the displayed target times are indicative and do not account for contingencies. Moreover, some of the extensions might partially or fully change and/or be cancelled in favour of alternatives.

* The operational indicators are comparable to the ones applied for MRC operations.

| SDAC extension next steps / indicative timelines (continued) | | | |
|--|--|---|--|
| CNTC / FB | Description | Borders | Target time |
| FB | Flow-Based Market Coupling project | Amprion, TenneT, TransnetBW (DE) – APG (AT) | October 2018 |
| CNTC | SEM (Ireland and Northern Ireland) and GB MRC project | EirGrid (IE) – National Grid (GB) SONI (NI) – National Grid (GB) | October 2018 |
| CNTC | NEMO Link | Elia (BE) – National Grid (GB) | Q1 2019 |
| CNTC | Cobra Cable | Energinet (DK) – TenneT (NL) | Q1 2019 |
| FB | Core Flow-Based Market Coupling project | New borders: 50Hertz (DE) – ČEPS (Z) APG (AT) – ČEPS (CZ) APG (AT) – MAVIR (HU) ČEPS (CZ) – Tennet (DE) 50Hertz (DE) – PSE (PL) ČEPS (CZ) – PSE (PL) SEPS (SK) – PSE (PL) ELES (SI) – HOPS (HR) ELES (SI) – APG (AT) ČEPS (CZ) – SEPS (SK) SEPS (SK) – MAVIR (HU) MAVIR (HU) – Tranelectrica (RO) MAVIR (HU) – HOPS (HR) MAVIR (HU) – ELES (SI) ^{a)} | Earliest Q3 2019 (under revision) ^{b)} |
| CNTC | SEE regional coupling joining SDAC through neighbouring countries in a step-by-step approach | EMS (RS) – HOPS (HR) EMS (RS) – MAVIR (HU) EMS (RS) – NOS BiH (BA) EMS (RS) – Tranelectrica (RO) HOPS (HR) – NOS BiH (BA) | Expected to be fully implemented by 2020 ^{c)} |
| CNTC | Greece, Bulgaria and Romania coupling | ESO (BG) – IPTO (GR) ESO (BG) – Tranelectrica (RO) | Expected to be fully implemented by 2020 ^{d)} |
| CNTC | 'Western Balkan 6' full coupling | CGES (ME) – NOS BiH (BA) CGES (ME) – OST (AL) EMS (RS) – ESO (BG) EMS (RS) – KOSTT (XK) ^{e)} EMS (RS) – MEPSO (MK) EMS (RS) – CGES (ME) IPTO (GR) – OST (AL) IPTO (GR) – MEPSO (MK) KOSTT (XK) – MEPSO (MK) Terna (IT) – CGES (MO) ESO (BG) – MEPSO (MK) KOSTT (XK) – OST (AL) MEPSO (MK) – OST (AL) | By 2022 |

a) This border is not in operation yet, but expected in 2021.
b) 26 June 2018: Core JSC agrees to update the ENTSO-E market report indicating that the Market Go Live date is under revision by the Core MC project.
c) Since Core FB MC is a pre-requisite, target time of SEE's region MC depends on the go-live date of the Core FB MC.
d) Since Core FB MC is a pre-requisite, target time depends on the go-live date of the Core FB MC.
e) This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.

Table 1: SDAC extension next steps / indicative timelines

4 PROGRESS AND CHALLENGES OF FORWARD CAPACITY ALLOCATION

The Long Term Transmission Rights (hereafter referred to as ‘LTTRs’) allocation market considers the general principles, goals and relevant methodologies set out in the FCA Regulation. The goal of the FCA Regulation is the coordination and harmonisation of forward capacity calculation and allocation in the long-term markets, and it sets requirements for the TSOs to co-operate on a pan-European level; on the level of CCRs and across bidding zone borders.

4.1 GOVERNANCE

All TSOs proposed to all NRAs the appointment of a single entity to become the operator regarding functional requirements, governance, liabilities and cost sharing requirements (i.e. single allocation platform (SAP) in accordance with Article 49 FCA Regulation¹²⁾) for the forward capacity allocation within SAP.

In accordance with Article 1 of the approved SAP methodology, all TSOs and NRAs bound to the FCA Regulation agreed to appoint the Joint Allocation Office (hereafter referred to as ‘JAO’) as the SAP Operator. In doing so, all TSOs are obliged to develop and close an agreement labelled as ‘SAP Cooperation Agreement’ (hereafter referred to as ‘SAP CA’) as included in Article 2(3)(g) of the SAP methodology.

The SAP CA will cover the roles, tasks, responsibilities and liabilities of the different parties. It will also include the role of the SAP Council, the operational procedures and the SAP fee principles. The negotiations regarding the SAP CA are still ongoing. The main point of discussion is the cost sharing principles between TSOs.

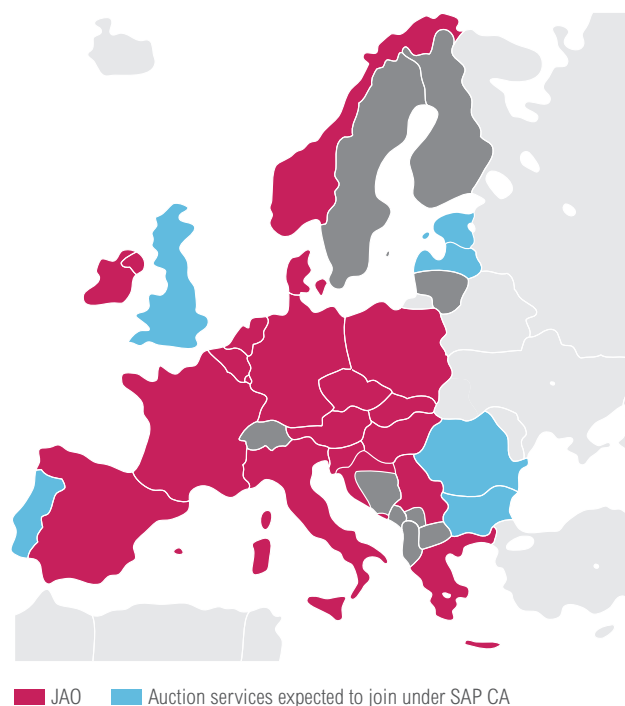


Figure 7: TSOs part of the SAP Cooperation Agreement (As of July 2018)

¹²⁾ All TSOs' proposal of 7 April 2017 for the establishment of a SAP in accordance with Article 49 of the FCA Regulation and for the cost sharing methodology in accordance with Article 59 of the FCA Regulation.

The necessary IT developments are well underway and JAO expects to be ready to fulfil its tasks as SAP operator on time. The main developments are the adaptation of the auction tool to facilitate the new auction products and amendments of the financial system in order to be able to apply the SAP fee principles.

The JAO is a joint service company currently owned by 22 TSOs¹³⁾ hosting services as SAP for the TSOs from 27 countries¹⁴⁾ as of 1 January 2019, as described in the FCA regulation and the SAP methodology. European TSOs that are not yet shareholders of JAO have received a letter, inviting them to inform JAO in the event that they are interested in joining the company. Following this letters, six parties have asked for further information.

4.2 OPERATIONS

In accordance with Article 31(1) of the FCA Regulation, LTTRs shall, in line with the relevant NRAs' decision under Article 30 and at the choice of the TSO(s), be offered to the market participants by each CCR. In the figure below, the type of allocation of LTTRs for each bidding zone border is depicted. These also include borders where LTTRs are not allocated as of July 2018.

Pursuant to Article 30(1) of the FCA Regulation, the proposal for regional design of LTTRs for a CCR were submitted for approval to the relevant NRAs for the bidding zone border for which Baltic NRAs (mainly Finnish, Swedish and Polish) have adopted coordinated decisions not to issue LTRs pursuant to Article 30(1) of the FCA Regulation (see table 2 on the following page).

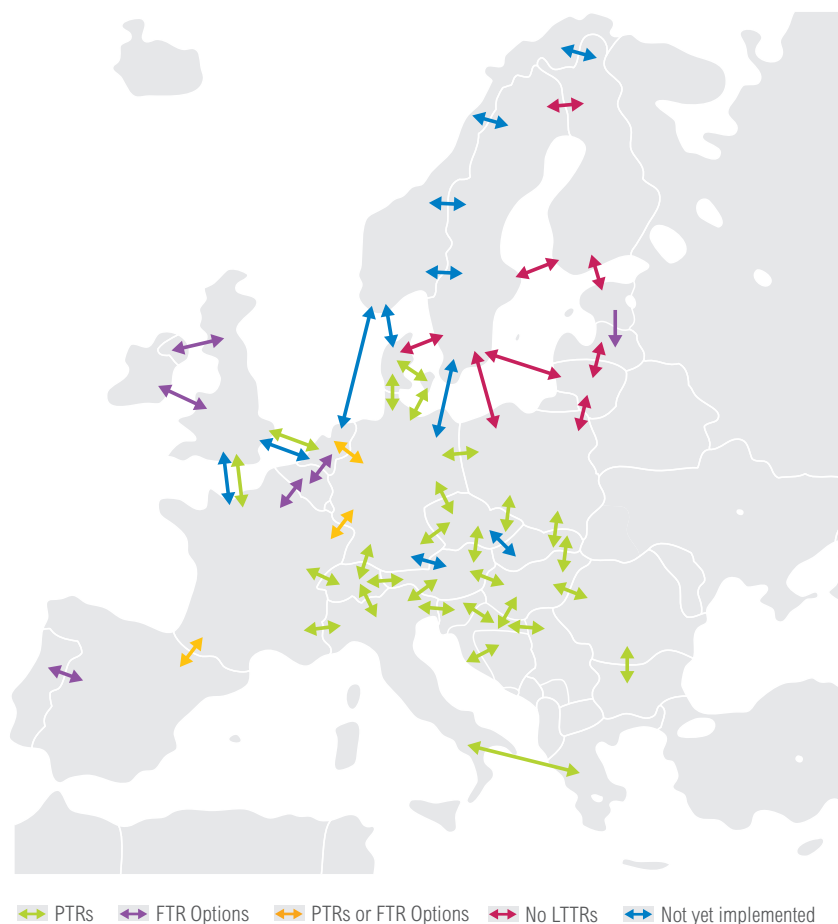


Figure 8: Current state-of-play of Long-Term Transmission Rights (As of July 2018)*

¹³⁾ Includes TSOs / companies operating undersea cable interconnectors as well

¹⁴⁾ The TSOs and countries included: Austrian Power Grid AG (AT), Elia System Operator SA (BE), Electroenergien Sistemem Operator EAD (BG), ČEPS a.s. (CZ), TransnetBW GmbH (DE), TenneT TSO GmbH (DE), Amprion GmbH (DE), 50Hertz Transmission GmbH (DE), Energinet (DK), Elering AS (EE), Red Eléctrica de España S.A.U. (ES), Réseau de Transport d'Electricité (FR), National Grid Electricity Transmission plc (GB), Nemo Link Limited (GB), BritNed Development Limited (GB), Independent Power Transmission Operator S.A. (GR), HOPS d.o.o. (HR), MAVIR Magyar Villamosenergia-ipari Átviteli Rendszerirányító Zártkörűen Működő Részvénytársaság (HU), EirGrid plc (IE), Terna - Rete Elettrica Nazionale SpA (IT), Litgrid AB (LT), Creos Luxembourg S.A. (LU), AS Augstsprieguma tīkls (LV), TenneT TSO B.V. (NL), Statnett SF (NO), Polskie Sieci Elektroenergetyczne S.A. (PL), Rede Eléctrica Nacional, S.A. (PT), C.N. Traselectrica S.A. (RO), Akcionarsko društvo Elektromreža Srbije (RS), ELES, d.o.o. (SI), Slovenská elektrizačná prenosová sústava, a.s. (SK).

* DE-AT border long-term transmission rights are expected to be implemented by August 2018.

Also the NEMO Link between GB and BE and the ELECLink between GB and FR are depicted just for illustration purposes.

| Bidding zone border for which NRAs have adopted coordinated decisions not to issue LTRs | | |
|---|--|---|
| CCRs | Bidding zone border(s) | Detail of the decision |
| Nordic | Finland (FI) – Sweden (SE1) Finland (FI) – Sweden (SE3) | Finnish TSO, Fingrid Oyj, and the Swedish TSO, Svenska kraftnät, according to article 30(7) of the FCA Regulation, are exempted from Article 31 and do not have to submit this proposal for regional design of LTRs |
| Hansa | Sweden (SE4) – Poland (PL) | Decisions by Urząd Regulacji Energetyki of 17 May 2017 and Energimarknadsinspektionen of 18 April 2017 |
| Baltic | Finland (FI) – Estonia (EE) Estonia (EE) – Latvia (LV) Latvia (LV) – Lithuania (LT) Lithuania (LT) – Sweden (SE3) Lithuania (LT) – Poland (PL) | Finnish TSO, Fingrid Oyj, the Estonian TSO, Elering AS, the Latvian TSO, AS Augstsprieguma tīkls, Swedish TSO, Svenska kraftnät, the Lithuanian TSO, Litgrid AB and Polish TSO, Polskie Sieci Elektroenergetyczne S.A. according to article 30(7) of the FCA Regulation are exempted from Article 31 and do not have to submit this proposal for regional design of LTRs. (Except for EE–LV border from EE to LV) |

Table 2: Bidding zone border for which NRAs have adopted coordinated decisions not to issue Long-Term Transmission Rights

4.3 EVOLUTION

Following the approval by NRAs end 2017 of the all TSOs' proposal for the establishment and development of the SAP, all TSOs must ensure the Platform is operational and complies with the requirements. Forward capacity allocation is due to take place on the Platform from October 2018. Though the regulation provides different timeframes for Alternating Current interconnectors by December 2018 and for Direct Current interconnectors by December 2019, the SAP will be able to facilitate them all by the end of this year.

All TSOs requiring the services of the SAP are drafting the SAP CA which covers the contractual terms and conditions between TSOs and the SAP Operator in order to offer forward capacity products through SAP for year 2019 onwards. This SAP CA will be finalized by the end of July 2018 and is expected to be signed by all parties by end of September 2018. The official start of the SAP CA is expected for early October 2018.



PICTURE COURTESY OF FINGRID

5 SUMMARY

This first joint report of ENTSO-E on the progress and potential problems with the implementation of intraday and day-ahead coupling as well as forward capacity allocation provides a robust picture of the status quo of these projects. In line with the ENTSO-E Monitoring Plan, this report is being delivered to ACER in August 2018 and covers the period from August 2017 onwards.

As in its previous three editions, the present report begins by highlighting the transversal progress in intraday and day-ahead coupling in terms of all TSOs and all NEMOs' deliverables under the CACM Regulation. Moreover, the status of deliverables under the FCA Regulation is depicted.

This Report covers the 'go-live' of continuous cross-zonal trading of XBID/SIDC in 14 European countries. The pan-European SIDC is governed by the IDOA. It was agreed by all NEMOs and TSOs of the EU Member States plus Norway, but excluding Slovakian parties – in total 47 parties. In parallel, up to five LIPs are in the preparation to 'go-live' in SIDC in 2019.

Moreover, the current status and future evolution of the SDAC are depicted. At the time of writing this Report, All NEMOs and TSOs are progressing to finalize the DAOA which will cover two operational projects, namely MRC in 20 countries and 4M MC in four countries. Both operations had no incidents of partial or full decoupling in 2017/2018. In order to organize the extension of the SDAC, a timeline is provided (e.g. the merge of MRC and 4M MC via the Core FB MC project or the inclusion of BG – RO and BG – GR borders and all remaining SEE markets).

For the first time, LTTRs are included in the scope of this report. The SAP CA governs the allocation of LTTRs on a pan-European scale. The development and operation of the SAP will be performed by the JAO. This platform is formed by 22 TSOs from 27 countries, performing the yearly and monthly explicit auctions in Europe.

GLOSSARY

| | | | |
|---------|---|---------|---|
| 4M MC | 4M Market Coupling | FCA | Forward Capacity Allocation |
| 50Hertz | 50Hertz Transmission GmbH | FI | Finland |
| ACER | Agency for the Cooperation of Energy Regulators | FTR | Financial Transmission Right |
| ANIDOA | All Nemo Intra-Day Operational Agreement | FR | France |
| ANDOA | All NEMOs day-ahead operational agreement | GR | Greece |
| APG | Austrian Power Grid AG | GB | Great Britain |
| AS | XBID Accession Stream | HR | Croatia |
| AST | AS Augstsprieguma tīkls | HU | Hungary |
| AL | Albania | HVDC | High Voltage Direct Current |
| AT | Austria | IAT | Integration Acceptance Test |
| BA | Bosnia and Herzegovina | IT | Italy |
| BE | Belgium | IFA | Interconnexion France-Angleterre |
| BG | Bulgaria | IE | Ireland |
| CA | Cooperation Agreement | IPTO | Independent Power Transmission Operator S.A. |
| CACM | Capacity Allocation and Congestion Management | I-SEM | Integrated Single Electricity Market |
| CC | Capacity Calculation | JAO | Joint Allocation Office |
| CCP | Central counterparty | KOSTT | Kosovo Electricity Transmission System and Market Operator |
| CGES | Crnogorski elektroprenosni sistem AD | KPI | Key Performance Indicator |
| CMM | Capacity Management Module | LIP | Local Implementation Project |
| CEE | Central Eastern Europe | LTTR | Long Term Transmission Rights |
| CH | Switzerland | LU | Luxembourg |
| CID | Congestion Income Distribution | MC | Market Committee |
| CNTC | Coordinated Net Transmission Capacity | MAVIR | Magyar Villamosenergia-ipari Átviteli Rendszerirányító Zártkörűen Működő Részvénytársaság |
| CCR | Capacity Calculation Region | ME | Montenegro |
| CWE | Central Western Europe | MEPSO | Macedonian Transmission System Operator AD |
| CZ | Czech Republic | MK | Macedonia |
| DBAG | Deutsche Börse AG | MRC | Multi Regional Coupling |
| DC | Direct Current | NEMO | Nominated Electricity Market Operator or Power Exchange |
| DE | Germany | NO | Norway |
| DK | Denmark | NOS BiH | Nezavisni operator sustava u Bosni i Hercegovini |
| EE | Estonia | NL | Netherlands |
| Elia | Elia System Operator SA | NTC | Net Transmission Capacity |
| ESO | Electroenergien Systemen Operator EAD | NWE | North Western Europe |
| EMS | Akcionarsko društvo Elektromreža Srbije | OST | OST sh.a – Albanian Transmission System Operator |
| ES | Spain | PTR | Physical Transmission Right |
| EU | European Union | PT | Portugal |
| FB | Flow based | PSE | Polskie Sieci Elektroenergetyczne |

| | |
|-------|---|
| PL | Poland |
| REE | Red Eléctrica de España S.A.U. |
| REN | Rede Eléctrica Nacional, S.A. |
| RTE | Réseau de Transport d'Electricité |
| RO | Romania |
| RS | Serbia |
| SAP | Single Allocation Platform |
| SE | Sweden |
| SI | Slovenia |
| SM | Shipping Module |
| SEE | South-East Europe |
| SEPS | Slovenská elektrizačná prenosová sústava, a.s. |
| SK | Slovakia |
| SOB | Shared Order Book |
| SONI | System Operator for Northern Ireland Ltd |
| SWE | South Western Europe |
| Terna | Terna - Rete Elettrica Nazionale SpA |
| TCID | TSO Co-operation Agreement for Single Intraday Coupling |
| TCOA | TSO Co-operation Agreement for Day-ahead Coupling |
| TSO | Transmission System Operator |
| XBID | Cross-Border Intraday |
| XK | Kosovo |

The terms used in this document have the meaning of the definitions included in Article 2 of the CACM Regulation. In addition, as this document also reports on the progress of the forward capacity allocation, the terms used in this report follow the definitions included in Article 2 of the FCA Regulation.



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p. 11 – REE
p. 12 – CREOS
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