
Report on the progress and potential problems with the implementation of Single Day- Ahead and Intraday Coupling

9 August 2016

Table of Contents

| | |
|--|----|
| 1. Introduction | 3 |
| 2. Transversal progress for Single Day-Ahead and Intraday Coupling..... | 4 |
| 3. Progress, challenges and current status of Single Day-Ahead Coupling and the way forward..... | 5 |
| 3.1 Background | 5 |
| 3.2 Current Status of the MRC project..... | 6 |
| 3.3 Extending the MRC Project after CACM Regulation entered into force..... | 7 |
| 3.3.1 Progress in the CEE region..... | 8 |
| 3.3.2 Progress in the SEE region | 8 |
| 3.3.3 Next steps of MRC extensions | 9 |
| 4. Progress, challenges and current status of Single Intraday Coupling and the way forward..... | 11 |
| 4.1 Background | 11 |
| 4.2 Current Status of XBID project..... | 12 |
| 4.3 Extending XBID project..... | 14 |
| 4.3.1 XBID LIPs..... | 14 |
| 4.3.2 XBID Accession Stream..... | 15 |
| 5. Summary | 17 |
| 6. Glossary..... | 18 |

List of Figures

| | |
|--|----|
| Figure 1: State-of-play in pan-European Single Day-Ahead Coupling as of August 2016..... | 6 |
| Figure 2: State-of-play in pan-European Single Intraday Coupling as of August 2016..... | 11 |
| Figure 3: XBID project plan..... | 13 |
| Figure 4: XBID initial local implementation projects | 15 |
| Figure 5: XBID Accession Stream..... | 16 |

List of Tables

| | |
|---|----|
| Table 1 – MRC Progress / Achievements since August 2015..... | 7 |
| Table 2 – MRC Major and Minor Incidents..... | 7 |
| Table 3 – MRC extension next steps / indicative timelines | 9 |
| Table 3 (continued) – MRC extension next steps / indicative timelines | 10 |

1. Introduction

Article 82(2) 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, including the choice of different available options in each country. To fulfil this requirement ENTSO-E has committed, under its Monitoring Plan¹, to provide ACER with a report (hereafter referred to as the “Report on the progress and potential problems with the implementation of Single Day-Ahead and Intraday Coupling”) six months after the delivery of the Monitoring Plan, and thereafter every six months.

The first report is to be delivered in August 2016 specifically covering the period from the date of entry into force of the CACM Regulation (August 14th 2015) onwards. Additional background information is included in order to provide contextual clarity.

Market coupling allows for the allocation of cross-zonal capacities to be optimised via a coordinated calculation of prices for each bidding zone. Two work-streams are being considered in this context, namely Day-Ahead (hereafter referred to as “DA MC”) and Intraday (hereafter referred to as “ID MC”). The report takes stock of the progress achieved so far in the coupling of electricity markets in the DA MC project (namely the multi-regional coupling (hereafter referred to as “MRC”) project) and the ID MC project (namely the cross-border intraday (hereafter referred to as “XBID”) project). The report also provides an account of the current state-of-play and the challenges in the implementation of single day-ahead and intraday coupling. Moreover, extensions of the MRC project and accessions to the XBID project are covered as well as an indicative timeline outlining the next steps and milestones for both projects is provided.

The report is organised into the following four sections: Chapter 2 introduces the transversal progress of the single day ahead and intra-day coupling resulting from the signing of the Non-Disclosure Agreement. Chapter 3 recounts the progress made to date and the potential problems with the implementation of coupling day-ahead markets in Europe via the MRC project. Chapter 4 recounts the progress made to date and the potential problems in integrating intraday markets through the XBID project. Chapter 5 contains a concise summary of the previous chapters. A glossary is included at the end for convenience.

¹ Prepared and submitted by ENTSO-E to ACER on 12 February 2016 in accordance with Article 82(3) of the CACM Regulation, hereafter referred to as the “Monitoring Plan”.

2. Transversal progress for Single Day-Ahead and Intraday Coupling

The implementation of Single Day-ahead and Intraday coupling under the CACM Regulation requires the cooperation and exchange of information between all transmission system operators (hereafter referred to as “TSOs”), all nominated electricity market operators (hereafter referred to as “NEMOs”) as well as some power exchanges in non-European Union countries (hereafter referred to as “PXs”). To allow the exchange of confidential information between these parties, a non-disclosure agreement (hereafter referred to as “NDA”) came into effect in February 2016.

The NDA was signed by: (i) certified EU and non EU TSO members of ENTSO-E; (ii) ENTSO-E; (iii) NEMOs designated in EU Member States subject to the CACM Regulation; and (iv) some PXs located in non EU countries which are relevant for the implementation of the Single Day-ahead and Intraday coupling on a European level, i.e. mainly countries whose electricity systems are physically connected to EU Member States and have TSO members of ENTSO-E.

The NDA is open to new TSOs, NEMOs or PXs under the terms set out in the agreement.

The NDA additionally grants ENTSO-E an observer status in the MRC and XBID projects. ENTSO-E also coordinates the communication between all parties, including communication for new parties to join the NDA.

The NDA is a milestone for the implementation of the Single Day-ahead and Intraday coupling as setting a basis for cooperation between TSOs, NEMOs and some PXs in non-European countries.

3. Progress, challenges and current status of Single Day-Ahead Coupling and the way forward

3.1 Background

A major step forward in European electricity market integration took place on 4 February 2014 when price coupling in North Western Europe (hereafter referred to as “NWE”) went live, integrating the Nordic region, the Central Western European (hereafter referred to as “CWE”) region and Great Britain (hereafter referred to as “GB”). In May 2014, the NWE region was extended by Spain and Portugal and the project was renamed to MRC. The MRC project aims to create the pan-European day-ahead cross-zonal market.

MRC makes use of a single price coupling algorithm, called EUPHEMIA. This solution can be used to calculate electricity prices across Europe and to implicitly allocate auction-based cross-border capacity.

Since the launch of the MRC project, a number of extensions of the coupled area have taken place, namely the coupling of Italy with France, Austria and Slovenia (the Italian Borders Working Table project, hereafter referred to as “IBWT”), the coupling of the Baltics and the border of Slovenia-Austria. As a result, the now-coupled area under MRC covers 19 countries², representing about 85 % of European electricity consumption. This is illustrated in Figure 1 below.

Under the Single Day-Ahead Coupling, two approaches for calculating cross-zonal capacity inputs for an implicit capacity allocation are possible pursuant to the CACM Regulation: Coordinated³ Net Transmission Capacity (hereafter referred to as “CNTC”) and flow-based (hereafter referred to as “FB”). Up until 2015, all Single Day-ahead market coupling participants applied the Net Transmission Capacity (hereafter referred to as “NTC”) methodology. In May 2015 the CWE introduced FB in MRC operations.

In parallel, the 4M Market Coupling project (hereafter referred to as “4M MC”) which also applies EUPHEMIA, went live in November 2014. This day-ahead, price coupling project based on NTC covers the Czech, Slovak, Hungarian and Romanian markets as well as the borders between these Bidding Zones.

Figure 1 below provides an illustration of the current state-of-play in the coupling of European day-ahead electricity markets as of August 2016. Croatia, Bulgaria, Greece, Ireland and Northern Ireland are in general highlighted as progressing towards Market Coupling, reflecting the ongoing work in these countries e.g. electricity market reform in line with CACM Regulation requirements.

² The 19 countries are Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Italy, Latvia, Lithuania, Luxembourg, Norway, Portugal, Slovenia, Spain, Sweden, The Netherlands, GB, and Poland. Please note that the TSO of Poland is currently not a member of the MRC project.

³ The level of coordination to be agreed by the relevant parties.

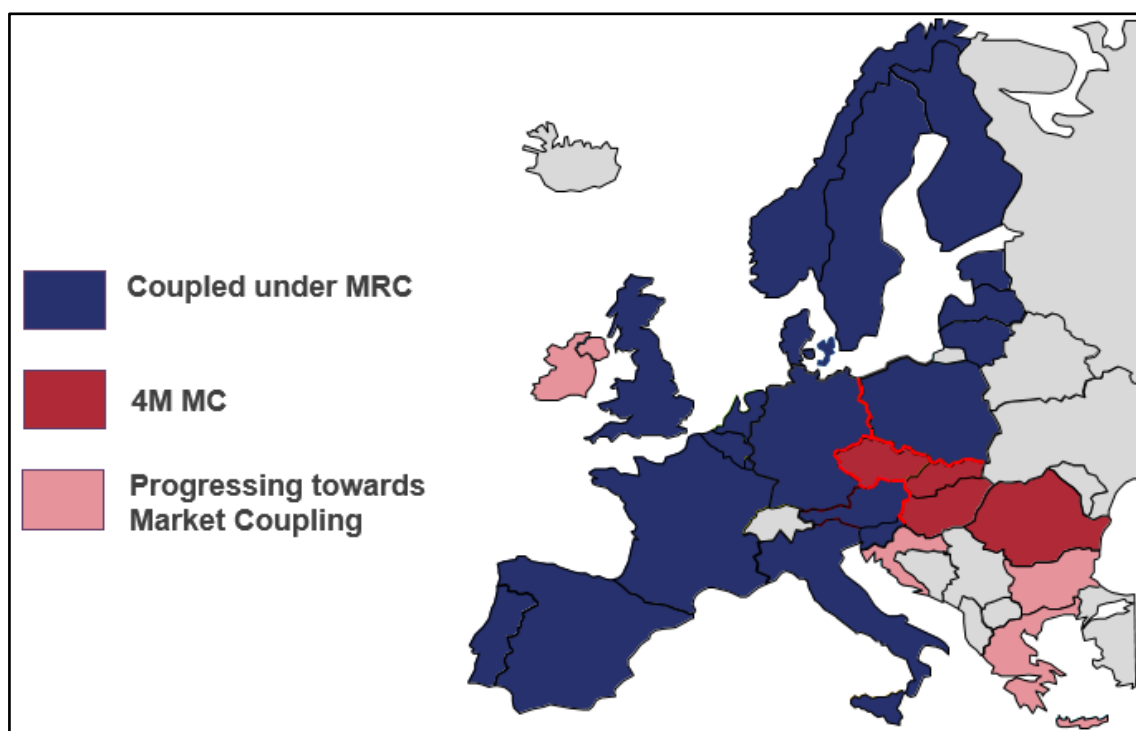


Figure 1: State-of-play in pan-European Single Day-Ahead Coupling as of August 2016⁴

3.2 Current Status of the MRC project

The MRC project continues to successfully operate Single Day-Ahead Coupling without major incidents (i.e. full / partial decoupling) while increasing the number of interconnections served. In light of increasing operational complexity, operational as well as technical improvements are frequently introduced (e.g. improvements of EUPHEMIA algorithm).

Table 1 below provides a concise list of MRC project achievements since August 2015. Table 2 below provides a summary of the quantity of major (i.e. full/partial decoupling) and minor incidents (e.g. delay of publication) in MRC operation since August 2015.

⁴ Red line highlights that borders are not coupled between Austria, Germany, Poland, Slovenia, Czech Republic, Hungary and Slovakia.

| Quarter | Progress / Operational Achievements |
|---------|---|
| Q3 2015 | <ul style="list-style-type: none"> Start assessing impact of CACM Regulation in dedicated MRC task force |
| Q4 2015 | <ul style="list-style-type: none"> EUPHEMIA V9.3 in operation |
| Q1 2016 | <ul style="list-style-type: none"> Implementation of shadow auctions at the border between France and Spain (February 2016) Lithuanian - Polish border (LitPol) in MRC operation (February 2016) Implementation of connection between Bidding Zones : Norway3-Norway5 (March 2016) Integration of Bulgarian bidding zone (January 2016) and integration of Croatian bidding zone (February 2016) into Euphemia Algorithm (without any cross-zonal capacities) |
| Q2 2016 | <ul style="list-style-type: none"> EUPHEMIA V9.4 in operation Austria-Slovenia Market Coupling (successful start as of July 22nd 2016 (delivery day))⁵ |

Table 1 – MRC Progress / Achievements since August 2015

Adaptation to the CACM Regulation obligations such as the revision of the Day Ahead Operation Agreement (hereafter referred to as “DAOA”) is ongoing within the MRC project.

| Quarter | Major Incidents (i.e. full/partial decoupling) | Minor incidents (e.g. delay of publication) |
|---------|--|---|
| Q3 2015 | 0 | 4 |
| Q4 2015 | 0 | 7 |
| Q1 2016 | 0 | 9 |
| Q2 2016 | 0 | 6 |

Table 2 – MRC Major and Minor Incidents⁶

3.3 Extending the MRC Project after CACM Regulation entered into force

The MRC project continues to expand in interconnections served (e.g. LitPol link) and parties (ELERING (TSO Estonia), AST (TSO Latvia), LITGRID (TSO Lithuania), TGE (NEMO Poland) and IBEX (NEMO Bulgaria)) adhering to the relevant contractual requirements. Moreover several parties are formal observers to the MRC project (ADMIE (TSO Greece), LAGIE (NEMO Greece), EXAA (NEMO Austria), CROPEX (NEMO Croatia), HOPS (TSO Croatia) and ESO (TSO Bulgaria)).

Although, considering the outstanding CCR decision, no comprehensive extension roadmap with expected go-live dates of all identified potential extension projects is currently available, there is an ongoing effort within MRC and ENTSO-E to draft timelines for coupling the Central Eastern Europe (hereafter referred to as “CEE”) and South-East Europe (hereafter referred to as “SEE”) regions with the MRC project.

⁵ Added to Q2 2016 due to timing of the relevant go-live decisions.

⁶ Full disclosure of operational information (including incidents) is provided to NRAs on a regular basis.

In order to achieve pan-European coverage, the coupling of Great Britain and Ireland, must also be considered. The reformation of the Irish and Northern Irish electricity market to enable integration with the rest of Europe is on track for go-live in October 2017.

The testing phase of the project covering the Swiss borders is complete, however implementation is on hold due to the still ongoing broader political discussions between Switzerland and the European Union.

3.3.1 Progress in the CEE region

The NWE-CEE project is set to go-live in July 2018. In total 9 countries are involved in this project, namely Germany, Austria, Poland, Czech Republic, Slovakia, Hungary and Slovenia. Moreover, it was decided that Romania becomes a full member of NWE-CEE project in the short-term and Croatia is currently an observer to the NWE-CEE project. The NWE-CEE project will use the FB capacity inputs for coupling and will adhere to the MRC project.

In addition, there is an assessment ongoing to investigate the coupling of MRC with several borders of the NWE-CEE project on a CNTC⁷ basis as described in Table 3 below.

3.3.2 Progress in the SEE⁸ region

The SEE region so far has the least developed plans for market coupling. This can be attributed to several factors, namely: (1) the fragmented nature of the market and systems due to historical reasons; (2) the fact that in the non-EU member parties in the region (“West Balkan 6”, hereafter referred to as “WB6”) there is not yet a legal obligation to implement the CACM Regulation; and (3) the maturity of market reforms in several countries.

As it stands currently, NEMOs have been nominated, in line with CACM Regulation requirements, in Bulgaria, Romania, Croatia and Greece. In WB6⁹ only Serbia has a PX and Albania has also contracted a consultant with the help of WB6 to develop a PX. It is quite possible that no other PXs would need to be developed as the other WB6 members may allow one of the regional PXs/NEMOs to create a subsidiary. Given that a realistic timeline for fully operational and aligned

⁷ Level of coordination to be agreed by relevant parties.

⁸ In the context of this report, relevant for Day Ahead Market Coupling, the SEE region refers to Capacity Calculation Region 11: SEE including non-EU bidding zone borders as defined in Annex 1 of the ‘Explanatory document to all TSOs’ proposal for Capacity Calculation Regions (CCRs) in accordance with Article 15(1) of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a Guideline on Capacity Allocation and Congestion Management’ and consists of Greece, Bulgaria, Romania, Croatia*, Hungary*, Serbia*, Bosnia-Herzegovina*, Montenegro*, FYROM* and Italy**.

* The bidding zone borders will be included in the CCR SEE in the future, subject to the fulfilment of the legal requirements for the application of CACM Regulation, when CACM Regulation shall become an effective law in the national legal framework of each of these countries after the adoption of the CACM Regulation by the respective national legislation. Other SEE TSOs, and the Bidding Zone borders for which they are responsible, may join CCR SEE when predefined conditions are met.

** The bidding zone border Italy - Montenegro will be included in the CCR SEE when the interconnection between Italy and Montenegro is commissioned (expected to be in 2017/2018) and subject to the fulfilment of any other legal requirements for the application of the CACM Regulation by Montenegro.

⁹ The WB6 consists of Albania, Bosnia and Herzegovina, Kosovo, FYROM, Montenegro and Serbia. These six countries are part of the so-called “Berlin Process” with a political aim to facilitate connectivity with EU (for energy and transport) as a step towards future integration. The ‘MoU of WB6 on regional electricity market development and establishing a framework for other future collaboration’ was signed in April 2016 among main stakeholders, including TSOs, with primary focus on DA market integration and cross-border balancing cooperation.

PXs with appropriate legislation in place is estimated to take at least four years (2020), further progression will take levels of cooperation and mutual dependence – through PX subsidiaries rather than new PX foundation – that has not been seen recently in the region.

3.3.3 Next steps of MRC extensions

In the timeline shown in Table 3 below, the steps for extending the MRC are depicted in chronological order. In line with the CACM Regulation, the targets for the extension can be either (a) CNTC based capacity inputs or (b) 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.

| CNTC / FB | Description | Borders | Target time |
|--------------------|---|--|-------------------------|
| CNTC ¹⁰ | Interim coupling step between 4M MC and German-Austrian Bidding Zone extending MRC project (under investigation) | 50Hertz (Germany) – ČEPS (Czech) ; APG (Austria) – ČEPS (Czech) ; APG (Austria) – MAVIR (Hungary) ; ČEPS (Czech) – Tennet (Germany) | July 2017 ¹¹ |
| CNTC | HVDC Link between Ireland and GB joining MRC project (CACM (Article 83) transitional exemption for Irish market reform) | EirGrid (Ireland) – NG (GB); SONI (Northern Ireland) – NG (GB) | October 2017 |
| CNTC | HVDC Link between Greece and Italy joining MRC project (following Greek market reform) | IPTO (Greece) – Terna (Italy) | December 2017 |
| CNTC | Interim coupling step within MRC | ELES (Slovenia) – HOPS (Croatia) | 2017 |
| FB | NWE-CEE FB Market Coupling joining MRC | 50Hertz (Germany) – ČEPS (Czech); APG (Austria) – ČEPS (Czech); APG (Austria) – MAVIR (Hungary); ČEPS (Czech) – Tennet (Germany); 50Hertz (Germany) – PSE (Poland); ČEPS (Czech) – PSE (Poland); SEPS (Slovakia) – PSE (Poland); ELES (Slovenia) – HOPS (Croatia); ELES (Slovenia) – APG (Austria) ¹² ; ČEPS (Czech) – SEPS (Slovakia); SEPS (Slovakia) – MAVIR (Hungary); MAVIR (Hungary) – Transelectrica (Romania); MAVIR (Hungary) – HOPS (Croatia); MAVIR (Hungary) – ELES (Slovenia) ¹³ | July 2018 |

Table 3 – MRC extension next steps / indicative timelines

¹⁰ Level of coordination is under investigation.

¹¹ Indicative Target Time still under investigation.

¹² Borders already coupled within MRC using NTC.

¹³ Expected to be commissioned before NWE-CEE-FB MC project's go-live date.

| CNTC / FB | Description | Borders | Target time |
|-----------|---|---|---------------|
| CNTC | HVDC Link between Kosovo and Albania joining MRC project | KOSTT (Kosovo) – OST (Albania) | December 2018 |
| CNTC | “West Balkan 6” coupling joining MRC through neighbouring countries | EMS (Serbia) – HOPS (Croatia); EMS (Serbia) – MAVIR (Hungary); EMS (Serbia) – NOS BiH (Bosnia and Herzegovina); EMS (Serbia) – Transelectrica (Romania); HOPS (Croatia) – NOS BiH (Bosnia and Herzegovina); | July 2020 |
| CNTC | Greece, Bulgaria and Romania coupling within MRC | ESO (Bulgaria) – IPTO (Greece); ESO (Bulgaria) – Transelectrica (Romania) | July 2020 |
| CNTC | “West Balkan 6” full coupling within MRC | CGES (Montenegro) – NOS BiH (Bosnia and Herzegovina); CGES (Montenegro) – OST (Albania); EMS (Serbia) – ESO (Bulgaria); EMS (Serbia) – KOSTT ((Kosovo) EMS (Serbia) – MEPSO (FYROM); IPTO (Greece) – OST (Albania); IPTO (Greece) – MEPSO (FYROM); KOSTT (Kosovo) – MEPSO (FYROM); Terna (Italy) – CGES (Montenegro); ESO (Bulgaria) – MEPSO (FYROM) | July 2022 |

Table 3 (continued) – MRC extension next steps / indicative timelines

4. Progress, challenges and current status of Single Intraday Coupling and the way forward

4.1 Background

The aim of the XBID project is to create a cross-zonal intraday market in Europe. The XBID project is considered the basis for the implementation of the pan-European Single Intraday Coupling under the CACM Regulation. Currently, the XBID project is comprised of members from 15 European countries as illustrated in Figure 2 below.¹⁴

This intraday market coupling solution will enable continuous cross-border trading across Europe and will be based on a common IT system with a Shared Order Book (hereafter referred to as “SOB”), a single Capacity Management Module (hereafter referred to as “CMM”) and a Shipping Module (hereafter referred to as “SM”). The common IT system will accommodate the continuous matching of bids and orders from market participants in one bidding zone with bids and orders from any other bidding zone within the project’s reach while cross-zonal capacity is still available.

There are three distinct work streams associated with the XBID project, namely: (1) the XBID project itself which is the basis of the pan-European XBID solution, (2) the Local Implementation Projects (hereafter referred to as “LIPs”) by current members and (3) the XBID Accession Stream (hereafter referred to as “AS”) facilitating future members of the XBID project.

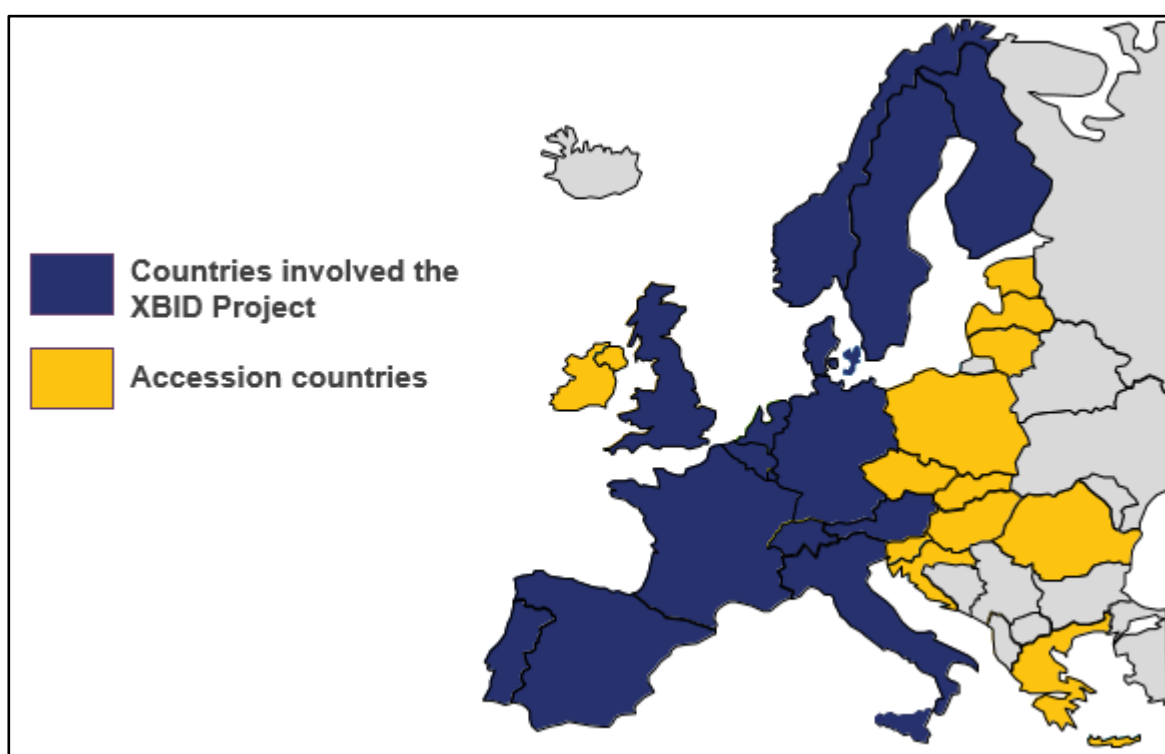


Figure 2: State-of-play in pan-European Single Intraday Coupling as of August 2016

¹⁴ The 15 countries are: Austria, Belgium, Denmark, Finland, France, Germany, GB, Italy, Luxembourg, Norway, Portugal, Spain, Sweden, Switzerland, and The Netherlands. Please note that the TSOs of Italy, Portugal and Spain are currently not members of the XBID project. GME (the Italian NEMO) and OMIE (the Spanish and Portuguese NEMOs) are full members of the XBID Project. REE (Spain) is a direct observer since 2014 and REN (Portugal) is in the XBID Accession Stream.

4.2 Current Status of XBID project

As part of the XBID Solution, the development of the SOB, CMM and SM by Deutsche Börse AG (hereafter referred to as “DBAG”) was completed in 2016.

In the first quarter of 2016 the Factory Acceptance Testing Phases I and II (hereafter referred to as “FAT I”, respectively “FAT II”) for the SOB and CMM have been completed providing positive indications of XBID functionality.

In the second quarter of 2016, TSOs provided confirmation to DBAG regarding their commitment to proceed with additional investments in the SM to further extend the performance of the XBID Solution. This initiative regarding the performance of the XBID Solution is pending confirmation from the NRAs. Moreover, an agreement on the XBID hosting contract was reached with DBAG following negotiations and based on conclusions from the meetings with the European Commission (ACER being present). Negotiations on maintenance will begin in the late summer 2016.

In the Table 4 below major milestones of XBID developments are displayed in chronological order.

| Quarter | Progress / Achievements |
|---------|---|
| Q3 2015 | <ul style="list-style-type: none"> ▪ Functional Specifications phase of SOB & CMM completed ▪ Start of public Stakeholder Meetings |
| Q4 2015 | <ul style="list-style-type: none"> ▪ Functional Specifications phase of SM completed ▪ XBID Testing preparations finalized |
| Q1 2016 | <ul style="list-style-type: none"> ▪ SOB and CMM development completed ▪ FAT Phase I & II completed for SOB and CMM ▪ Start of Accession Stream |
| Q2 2016 | <ul style="list-style-type: none"> ▪ SM development completed ▪ XBID hosting contracts finalized ▪ Confirmation from TSOs to proceed with additional investments in the SM |

Table 4 - XBID Progress / Achievements since August 2015

Figure 3 provides a diagrammatic overview of the project planning until go-live of the XBID project, predominantly for current members.

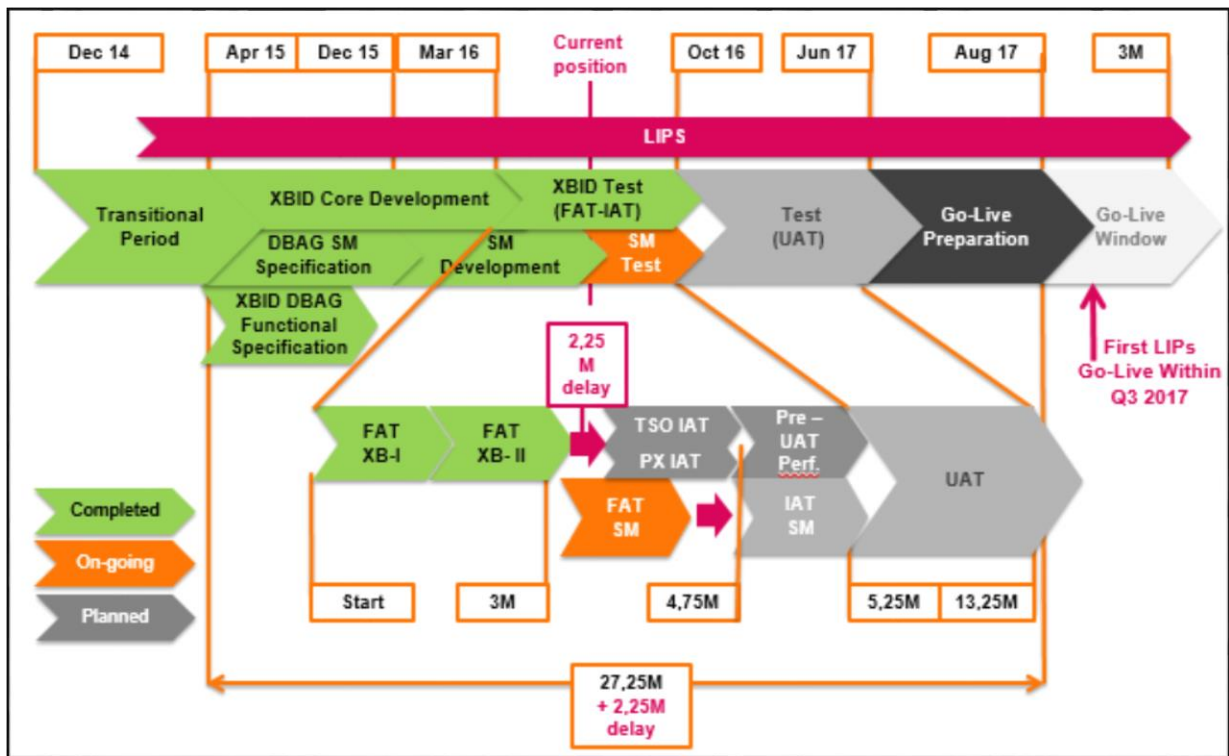


Figure 3: XBID project plan

The XBID project continues to be a complex project to deliver. The XBID go-live has been delayed by nine weeks. The go-live is still within the previously planned Q3 2017 ‘window’, but will now take place towards the end of Q3.

The nine week period, which is delaying commencement of Integration Acceptance Testing (hereafter referred to as “IAT”) and User Acceptance Testing (hereafter referred to as “UAT”), is being used to bring forward activity on important improvements and Change Request (hereafter referred to as “CR”) areas.

Stakeholder meetings to inform relevant parties on the progress and challenges of the XBID project are ongoing in 2016 and include:

- Jan 2016: 3rd User Group with market parties;
- Feb 2016: Full Implementation Group meeting with NRAs;
- Apr 2016: Accession Stream meeting with the EC to confirm that XBID is considered to be the basis of pan-European Single Intraday Coupling
- Jun 2016: 4th User Group with market parties.

4.3 Extending XBID project

4.3.1 XBID LIPs

Twelve LIPs¹⁵ have been initiated since 2015 and they are illustrated in Figure 4 below. The following paragraphs describe each LIP and its participants.

LIP 1 is called NORDIC LIP and covers all borders within the NORDIC region (i.e. Denmark, Finland, Sweden and Norway). The TSOs Energinet.dk, Svenska kraftnät, Statnett and Fingrid as well as the NEMOs EPEX and Nord Pool are participants to this LIP.

LIP 2 is referred to as DK2/DE (Kontek) and covers a Danish (DK2) and German border. Kontek is the HVDC cable between Germany and the Danish island Zealand. The TSOs Energinet.dk and 50Hertz are involved in the LIP as well as the NEMOs EPEX and Nord Pool.

LIP 3 is referred to as DK1/DE, DE/NL and covers a Danish (DK1) and German border as well as the border of Germany and the Netherlands. The TSOs Energinet.dk, TenneT Netherlands and Amprion, as well as the NEMOs EPEX, APX/Belpex and Nord Pool, are participants to this LIP.

LIP 4 is called NorNed and covers the border of Norway and the Netherlands. NorNed is the HVDC cable connecting both countries. Statnett and TenneT NL are the participating TSOs here and the NEMOs are APX/Belpex and Nord Pool.

LIP 5 covers the German – French, German – Swiss and German – Austrian borders. The participating TSOs are Amprion, TenneT Germany, TransnetBW, APG, RTE and Swissgrid. The NEMOs EPEX and Nord Pool are involved.

LIP 6 covers the Netherlands and Belgian border and the TSO members are Elia and TenneT Netherlands. APX/Belpex is the participating NEMO.

LIP 7 is called the BritNed LIP and incorporates the BritNed HVDC interconnector and the borders of GB and the Netherlands. The participating TSOs are BritNed Development Ltd, National Grid and TenneT Netherlands. APX/Belpex is the participating NEMO.

LIP 8 covers the French and Belgian border. Elia and RTE are participating TSOs and the NEMOs involved are APX/Belpex and EPEX.

LIP 9 and LIP 12 cover the borders of Spain and France as well as Spain and Portugal. REE, RTE and REN are the TSOs involved and the NEMOs OMIE and EPEX are participating. Nord Pool is also noted as an observer within LIP 9 and LIP 12.

LIP 10 is called the IFA LIP and covers the French and GB borders via the HVDC interconnector named Interconnexion France-Angleterre (hereafter referred to as “IFA”). RTE and National Grid are participating in the project as TSOs. EPEX and Nord Pool are participating NEMOs.

LIP 11 covers the border between Austria and Switzerland. The TSOs APG and Swissgrid are participants. EPEX is the participating NEMO.

¹⁵ Please note that 2 further LIPs have also been formed although they are in early stages: i) Italian Northern Borders and ii) Baltics.

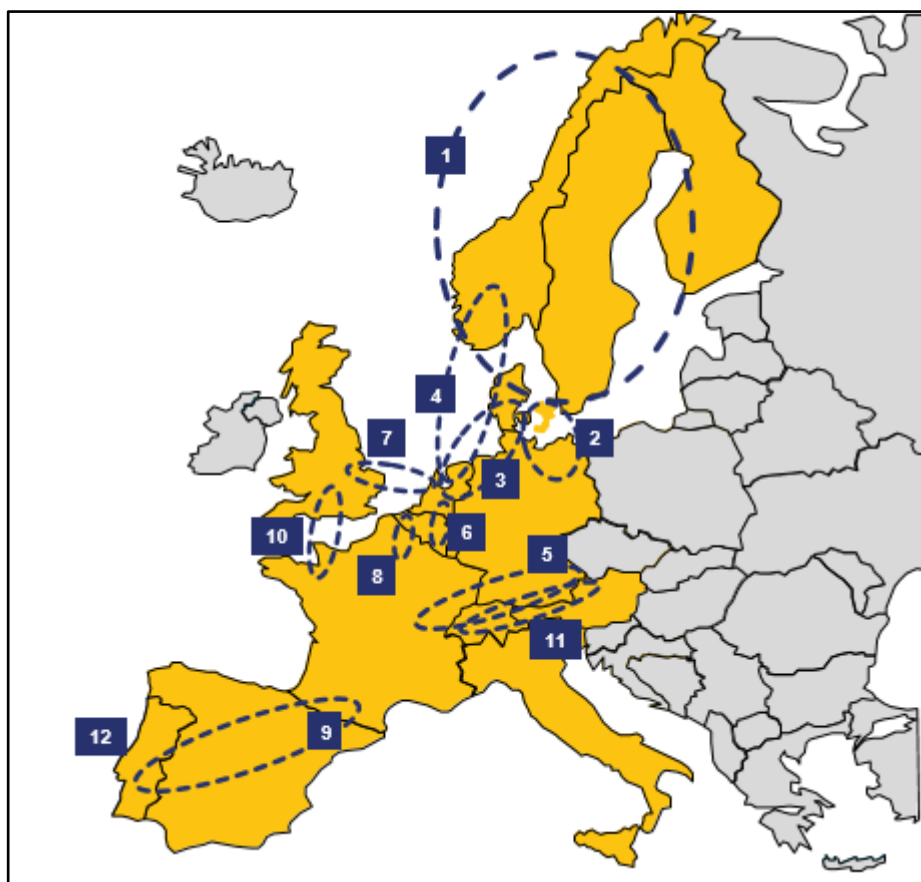


Figure 4: XBID initial local implementation projects

4.3.2 XBID Accession Stream

The XBID project initiated an Accession Stream with the objective to increase transparency on the pan-European intraday project in line with the CACM Regulation and to prepare accessions for a timely extension of the project to all TSOs and NEMOs subject to the CACM Regulation.

The following events have been held in order to support the pan-European extension of the XBID project:

- Feb 2016: 1st accession management event where key building blocks of the accession stream were discussed;
- April 2016: Meeting with the EC and ACER;
- April 2016: 2nd accession management and induction event;
- April 2016: Losses workshop to develop future requirements for losses on DC cables;
- June 2016: 3rd accession management event;
- June 2016: NEMO knowledge transfer event.

There are currently four groups which are part of the Accession Stream as of August 2016 with TSO and/or NEMO participation. These four groups are illustrated in Figure 5 below. These groups are, building up on existing collaborations within the day-ahead projects, namely the Baltics, the 4M MC project, the IBWT and the I-SEM project. During 2016, a number of meetings between these projects and the XBID project were held in order to agree the next steps of

accession. In general, it is the understanding of the Accession Stream that once the associated LIPs have been formally established, their go-live period will follow the go-live of the existing LIPs.

An interim intraday solution in Ireland and Northern Ireland is being developed since the XBID project will not be available for I-SEM go-live in October 2017.

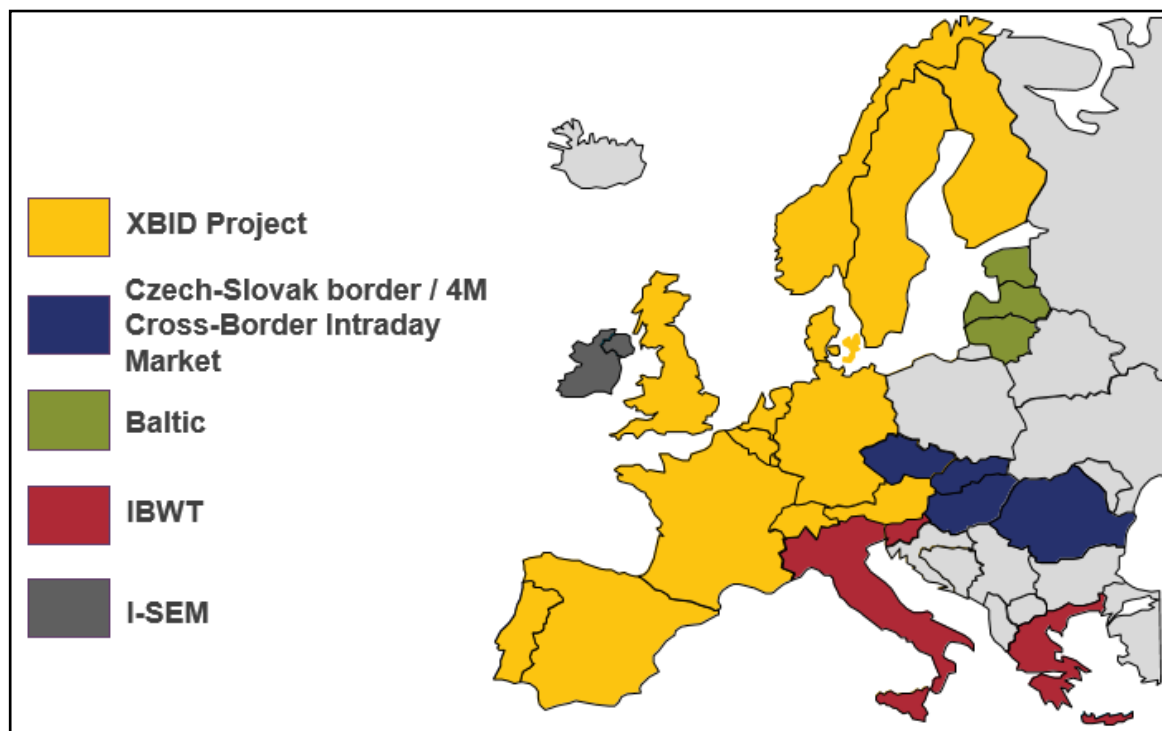


Figure 5: XBID Accession Stream

5. Summary

This is the first report to be delivered in compliance with Article 82(2) of the CACM Regulation, which requires ENTSO-E to monitor the progress and potential problems with the implementation of the Day-Ahead and Intraday Coupling across Europe. In line with the ENTSO-E Monitoring Plan, this 'Report on the progress and potential problems with the implementation of Single Day-Ahead and Intraday Coupling' will be delivered to ACER in August 2016 and covers the period from the date of entry into force of the CACM Regulation (August 14th 2015) onwards.

The report begins by highlighting the transversal progress in day-ahead and intraday coupling achieved via the signing of a NDA in April 2016 allowing the exchange of confidential information between its signatories. This NDA laid the foundations for open cooperation between European TSOs and NEMOs, as well as some PXs in non-European countries.

The MRC project for pan-European Day-Ahead Coupling now covers 19 countries, representing over 85% of Europe's electricity consumption. The MRC project continues to operate Day-Ahead Coupling without major incident (i.e. full / partial decouplings). Progress and achievements include the Austria – Slovenia and Lithuania - Poland market coupling projects in 2016.

Although, considering the outstanding CCR decision, no comprehensive MRC extension roadmap is currently available, efforts are ongoing to draft timelines for coupling the CEE and SEE regions with the MRC. The steps for extending the MRC in chronological order are summarised in Table 3 above.

The XBID project is considered as the basis for the implementation of the pan-European Intraday Coupling under the CACM Regulation. Currently, the XBID project is comprised of members from 15 European countries. In Section 4, the status of the three distinct work streams associated with the XBID project is described.

Despite the XBID project being a complex project to implement, in 2016 the development of the SOB, the CMM and the SM was completed followed by two phases of successful testing. Go-live remains on target for Q3 2017, despite a nine week delay. The nine weeks are being used pragmatically to bring forward activity on important improvements and CRs.

12 LIPs have been initiated across Europe since 2015 and these existing LIPs are described and illustrated in Section 4.3. In addition, the XBID Accession Stream continues to increase transparency on the pan-European intraday project in line with the CACM Regulation. Finally, as illustrated in Figure 5, there are currently 4 groups across Europe actively progressing towards establishing additional LIPs.

6. Glossary

| | |
|-------|---|
| 4M MC | 4M Market Coupling |
| ACER | Agency for the Cooperation of Energy Regulators |
| AS | XBID Accession Stream |
| CACM | Capacity Allocation and Congestion Management |
| CMM | Capacity Management Module |
| CEE | Central Eastern Europe |
| CNTC | Coordinated Net Transmission Capacity |
| CWE | Central Western Europe |
| DA MC | Day-ahead Market Coupling |
| DBAG | Deutsche Börse AG |
| DC | Direct Current |
| EU | European Union |
| FAT | Factory Acceptance Test |
| FB | Flow based |
| FYROM | Former Yugoslav Republic of Macedonia |
| HVDC | High Voltage Direct Current |
| IAT | Integration Acceptance Testing |
| ID MC | Intraday Market Coupling |
| IFA | Interconnexion France-Angleterre |
| LIP | Local Implementation Project |
| MRC | Multi Regional Coupling |
| NDA | Non-Disclosure Agreement |
| NEMO | Nominated Electricity Market Operator |
| NTC | Net Transmission Capacity |
| NWE | North Western Europe |
| PX | Power Exchange |
| SM | Shipping Module |
| SEE | South-East Europe |
| SOB | Shared Order Book |
| SWE | South Western Europe |
| TSO | Transmission System Operator |
| UAT | User Acceptance Testing |
| XBID | Cross-Border Intraday |

The terms used in this document have the meaning of the definitions included in Article 2 of the CACM Regulation.