

# Electricity trading arrangements

Guidance from the Secretary of State for Business, Energy and Industrial Strategy to transmission system operators and relevant electricity market operators



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## Guidance summary

This Secretary of State guidance on electricity trading arrangements provides additional clarity to UK transmission system operators ("TSOs") and relevant electricity market operators on the application of the relevant provisions of the Trade and Cooperation Agreement between the United Kingdom and the European Union.

## Introduction

The UK and the EU have agreed the Trade and Cooperation Agreement ("TCA") that will enable efficient electricity trade over the interconnectors between the UK and the EU. This will provide benefits to consumers in both the UK and the EU, by enhancing our security of supply and helping to keep energy prices low.

The TCA will also support the integration of renewable power and investment in decarbonisation projects that will support the UK and the EU in achieving our respective world-leading climate ambitions.

The UK and the EU have agreed to a set of provisions that will ensure our markets are sufficiently compatible to enable efficient electricity trade to take place in an open and fair manner. The energy relationship will be overseen by proportionate governance arrangements.

Relevant EU and UK TSOs are required to jointly draft technical procedures in accordance with Annex ENER-4 of the TCA. UK regulators and the European Union Agency for the Cooperation of Energy Regulators ("ACER") will draft an opinion on these draft technical procedures which will be provided alongside the draft technical procedures to the Specialised Committee on Energy. The Specialised Committee on Energy will review the draft technical procedures and may recommend implementation into the respective domestic arrangements.

Relevant EU and UK TSOs should work to the following implementation timeline:

- (a) within 3 months (by 1 April 2021) cost benefit analysis and outline of proposals for technical procedures;
- (b) within 10 months (by 1 November 2021) proposal for technical procedures;
- (c) within 15 months (by 1 April 2022) entry into operation of technical procedures.

If the Specialised Committee on Energy does not agree with the technical procedures as presented by TSOs, then it shall take decisions and make recommendations as necessary for electricity interconnector capacity to be allocated at the day-ahead market timeframe in accordance with Annex ENER-4 of the TCA.

The Specialised Committee on Energy shall monitor and review the implementation activities and shall monitor the effective operation of the technical procedures and may recommend that they be updated.

Whilst the immediate priority is the development of the day ahead market, the Specialised Committee on Energy shall keep under review the arrangements for all timeframes. TSOs have been requested to draft technical procedures which address capacity calculation and capacity allocation on all relevant timeframes. TSOs have been invited to propose a timeline for developing the draft technical procedures for these other timescales (namely the balancing, intraday and long-term timescales).

For background, the TCA provides for regulatory and technical cooperation on a range of energy matters to support and strengthen the UK and EU's shared energy objectives. These include efficient trading, energy markets, access to networks, infrastructure planning, security of supply, gas decarbonisation and offshore energy. The framework for cooperation shall not involve membership of the European Network of Transmission System Operators for Electricity ("ENTSO-E") by UK TSOs. New working arrangements will need to be developed to facilitate this cooperation and to ensure effective implementation of the TCA. While this means the UK TSOs cannot have formal affiliation with ENTSO-E, the UK should be invited to participate in such meetings and activities as are necessary for the effective implementation of the TCA.

The European Commission and Officials for the Department for Business, Energy and Industrial Strategy have respectively requested relevant EU TSOs and UK TSOs for electricity respectively to develop a new procedure for the allocation of capacity on electricity interconnectors at the day-ahead market timeframe. The TSO letter on establishing the new trading arrangements is attached in Annex 2 of this guidance.

The UK's cooperation with the EU will require effective coordination between the various UK TSOs so that the interaction with EU TSOs and ENTSO-E can be as efficient and representative as possible.UK TSOs should work together to reach coordinated UK TSO positions that best reflect the UK's interests.

## Electricity trading

The TCA sets out the basis for an implicit (selling capacity on the interconnector and electricity together) volume coupling trading model which is expected to be implemented by April 2022. The technical details of the trading model will be developed by relevant EU and UK TSOs over the next year; before the model becomes operational.

Until the new trading arrangements have been implemented, market participants should continue to use the previously developed alternative trading arrangements. These alternative trading arrangements applied from 1 January 2021 and are expected to be in place until April 2022.

As set out in the TCA, the new trading arrangements are to be implemented on all electricity interconnectors, which means a transmission line:

- (i) between the UK and the EU, excluding any such line wholly within the single electricity market in Ireland and Northern Ireland;
- (ii) between Great Britain and the single electricity market in Ireland and Northern Ireland that is outside the scope of point (i);

Currently Britain's electricity market is connected by the following electricity interconnectors. The new trading arrangements are expected to be implemented on all of these interconnectors. These are:

- To France: 2GW (IFA), 1GW (IFA2) and in the near-term 1GW (ElecLink);
- 1GW to the Netherlands (BritNed);
- 1GW to Belgium (Nemo Link);
- 500MW to Northern Ireland (Moyle); and
- 500MW to the Republic of Ireland (East West).

## Scope of the guidance

The scope of this guidance is limited to implementing or facilitating the operation of provisions of the TCA relating to the trading of electricity.

This guidance covers the development and implementation of the new trading arrangements. Further guidance may be issued to describe the operation of the new arrangements.

### This guidance covers:

- The expected roles and responsibilities of UK TSOs¹ during the development of the new trading arrangements.
- The cooperation of relevant electricity market operators with one another and with TSOs for the purposes of enabling TSOs to develop the arrangements.
- Cost sharing, allocation and recovery.

## **Purpose**

The purpose of this guidance is to provide industry parties with early guidance with regards to their roles and responsibilities in implementing or facilitating the operation of provisions of the TCA relating to the trading of electricity.

## Domestic implementation approach

The Act implements the TCA, the Agreement on Nuclear Cooperation and the Agreement on Security Procedures for Exchanging and Protecting Classified Information ("the Agreements"), as agreed between the UK and the EU.

The Act provides for the application of the Agreements in domestic law where relevant. The Act also creates powers to make secondary legislation, where appropriate, to enable the Agreements to be implemented domestically or for domestic law to be interpreted in light of the Agreement. These measures provide for the implementation of the Agreements agreed between the UK and the EU.

The Electricity System Operator and Interconnector TSOs will have a key role in the implementation of the electricity trading arrangements in the United Kingdom as set out in the TCA. As such, these parties will need to work with one another and with TSOs in the EU to ensure that electricity trade over interconnectors takes place in accordance with the requirements of the TCA.

<sup>&</sup>lt;sup>1</sup> UK TSOs will be involved in the development of the new electricity trading arrangements. This guidance focusses on clarifying the roles and responsibilities of the multiple GB TSOs.

Under the Capacity Allocation and Congestion Management Regulation [(EU) 2015/1222] ("CACM"), two parties were designated as Nominated Electricity Market Operators ("NEMOs") to perform tasks in Great Britain (GB): European Market Coupling Operator AS and EPEX Spot SE.

The UK Statutory Instrument - Electricity Network Codes and Guidelines (Markets and Trading) (Amendment) (EU Exit) Regulations 2019 - revoked the CACM Regulation as of the IP completion day<sup>2</sup>.

European Market Coupling Operator AS and EPEX Spot SE (referred to in this guidance as 'relevant electricity market operators') are expected to co-operate with TSOs for the purposes of enabling TSOs to develop the new trading arrangements as detailed in the TCA.

The European Union (Future Relationship) Act 2020 provides powers for the Government to implement the Agreements. The Government intends to bring forward legislation, where necessary, under this Act to ensure that TSOs and relevant electricity market operators cooperate and carry out the appropriate tasks in order to support the implementation of the electricity trading arrangements set out in the TCA.

In carrying out these tasks, the parties (UK TSOs and relevant electricity market operators) will have a legal obligation to have regard to any guidance issued by the Secretary of State. The Government intends to provide Ofgem with appropriate powers for enforcement and will introduce further legislation (as necessary) to ensure the UK fulfils the commitments made in the TCA.

<sup>&</sup>lt;sup>2</sup> The UK left the EU on 31 January 2020 ("Exit day") at 11:00pm GMT, when the Withdrawal Agreement came into force. The Withdrawal Agreement set out the transitional arrangements and provided for an implementation period ("IP"), ending on 31 December 2020. This date is reflected in section 39(1) of the European Union (Withdrawal Agreement) Act 2020 and is referred to as the "IP completion day". The implementation period started on Exit day and ends on the IP completion day. During the implementation period, the UK and all relevant parties in the energy sector were still bound by EU law.

## Expected UK TSO roles and responsibilities

The regulatory framework in GB is such that multiple TSOs exist with distinct roles and responsibilities. We consider the development of the new trading arrangements to be the responsibility of both the Interconnector TSOs in their capacity as managers of cross-border electricity flows and the Electricity System Operator in their capacity as the real time system operator. As such, the Electricity System Operator and Interconnector TSOs should work together to develop the new trading arrangements. Onshore and Offshore Transmission Owners are not expected to have a direct role in the development of the new trading arrangements.

Cross-border capacity allocation is an Interconnector TSO responsibility. The Government expects Interconnector TSOs to lead on the development of the new day ahead trading arrangements. We expect the Electricity System Operator to play a supporting role in the development of the technical procedures for the day ahead arrangements. The Electricity System Operator is expected to facilitate UK TSO coordination and support any monitoring or reporting activities. Furthermore, we expect the Electricity System Operator to lead on any changes to the balancing markets.

## Relevant electricity market operator cooperation

Relevant electricity market operators should co-operate with one another and with TSOs to support the development of new arrangements in accordance with the TCA. This shall include development of arrangements in the domestic GB market necessary to support the new cross-border structures. The Government intends to provide Ofgem with appropriate power for enforcement and will introduce further legislation (as necessary) to ensure the UK fulfils the commitments made in the TCA.

Establishing common market coupling functions to enable the day-ahead trading model provided for by the TCA will require cooperation between potentially competing relevant electricity market operators. That is why compliance with competition rules is of utmost importance.

Cooperation between relevant electricity market operators shall be strictly limited to what is necessary to support the design, implementation, and efficient market operation.

For the purposes of development and implementation, the relevant electricity market operators will be those parties previously designated under Article 4 or 5 of the CACM Regulation to perform tasks in Great Britain related to single day-ahead or single intraday coupling. It is anticipated that GB specific designation criteria and process will be agreed once the technical procedures have been developed. Ofgem will likely be responsible for any designation process once the new trading arrangements become operational.

## GB Day ahead market coupling

The TCA provides for a particular model of efficient implicit electricity trade at the day-ahead timeframe, set out in ANNEX ENER-4 of the TCA.

As set out in the Joint Declaration by the European Union and the United Kingdom on Annex ENER-4, the Government understands that the objective of maximising the benefits of trade referred to in Annex ENER-4 means that, within the constraints set out in that Annex, the trading arrangements:

- should be as efficient as possible; and
- should, under normal circumstances, result in flows across electricity interconnectors being consistent with the prices in the Parties' day-ahead markets.

Cooperation between the relevant electricity market operators is necessary for the efficient and secure design, implementation, and operation of multi-regional day-ahead coupling.

In the past, efficient implicit cross-border capacity allocation has relied on the cooperation of the relevant electricity market operators in GB. This cooperation has enabled a de-facto single price for the relevant GB day ahead markets. The technical solutions to enable a de-facto single GB price are well understood and have facilitated efficient cross-border allocation.

The Government considers that similar cooperation arrangements between the relevant electricity market operators in GB would be appropriate for the implementation of the TCA and that such arrangements should be developed at the earliest opportunity.

## Cost sharing, allocation and recovery

The TCA sets out the high-level principle for cost sharing of development costs for the day ahead arrangements. Costs for the development of the day ahead multi-regional coupling are to be shared 50:50 between relevant EU TSOs on the one hand and relevant UK TSOs on the other.

Within Great Britain, costs relating to the obligations imposed on electricity TSOs and relevant electricity market operators are to be assessed by Ofgem.

The Government is considering how best to establish a process whereby costs assessed as reasonable, efficient, and proportionate are to be allocated and recovered in a timely manner through mechanisms determined by Ofgem.

Costs should be clearly and separately identified and auditable. UK TSOs and relevant electricity market operators should prepare clear explanations as to what the costs are, why they were incurred, and evidence how parties ensured the costs were reasonable, efficient, and proportionate.

## **Annexes**

## Annex 1: Relevant sections within the Trade and Cooperation Agreement ("TCA") and associated declarations

PART ONE: COMMON AND INSTITUTIONAL PROVISIONS

Title I: General provisions

Title II: Principles of interpretation and definitions

Title III: Institutional framework

PART TWO: TRADE, TRANSPORT, FISHERIES AND OTHER ARRANGEMENTS

**HEADING ONE: TRADE** 

Title VIII: Energy

ANNEX ENER-1: LISTS OF ENERGY GOODS, HYDROCARBONS AND RAW MATERIALS

ANNEX ENER-2: ENERGY AND ENVIRONMENTAL SUBSIDIES

ANNEX ENER-3: NON-APPLICATION OF THIRD-PARTY ACCESS AND OWNERSHIP UNBUNDLING TO INFRASTRUCTURE

ANNEX ENER-4: ALLOCATION OF ELECTRICITY INTERCONNECTOR CAPACITY AT THE DAY-AHEAD MARKET TIMEFRAME

JOINT DECLARATION BY THE UNION AND THE UNITED KINGDOM ON ANNEX ENER-4

## Annex 2: TSO letter on the electricity trading arrangements



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Dear [Name],

Developing draft technical procedures for calculating and allocating transmission capacities to ensure efficient trade over electricity interconnectors following the EU-UK Trade and Cooperation Agreement

As you will be aware, a Trade and Cooperation Agreement between the European Union and the European Atomic Energy Community, of the one part, and the United Kingdom of Great Britain and Northern Ireland, of the other part, ("the Agreement") was signed on 30 December 2020 and provisionally applied by the Parties from 1 January 2021. Under Article ENER.19 of the Agreement, the Union and the UK must ensure that their transmission system operators cooperate to develop technical procedures on a series of areas, including the use of interconnectors, if so recommended by the Specialised Committee on Energy. During the negotiations, it was agreed between the Union and the UK that it is appropriate that certain of these technical procedures are developed now, and in advance of the commencement of the work of the Specialised Committee on Energy. UK TSOs for electricity are therefore requested to develop draft technical procedures for calculating and allocating transmission capacities to ensure efficient trade over electricity interconnectors. Once operational the Specialised Committee on Energy will follow all work related to the development of the technical procedures.

The draft technical procedures should address capacity calculation and capacity allocation on all relevant timeframes.

This request aims to give effect to aspects of Articles ENER.13, ENER.14 and ENER.19 of the Agreement in relation to efficient use of electricity interconnection, and should be understood in that context. In particular, the technical procedures should not involve or imply participation by United Kingdom transmission system operators in Union procedures for capacity allocation and congestion management.

UK TSOs for electricity should develop these technical procedures in cooperation with ENTSO-E in the context of the cooperation established in the Memorandum of Understanding established to give effect to aspects of Article ENER.19 of the Agreement.

More detail on what should be included in the draft technical procedures is set out in Annex 2 (capacity calculation), Annex 3 (capacity allocation) and Annex 4.

Specifically, concerning capacity calculation and allocation for the day-ahead timeframe, we request the preparation of a Day Ahead Target model based on the concept of "Multi-region loose volume coupling" that is in accordance with Article ENER.14, ENER.19 and Annex ENER-4 of the Agreement; in accordance with those provisions, this should begin as a matter of priority. Annex ENER—4 to the Agreement is replicated at Annex 4 to this letter.

Part 2 of Annex ENER-4 to the Agreement sets out a timeline for the development of the technical procedures for the day-ahead timeframe. The dates set out below are based on this timeline, which in accordance with Article FINPROV.11.3 of the Agreement, we have calculated from 1 January 2021, being the date of provisional application of the Agreement.

To support the development of the Day Ahead Target model, and in line with Annex ENER-4, we request that an outline of the proposals and a cost benefit analysis to assess the added value of the Target model are completed by 1 April 2021. The outline proposals and cost benefit analysis should be developed in accordance with Annex 5 of this letter.

We request that draft technical procedures are submitted to the UK regulatory authorities for their opinion. Prior to this, we request the UK TSOs for electricity to carry out appropriate consultation with market parties on the draft technical procedures. Following receipt of the opinion, we request you submit it together with the draft technical procedures to the Specialised Committee on Energy in sufficient time to enable them to be implemented by 1 April 2022.

Concerning capacity calculation and allocation for timeframes other than the day ahead timeframe, we invite UK TSOs for electricity to propose to the Specialised Committee on Energy a timeline for developing the draft technical procedures.

I am copying this letter to my counterpart at the Directorate General for Energy of European Commission, who is sending an equivalent letter to ENTSO-E, a copy of which is included as Annex 1 to this letter.

Yours sincerely,

Joanna Whittington

Director General, Energy and Security

Joanna Wittington.

Copy

Directorate General for Energy of the European Commission

Annex 1 - Letter from Directorate General for Energy of European Commission to ENTSO-E

#### Annex 2 - Capacity calculation

The draft technical procedures should set out terms, conditions and methodologies for the allocation of interconnection capacity which can subsequently be made available to the market.

This capacity should be calculated in a coordinated manner across electricity interconnectors.

Capacities should be maximized across electricity interconnectors. This requirement should:

- take account of TSOs' obligations to comply with safety standards of secure network operation;
- respect the bidding-zone borders within the EU and UK established under the relevant domestic frameworks;
- allow EU TSOs to comply with the requirement to provide at least 70% of their capacities on bidding-zone borders within the EU as set out in Article 16(8) of Regulation (EU) 2019/943;
- provide for non-discrimination between transmission system operators in the Union and the United Kingdom in the calculation of capacity;
- be supported by a coordinated process for remedial actions across electricity interconnectors, including redispatching and counter-trading;
- be supported by a cost-sharing arrangement between the Parties' TSOs related to redispatching and counter-trading;

As far as technically possible, the Parties' TSOs shall net the capacity requirements of any power flows in opposite directions over electricity interconnectors in order to use the interconnectors to their maximum capacity.

In relation to capacity calculation, TSOs should publish at least:

- annually: information on the long-term evolution of the transmission infrastructure and its impact on cross-border transmission capacity;
- monthly: month- and year-ahead forecasts of the transmission capacity available to the
  market, taking into account all relevant information available to the TSO at the time of the
  forecast calculation (for example, impact of summer and winter seasons on the capacity of
  lines, maintenance of the network, availability of production units, etc.);
- weekly: week-ahead forecasts of the transmission capacity available to the market, taking
  into account all relevant information available to the TSOs at the time of calculation of the
  forecast, such as the weather forecast, planned network maintenance work, availability of
  production units, etc.;
- daily: day-ahead and intra-day transmission capacity available to the market for each market time unit, taking into account all netted day-ahead nominations, day-ahead production schedules, demand forecasts and planned network maintenance work;
- total capacity already allocated, by market time unit, and all relevant conditions under which
  that capacity may be used (for example, auction clearing price, obligations on how to use
  the capacity, etc.), so as to identify any remaining capacity;
- allocated capacity as soon as possible after each allocation, as well as an indication of prices paid
- total capacity used, by market time unit, immediately after nomination;
- as closely as possible to real time: aggregated realised commercial and physical flows, by
  market time unit, including a description of the effects of any corrective actions taken by the
  TSOs (such as curtailment) for solving network or system problems;
- relevant information to assess whether electricity interconnector capacity has been calculated and allocated in a manner consistent with the EU-UK Agreement.

### **Annex 3 - Capacity allocation**

The draft technical procedures should set out terms, conditions and methodologies for the allocation of interconnection capacity to the market for the following timeframes: - Forward;

- Day ahead;
- Intraday.

For each timeframe the methodology should:

- provide for coordinated auctions for all electricity interconnectors;
- include rules for nomination, curtailment, firmness, remuneration, transfer and return of acquired transmission capacities as well as for fall-back procedures and compensation in case of curtailment
- include rules for distributing congestion income
- prohibit TSOs to charge reserve prices where no congestion occurs on the electricity interconnectors, unless an exemption applies.

## Annex 4 - Day ahead Target model: "Multi-region loose volume coupling"

#### Part 1

1. The new procedure for the allocation of capacity on electricity interconnectors at the day-ahead market timeframe shall be based on the concept of "Multi-region loose volume coupling".

The overall objective of the new procedure shall be to maximise the benefits of trade.

As the first step in developing the new procedure, the Parties shall ensure that transmission system operators prepare outline proposals and a cost-benefit analysis.

- 2. Multi-region loose volume coupling shall involve the development of a market coupling function to determine the net energy positions (implicit allocation) between:
  - (a) bidding zones established in accordance with Regulation (EU) 2019/943, which are directly connected to the United Kingdom by an electricity interconnector; and
  - (b) the United Kingdom.
- 3. The net energy positions over electricity interconnectors shall be calculated via an implicit allocation process by applying a specific algorithm to:
  - (a) commercial bids and offers for the day-ahead market timeframe from the bidding zones established in accordance with Regulation (EU) 2019/943 which are directly connected to the United Kingdom by an electricity interconnector;
  - (b) commercial bids and offers for the day-ahead market timeframe from relevant day-ahead markets in the United Kingdom;
  - (c) network capacity data and system capabilities determined in accordance with the procedures agreed between transmission system operators; and
  - (d) data on expected commercial flows of electricity interconnections between bidding zones connected to the United Kingdom and other bidding zones in the Union, as determined by Union transmission system operators using robust methodologies.

This process shall be compatible with the specific characteristics of direct current electricity interconnectors, including losses and ramping requirements.

- 4. The market coupling function shall:
  - (a) produce results sufficiently in advance of the operation of the Parties' respective dayahead markets (for the Union this is single day-ahead coupling established in accordance with Commission Regulation (EU) 2015/1222<sup>1</sup>) in order that such results may be used as inputs into the processes which determine the results in those markets:
  - (b) produce results which are reliable and repeatable;
  - (c) be a specific process to link the distinct and separate day-ahead markets in the Union and the United Kingdom; in particular, this means that the specific algorithm shall be distinct and separate from that used in single day-ahead coupling established in accordance with Regulation (EU) 2015/1222 and, in respect of commercial bids and offers of the Union, only have access to those from bidding zones which are directly connected to the United Kingdom by an electricity interconnector.

<sup>&</sup>lt;sup>1</sup> Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (OJ EU L 197, 25.7.2015, p. 24).

- 5. The calculated net energy positions shall be published following validation and verification. If the market coupling function is unable either to operate or to produce a result, electricity interconnector capacity shall be allocated by a fall-back process, and market participants shall be notified that the fall-back process will apply.
- 6. The costs of developing and implementing the technical procedures shall be equally shared between the relevant United Kingdom transmission system operators or other entities, on the one side, and relevant Union transmission system operators or other entities, on the other side, unless the Specialised Committee on Energy decides otherwise.

#### Part 2

The timeline for the implementation of this Annex shall be from the entry into force of this Agreement, as follows:

- (a) within 3 months cost benefit analysis and outline of proposals for technical procedures;
- (b) within 10 months proposal for technical procedures;
- (c) within 15 months entry into operation of technical procedures.

#### Annex 5: Requirements of the outline proposals and cost benefit analysis

As set out in Part 1 of Annex ENER – 4 of the Agreement, the first stage of development of the new day-ahead arrangements is to develop outline proposals and a cost-benefit analysis.

The outline proposals should:

- set out the high-level design of the multi-region loose volume coupling solution;
- identify the roles and responsibilities of industry parties;
- contain an implementation plan;
- highlight any implementation risks or issues, with proposals on how to resolve those; and
- assess the impact of differences between the carbon pricing regimes of the parties on flows over interconnectors.

The cost benefit analysis should take account of the objective of the arrangements to maximise the benefits of trade which means that, within the constraints referred to in Annex ENER-4 of the Agreement, the trading arrangements:

- should be as efficient as possible, and;
- should, under normal circumstances, result in flows across electricity interconnectors being consistent with the prices in the Parties' day-ahead markets.

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