



Flow-based market coupling mechanism extended to all 13 countries of the Core capacity calculation region, furthering the energy transition

- This more efficient mechanism optimises the commercial exchanges of electricity across national borders within Core, generating additional socioeconomic welfare
- The adoption of the mechanism for the day-ahead timeframe is an important step towards the establishment of an integrated European energy market, which is crucial for the energy transition
- In the future, the mechanism will be adopted by Core for the long-term, intraday and balancing timeframes

BRUSSELS – BERLIN | On 8 June 2022, the use of the flow-based market coupling mechanism was extended to cover the day-ahead timeframe across all 13 countries of the Core capacity calculation region (CCR), which includes Belgium and Germany. There are several CCRs in Europe, within each of which cross-border capacity calculation is coordinated; this allows electricity to be transported from one country to another in such a way that supply and demand are kept in balance and price differences between countries are levelled out, while also generating additional socioeconomic welfare. The flow-based mechanism enhances this process, since it takes into account congestions across the whole of the regional grid; this more efficient mechanism optimises the commercial exchanges of electricity that need to happen across national borders and different regions. The adoption of the flow-based mechanism across the whole of Core marks an important step in the integration of the European energy market; the latter is crucial for excess renewable energy to be efficiently shared across borders, and so is crucial for the success of the energy transition.

Flow-based market coupling mechanism will benefit citizens of Core

Each CCR in Europe aims to optimise the use of internal and cross-border power lines, ensuring that high amounts of electricity can be safely exchanged between the Member States that lie within it. To this end, each CCR seeks to adopt a common capacity calculation method: this optimises the volumes of electricity that are exchanged in different timeframes across national borders, keeping supply and demand in balance in a safe way, and levels out price differences within each CCR.

Until yesterday, two different capacity calculation methods were employed across Core: the net transfer capacity was employed across borders between Austria, Croatia, the Czech Republic, Hungary, Germany, Luxembourg, Poland, Romania, Slovakia and Slovenia (collectively known as Central Eastern Europe, or CEE); and the flow-based methodology was employed across borders between Austria, Belgium, France, Germany, Luxembourg and the Netherlands (known as Central Western Europe, or CWE). Yesterday, in order to fully integrate both Core markets, the flow-



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based market coupling mechanism was adopted across all borders within the Core region for the day-ahead timeframe. This will ultimately benefit the region's 278 million citizens, whose estimated annual electricity use stands at 1,500 TWh.

Advantages of the flow-based market coupling mechanism

The flow-based capacity calculation method is more efficient than the net transfer capacity method. Whilst the latter involves cross-border capacities being calculated on a bilateral basis - meaning that electricity exchange calculations between two Member States take into account (estimated) network usage in these two countries only - the flow-based mechanism adopts a much wider approach. As part of it, the market coupling algorithm takes network usage and energy flows across the entire CCR into account, meaning that cross-border exchanges can truly be optimised and the impact of electricity exchanges across one border are considered in the context of electricity exchanges across all national borders in that CCR. As a consequence, the use of interconnectors across the CCR can be maximised in a safe way and price differences between all Member States within the CCR can be levelled out.

In preparation for the adoption of the flow-based methodology across Core for the day-ahead timeframe, close work was undertaken by the region's 16 transmission system operators and 10 power exchanges responsible for running the day-ahead and intraday electricity markets (known as Nominated Electricity Market Operators, or NEMOs). The move constitutes a key step for the Core region: in time, the flow-based methodology is due to be adopted for the long-term, intraday and balancing timeframes, as is a coordinated approach to grid congestion management.



The implementation of the flow-based market coupling methodology across Core has allowed Elia Group to demonstrate its added value as a market facilitator. Many resources were mobilised to implement significant improvements to the functioning of the market, which will be felt in Belgium, Germany and across the whole of Europe. Due to the timely go-live of the methodology across Core, when the robustness and effectiveness of our processes were proven, significant additional value can now be created for all market participants; furthermore, the integration of renewable energy into the grid can be further enhanced.

James Matthys-Donnadieu, Head of Markets at Elia



An integrated European energy market will further the energy transition

The establishment of an integrated European energy market, which the adoption of the flow-based methodology across Core is advancing, will be crucial for the success of the energy transition. This integrated market will allow intermittent renewable energy production to be efficiently managed and incorporated into the grid: if the northern parts of Europe experience a dip in wind power generation, for example, solar power generated in the south of Europe will be able to be easily transported and sold to those areas.



The adoption of the flow-based methodology across the whole of Core for the day-ahead timeframe therefore represents an important step in the establishment of this integrated European market: sub-markets within each CCR must first be harmonised before the integration of these regions can occur.



About Elia Group

One of Europe's top five TSOs

Elia Group is a key player in electricity transmission. We ensure that production and consumption are balanced around the clock, supplying 30 million end users with electricity. Through our subsidiaries in Belgium (Elia) and the north and east of Germany (50Hertz), we operate 19,192 km of high-voltage connections, meaning that we are one of Europe's top 5 transmission system operators. With a reliability level of 99.99%, we provide society with a robust power grid, which is important for socioeconomic prosperity. We also aspire to be a catalyst for a successful energy transition, helping to establish a reliable, sustainable and affordable energy system.

We are making the energy transition happen

By expanding international high-voltage connections and incorporating ever-increasing amounts of renewable energy into our grid, we are promoting both the integration of the European energy market and the decarbonisation of society. We also continuously optimise our operational systems and develop new market products so that new technologies and market parties can access our grid, thus further facilitating the energy transition.

In the interest of society

As a key player in the energy system, Elia Group is committed to working in the interest of society. We are responding to the rapid increase in renewable energy by constantly adapting our transmission grid. We also ensure that investments are made on time and within budget, with a maximum focus on safety. In carrying out our projects, we manage stakeholders proactively by establishing two-way communication channels between all relevant parties very early on in the development process. We also offer our expertise to different players across the sector in order to build the energy system of the future.

International focus

In addition to our activities as a transmission system operator, we provide various consulting services to international customers through our third subsidiary, Elia Grid International (EGI). Elia (in Belgium) is also part of the Nemo Link consortium, which operates the first subsea electrical interconnector between Belgium and the UK.

The legal entity Elia Group is a listed company whose core shareholder is the municipal holding company Publi-T.

More information: [eliagroup.eu](https://www.eliagroup.eu)

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