

Discussion Paper

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**UKRAINA**

# Accelerated integration of Ukraine into the EU in the energy sector

Berlin/Kyiv, September 2025



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**Version 1.0**

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## Executive Summary

Ukraine is already actively engaged in some EU institutions, bodies, and platforms within the energy sector, yet many opportunities remain underexplored. Such engagement offers valuable opportunities for learning, capacity building, and networking. While such participation requires some administrative capacity and entails costs (membership fee), it also prepares the authorities for accession to the EU as a Member State in 2030. In addition, given plans to couple its electricity market with the EU in early 2027, Ukraine needs to be an active participant in the institutions that create the market rules.

Not all institutions have the same importance for Ukraine, but Ukrenergo's membership in ENTSO-E has already contributed to the continuous increase of cross-border electricity trading capacities, which has helped Ukraine to survive constant Russian attacks on the energy infrastructure. This showed that early accession is sometimes of a top national interest.

Ukraine could start actively participating in all acquis-based institutions in which it is not yet present, but where the membership is already open. An overview is in Table 1 below. The same applies to other EU bodies that are not explicitly covered by the acquis, but are active in the relevant discussion.

**Table 1: Overview of Ukraine’s Status in Key EU Energy Institutions and Platforms**

EU institution/platform	Possible status for non-EU countries	Status of Ukraine
ACER	Observer to Working Groups and Task Forces	-
ENTSO-E	Member	Member since 1 January 2024
ENTSO-G	Observer	Observer since 3 April 2020
ENNOH	Observer	-
All NEMO Committee	Member	Observer since 7 December 2022
EU DSO Entity	Observer	-
European Environmental Agency	Member	-

Electricity Forum	participant	-
Gas Forum	participant	-
Infrastructure Forum	participant	-

## List of Abbreviations

**ACER:** Agency for Cooperation of Energy Regulators

**CEF:** Connecting Europe Facility

**DSO:** Distribution System Operator

**EEA:** European Environmental Agency

**EFTA:** European Free Trade Association

**ENNOH:** European Network of Network Operators for Hydrogen

**ENTSO-E:** European Network of Transmission System Operators for Electricity

**ENTSO-G:** European Network of Transmission System Operators for Gas

**EHB:** European Hydrogen Backbone

**ETIP SNET:** European Technology and Innovation Platform for Smart Networks for Energy Transition

**ETIP Bioenergy:** European Technology and Innovation Platform Bioenergy

**ETIP PV:** European Technology and Innovation Platform Photovoltaics

**ETIP Wind:** European Technology Platform for Wind Energy

**ETIP Deep Geothermal:** European Technology Platform on Deep Geothermal

**HTNO:** Hydrogen Transmission Network Operator

**IPCEI:** Important Projects of Common European Interest

**JRC:** Joint Research Center

**NEURC:** National Energy and Utilities Regulatory Commission

**NEMO:** Nominated Electricity Market Operator

**TSO:** Transmission System Operator

## 1 Why does the early participation of Ukraine matter?<sup>2</sup>

Ukraine is on its fast track to becoming an EU Member State. Encouraging announcements of high-level politicians from the EU and Ukraine are raising expectations that accession could happen by 2030. While the future developments cannot be predicted with certainty, Ukraine has already embarked upon, or is well-positioned to embark upon, enhanced cooperation and, in some cases, formal membership within various EU institutions, bodies, and platforms. The EU is not only the European Commission, European Council, European Parliament, and the European Court of Justice. It is a patchwork of numerous institutions, bodies, initiatives, and platforms where stakeholders from across the EU and beyond meet daily, coordinate their work, create new initiatives, and suggest changes to existing rules and practices – all to enable the functioning of the single market.

Participation in the single market requires alignment of market rules and institutional structure. Ukraine, as a Contracting Party to the Energy Community, is already integrated into the European single energy market for both electricity and gas and benefits from this access. In the gas sector, for example, many European gas traders use Ukrainian underground gas storage because of established trust and harmonized rules. The next step will be the transposition of the REMIT Regulation (Regulation 1227/2011). and soon Ukraine will also start co-designing the rules of the market. This makes it the right moment to pursue early accession wherever possible.

The EU is built on inclusiveness, and active participation in existing institutions, bodies, and platforms is a guarantee to be heard, to defend your interests, to learn, and to co-decide about the future.

The desire to become an ENTSO-E member, and thereby actively participate in its daily operations and engage with stakeholders, served as a strong catalyst for numerous reforms in Ukraine's electricity sector in the years preceding membership. This early accession has proven a mutually beneficial for both the EU and Ukraine. Membership of Ukrenergo in ENTSO-E and its active participation in the coordination of the work of transmission system operators were decisive for the increase of export cross-border capacities from the initial 100 MW in 2022 to 650 MW in the first half of 2025. Ukraine exported up to 16 GWh per day, and this has direct monetary benefits for the Ukrainian energy sector. Also, the import capacities increased

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<sup>2</sup> The author would like to thank his colleagues from the Green Deal Ukraine project, and in particular Susanne Nies, for her valuable feedback, and Anna Piddubna for her editorial support.

substantially from 400 MW in 2022 to the current 1,700 MW (ENTSO-E, 2025), which allowed Ukraine to minimise blackouts after Russian attacks on its generation capacities.

Ukraine is progressing toward EU integration, with energy sector reforms and early participation in key EU bodies like ENTSO-E already yielding tangible benefits, such as expanded cross-border electricity trade and enhanced grid resilience. As it aligns with EU market rules, Ukraine is not only preparing for future membership but also actively contributing to and benefiting from the European single market, demonstrating the mutual advantages of deeper cooperation even before formal accession. Early membership in the energy sector EU bodies is key to co-designing the rules that will be obligatory for Ukraine once it becomes a full-fledged member.

## **2 Overview of the EU institutions, bodies, and platforms in the energy or energy-related sectors, and potential Ukrainian membership in them**

### **2.1 Acquis-based institutions and platforms**

#### **2.2.1 European Union Agency for the Cooperation of Energy Regulators (ACER)**

ACER, with its seat in Ljubljana (Slovenia), was established based on the so-called ACER Regulation (Regulation 713/2009) in 2011, to help coordinate and harmonise the work of national energy regulators across the European Union. Its main goal is to support the development of a unified, efficient, and competitive internal energy market. ACER ensures the integration and proper functioning of electricity and gas networks, oversees cross-border infrastructure and markets, and provides regulatory oversight and advice to EU institutions. In some areas (e.g. cross-border dispute resolution, inter-TSO compensation mechanism, cross-border market manipulation) , it also has decision-making power

Regulators from non-EU countries cannot become members of the decision-making bodies of ACER (Board of Regulators and Administrative Board), but can become observers and therefore active participants in the ACER's Working Groups and their Task Forces. This is the place where new market rules are being designed. NEURC, as an Observer, shall have the right to attend the meetings and to participate in the discussions held therein. Participation in ACER's work is of utmost importance for Ukraine since it has to use its constantly developing network codes in every single operation on the electricity and gas markets daily.

The procedure to become an Observer follows a consultation with the European Commission, the Energy Community Secretariat's Assessment of the Application of Community Law in a Third Country (including the independence of the regulator), and a decision of the ACER Director enacted in an Administrative Arrangement between ACER and NEURC. The only national regulatory authority from any Energy Community Contracting Party that signed an Administrative Arrangement to become an Observer in ACER's Working Groups was the Montenegrin national regulatory authority in 2017. At that time, it was offered to participate in the Electricity and Gas Working Groups. In the Assessment of the Community Law, the Energy Community Secretariat assessed the transposition of the Third Energy Package and the independence of the regulator. Assessment nowadays would most probably cover the implementation of the Electricity Integration Package, the new Electricity Market Design from 2024, and the independence of the regulator.

### 2.2.2 European Network of Transmission System Operators for Electricity (ENTSO-E)

ENTSO-E is the association of European Transmission System Operators (TSOs) that ensures the secure and efficient operation of Europe's electricity transmission system. It facilitates regional cooperation, market integration, and the development of grid codes. It was established in 2009 based on Article 4 of Regulation (EC) No 714/2009 on conditions for access to the network for cross-border exchanges in electricity (Regulation 714/2009 ) and has its seat in Brussels, Belgium.

Ukraine's TSO, **Ukrenergo**, became an observer of ENTSO-E in April 2022 and achieved full membership on 1 January 2024. It was offered a membership under the condition that it would meet EU and ENTSO-E standards, including legal and market reforms, technical requirements, and financial and operational independence (unbundling). Ongoing reforms continue, especially in market liberalization and full compliance with EU regulations, but unbundling has not been implemented entirely yet.

### 2.2.3 European Network of Transmission System Operators for Gas (ENTSO-G)

ENTSO-G was established based on Article 4 of Regulation (EC) No 715/2009 on conditions for access to the natural gas transmission networks (Regulation 715/2009) in 2009 and has its seat in Brussels, Belgium. Its mission and scope of work reflect those of ENTSO-E, but in the gas sector, bringing together national gas TSOs. The ENTSO-G statute does not envisage a membership status for any transmission system operator outside the EU, but allows an Observer status. **LLC 'Gas TSO of Ukraine' is an Observer** in ENTSO-G since 3 April 2020.

### 2.2.4 European Network of Network Operators for Hydrogen(ENNOH)

ENNOH has not yet been established, but the EU is currently preparing for its formation. According to Article 57 of Regulation (EU) 2024/1789 (the Hydrogen & Decarbonised Gas Market Regulation):

Hydrogen Transmission Network Operators certified under Article 71 of Directive (EU) 2024/1788 can be full Members. ENNOH will be an official counterpart to ENTSO-G and ENTSO-E, but for hydrogen only.

The draft Articles of Association introduce a category of Founding Members and Observer status, which is open to non-EU countries that are party to the Energy Community Treaty, the European Free Trade Association (EFTA), or the EEA Agreement.

Ukraine has a big potential for the production of green hydrogen and was therefore explicitly included in the EU's Hydrogen Strategy as a potential location for the EU's hydrogen basin. It should participate in the design of regulatory development from the very beginning to defend its interests.

Some of the transmission system operators that will be members of ENNOH are currently associated with the European Hydrogen Backbone (EHB), which is a voluntary industry initiative as a coalition of gas TSOs who are developing plans to build a dedicated hydrogen transport infrastructure across Europe. Its membership consists of over 30 TSOs from 28 European countries. EHB functions as an infrastructure-driven coalition, while ENNOH is focused on formal regulatory development and system operation.

### 2.2.5 All NEMO Committee

Nominated electricity market operators (NEMOs) from across the EU are associated with the ALL NEMO Committee. NEMOs are entities officially designated by EU Member States to operate integrated day-ahead and intraday electricity markets across the single European market. They are nominated based on the Commission Regulation (EU) 2015/1222 (CACM). All NEMO Committee was established in 2016. Its operations are mainly virtual, with coordination rotating among member NEMOs. It does not function as a separate legal entity, and therefore does not maintain neither a registered seat nor permanent office. ACER and national regulatory authorities have oversight over its work.

Under the CACM Network Code (Commission Regulation 2015/1222), NEMOs are responsible for:

- Receiving orders from market participants.
- Matching and allocating bids according to single-day-ahead and intraday market-coupling results.
- Publishing clearing prices.
- Providing clearing and settlement services.
- Developing/operating the price-coupling and continuous trading algorithms.
- Coordinating IT systems and data exchange with TSOs.

All NEMO Committee has 17 members and four observers. **Ukrainian LLC Market operator, although not yet nominated as a Market Operator, is one of the observers.**

For Ukraine's Market Operator to become a full member of the All NEMO Committee, several operational, regulatory, and legal steps must be fulfilled. These steps are primarily focused on aligning with EU electricity market coupling processes under the CACM Regulation.

The steps are as follows:

- Ukraine's Market Operator (MO) must be formally designated as a Nominated Electricity Market Operator by Ukraine's national regulatory authority, under a process that reflects CACM-compliant criteria. This includes:
  - Demonstrating independence and neutrality.
  - Having transparent governance and robust IT systems.

- Being able to operate continuous day-ahead and intraday markets (setting up technical interfaces for single day-ahead coupling or single intra-day coupling).
  - Testing and certifying its systems for cross-border trade operations.
  - Signing the All NEMO Cooperation Agreement (ANCA).
  - Undergo joint operational testing with EU NEMOs and TSOs.
- NEURC, the Energy Community Secretariat, and the European Commission must ensure Ukraine’s regulatory framework remains aligned with:
    - CACM Regulation,
    - Other Network Codes,
    - Transparency and nondiscrimination obligations.

Ongoing compliance monitoring is required after joining.

### 2.2.6 European Environmental Agency (EEA)

EEA is an agency of the European Union tasked with providing independent, reliable, and comprehensive information on the environment. Its primary objective is to support sustainable development and help achieve significant and measurable improvement in Europe's environment. Established in 1994 according to the EEA Regulation (Council Regulation 1210/90), the EEA is headquartered in Copenhagen, Denmark.

The EEA’s mission includes:

- Monitoring the state and trends of the environment in Europe.
- Supporting environmental policymaking through data and assessments.
- Helping the EU and its Member States to develop, adopt, implement, and evaluate environmental policies.

Its core instrument is EIONET (European Environment Information and Observation Network), serving as a framework for collecting, sharing, and analyzing environmental data across Europe to support evidence-based policymaking. EEA has 32 member countries, including 27 EU Member States, EFTA countries (Iceland, Liechtenstein, Norway, Switzerland), and Türkiye. Six Western Balkan countries have a special cooperation agreement. Ukraine is neither a member country nor a cooperating country and has no full access to EIONET.

Türkiye’s membership in the EEA is based on its bilateral agreement with the EU, specifically the EU-Türkiye Association Agreement and successive arrangements under the Stabilisation and Association Process. This cooperation allows Türkiye to participate in EEA activities, including data reporting and working groups, but has no voting rights. Türkiye became a member of the EEA in 2001.

**Ukraine, as a candidate country, could follow the example of Türkiye, or at least of Western Balkan countries. This includes a formal request, negotiation on, and an active agreement with the EU that allows participation in EU agencies, institutional and technical capacity to comply with EEA data-sharing and standards, and agreement on financial contribution.** Ukraine needs to establish and sustain the necessary institutional and monitoring capacities to ensure regulatory compliance.

### 2.2.7 European Distribution System Operators Entity for Electricity (EU DSO Entity)

The EU DSO Entity is a formal body established in 2020 under the Electricity Regulation (EU) 2019/943. Its seat is in Brussels and it has almost 800 members. It brings together EU electricity distribution system operators to coordinate at the EU level, especially on the integration of distributed energy resources, digitalisation, and grid planning.

The EU DSO Entity's core responsibilities include:

- Cooperation with ENTSO-E to develop and implement network codes that apply to distribution systems. Coordination of planning and operation of electricity distribution networks, especially for integrating renewable generation, energy storage, electric vehicles, and demand response.
- Contribution to ten-year network development plans and investment priorities (in coordination with ENTSO-E).

DSOs from non-EU countries can become Associate Members, while national associations of DSOs can become Observers, participating in the work of the EU DSO Entity without voting rights. **Ukraine does not have its national association of DSOs and therefore cannot join the EU DSO Entity as Observer.** Compared to ENTSO-E, the EU DSO Entity is of lesser importance.

### 2.2.8 Forums (electricity, gas, infrastructure)

The Madrid (gas), Florence (electricity), and Copenhagen (infrastructure) Forums are not explicitly established by a specific legal article in the EU acquis. They were established by the European Commission as platforms to discuss the integration of the EU energy market. The Florence Forum has existed since 1998, the Madrid Forum since 2000, and the Copenhagen Forum since 2015.

However, their existence and functioning are indirectly supported by provisions that require regulatory coordination and stakeholder consultation under:

- Electricity Directive (Directive 96/92/EC ),
- Gas Directive (Directive 98/30/EC),
- TEN-E Regulation (Regulation 347/2013).

Their purpose is to coordinate national regulators, TSOs, market operators, and other stakeholders in preparation for and response to EU legislative changes. Usually, each Forum takes place once per year in a two-day session. Participation in the forum is a low-cost and excellent opportunity to learn about the upcoming legislative initiatives in an early phase. **Ukrainian TSOs, the regulator, and other stakeholders have not been invited to the three EU Forums yet, despite there being no formal reason not to invite them.**

## 2.2 Other EU bodies and platforms in the energy sector

### 2.2.1 Council of European Energy Regulators (CEER)

CEER is a voluntary, non-profit association of energy regulatory authorities in Europe. It serves as the voice of Europe's national energy regulators, working independently of industry and governments. CEER was officially established in 2000, predating the establishment of ACER by the European Union.

CEER's mission is to facilitate the creation of a single, competitive, efficient and sustainable internal market for electricity and gas in Europe. Its main aims include:

- Promoting market integration across Europe.
- Ensuring consumer protection and empowering energy customers.
- Fostering regulatory cooperation among European energy regulators.
- Sharing best practices and technical expertise.
- Advising EU institutions (e.g., European Commission, ACER) on energy policy and legislation. CEER has 30 members from EU countries, Iceland, Norway, and the UK. It also has nine observers from non-EU countries (e.g., Switzerland, six Western Balkan countries, Georgia, and Moldova). **NEURC is not an observer.**

### 2.2.2 Joint European Forum for Important Projects of Common European Interest (JEF-IPCEI)

JEF-IPCEI is a high-level coordination body set up by the European Commission to oversee IPCEIs across their full lifecycle—from identification through to assessment, implementation, and evaluation. The JEF-IPCEI is administered by the European Commission's Directorate-General for Competition (DG Competition) and Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (DG GROW), with meetings typically held in Brussels, organised jointly by these services. Its objectives include:

- Identifying areas of strategic interest for future IPCEIs.
- Aligning IPCEI proposals with EU industrial policy goals.
- Improving the procedural setup, speed, and design of IPCEIs.
- Sharing best practices and lessons learned.

- Coordinating across the IPCEI stages: identification, design, assessment, and implementation/evaluation.

The Forum comprises two tiers:

- High-level – senior officials from EU Member States and Commission DGs (DG COMP and DG GROW), and
- Technical-level – working groups and civil servants handling operational details.

Representatives from candidate countries, industry, academia, and other stakeholders may be invited for specific discussions. **Until now, Ukraine has not been involved in the work of JEF-IPCEI.**

### 2.2.3 European Technology & Innovation Platforms (ETIPs)

ETIPs are collaborative initiatives established by the European Commission to drive research and innovation in support of the EU's energy and climate goals. They bring together stakeholders from industry, academia, public authorities, and civil society to:

- Define research and innovation (R&I) priorities.
- Develop technology roadmaps.
- Coordinate input into EU-funded R&I programmes (notably Horizon Europe).
- Support strategic energy planning and policy.

They are part of the EU's Strategic Energy Technology (SET) Plan, helping implement the 'Clean Energy for All Europeans' package and the European Green Deal.

There are several ETIPs across the energy sector. Key examples include:

- ETIP SNET (European Technology and Innovation Platform for Smart Networks for Energy Transition),
- ETIP Bioenergy (European Technology and Innovation Platform Bioenergy),
- ETIP PV (European Technology and Innovation Platform Photovoltaics),
- ETIP Wind (European Technology Platform for Wind Energy),
- ETIP Deep Geothermal (European Technology Platform on Deep Geothermal),
- ETIP Hydropower.

Each ETIP has its governance, working groups, and stakeholders. ETIPs are not created by specific legislation, but rather by the European Commission's energy R&I strategy under the SET Plan. They provide input to Horizon Europe and Clean Energy Transition programs.

Non-EU countries, especially those associated with Horizon Europe or aligned with EU energy policy, can participate in ETIPs as stakeholders or observers. **Ukrainian organisations are active participants in stakeholder listing databases like ETIP-Bioenergy.**

## 2.2.4 Horizon Europe Platforms

Horizon Europe is the EU’s 2021–2027 Framework Programme for Research and Innovation, established by Regulation (EU) 2021/695. It operates along three pillars:

- Excellent Science.
- Global Challenges & European Industrial Competitiveness (including Climate, Energy & Mobility).
- Innovative Europe.

Energy-related EU Platforms within Horizon Europe (under Pillar II/Cluster 5: Climate, Energy & Mobility) support ETIPs. **Ukraine is associated across all pillars of Horizon Europe**, including the energy sectors. Ukrainian entities can coordinate or join projects. They can be part of Horizon-funded platforms like BRIDGE (smart grids and storage projects), Clean Energy Transition Partnership (CETP), or ERA-NETs. Ukraine launched its Horizon Europe Office in December 2023, hosted by the National Research Foundation of Ukraine

As of August 2024, 191 Ukrainian institutions have signed 172 grant agreements, receiving over EUR 50 million in funding

## 2.2.5 Connecting Europe Facility (CEF)

CEF for energy is established by Regulation (EU) 2021/1153, covering the 2021–2027 period. It is part of the broader CEF 2021–2027 framework covering transport, energy, and digital. For CEF–energy projects, EUR 5.8 billion is earmarked . Its scope is to finance cross-border energy infrastructure under the TEN-E Regulation, including Projects of Common Interest (PCIs) and renewable energy connections to third countries. Co-funding rates are typically 30% (CAPEX), up to 50% in some cases. **In June 2023, Ukraine officially became associated with CEF through an agreement** ratified by the Verkhovna Rada, under the scope of Regulation (EU) 2021/1153, allowing its project promoters to compete for EU grants in transport, energy, and digital infrastructure. Eligible projects include cross-border energy infrastructure between Ukraine and the EU (electricity, hydrogen, etc.) and renewables in a cross-border context.

## 2.2.6 Joint Research Center (JRC)

JRC was established in 1957 by the Rome Treaty and is part of the European Commission. It has six research sites: Brussels (Belgium), Geel (Belgium), Ispra (Italy), Karlsruhe (Germany), Petten (Netherlands), and Seville (Spain). In the energy sector, JRC is active in energy modelling, nuclear safety and security, smart grids and storage, hydrogen technologies, support for the SET-Plan and ETIPs, and in publishing the EU Energy Technology Reference Indicator reports. Cooperation between JRC and the non-EU country can be established by a Memorandum of Understanding with non-EU research institutions or authorities or via an inclusion in association

agreements related to Framework Programmes (e.g., Horizon Europe), or enabling access to research, infrastructure, and fellowships. **Ukraine is cooperating with JRC** in nuclear safety matters based on the accession to Horizon Europe from 2022 (retroactively from 2021) and based on the agreement between JRC and the European University Institute from 2022, which led to the launch of JRC–EUI fellowships for Ukrainian postdoctoral researchers.

## Recommendations

Ukraine is already actively involved in some EU institutions, bodies, and platforms in the energy sector, most notably in ENTSO-E, but there is still a lot of room for improvement in the forthcoming pre-accession period. Participation in the institutions, bodies, and platforms allows for learning, capacity building, and networking, and could improve Ukraine's ability to become a fully-fledged Member State. The negative side could be personnel engagement, since active participation in EU institutions requires quite some effort daily.

- Ukraine should start actively participating in all acquis-based institutions in which it is not present yet and where the doors are already open: the Agency for Cooperation of Energy Regulators, European Environmental Agency, European Network of Network Operators for Hydrogen, and EU DSO Entity. The same goes for Electricity, Gas, and Infrastructure Forum. While participation in forums and an observership in ENNOH is the simplest step, the most important – Observer to ACER's Working Groups and Task Forces and membership in EEA – will take more effort due to the need for a written agreement with the EU and necessary institutional and technical capacity. These steps, particularly for ACER, could take up to two years if started now.
- Ukraine should start actively participating in other EU bodies like the Joint European Forum for Important Projects of Common European Interest, Council of European Energy Regulators, etc.
- Ukraine should establish its national association of electricity distribution system operators.
- Ukraine should also encourage its state-owned enterprises (e.g., Energoatom, Centrenergo, Ukrhydroenergo) to participate in industry associations at the EU level.

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