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ANNEXES 1 to 7

ANNEXES

to the

Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on guidelines for trans-European energy infrastructure, amending Regulations (EU) 2019/942, (EU) 2019/943, and (EU) 2024/1789 and repealing Regulation (EU) 2022/869

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ANNEX I

ENERGY INFRASTRUCTURE PRIORITY CORRIDORS AND AREAS

(as referred to in Article 1(1))

This Regulation shall apply to the following trans-European energy infrastructure priority corridors and areas:

1. PRIORITY ELECTRICITY CORRIDORS

(1) North-South electricity interconnections in Western Europe (NSI West Electricity): interconnections between Member States of the region and with the Mediterranean area including the Iberian peninsula, in particular to integrate electricity from renewable energy sources, reinforce internal grid infrastructures to foster market integration in the region and to end isolation of Ireland, to increase security of supply and network security, and to ensure the necessary onshore prolongations of offshore grids for renewable energy and the domestic grid reinforcements necessary to ensure an adequate and reliable transmission grid and to supply electricity generated offshore to landlocked Member States.

Member States concerned: Belgium, Denmark, Germany, Ireland, Spain, France, Italy, Luxembourg, Malta, Netherlands, Austria and Portugal.

(2) North-South electricity interconnections in Central Eastern and South Eastern Europe (NSI East Electricity): interconnections, and internal lines in North-South and East-West directions to complete the internal market, integrate generation from renewable energy sources to end the isolation of Cyprus, to increase security of supply and network security, and to ensure the necessary onshore prolongations of offshore grids for renewable energy and the domestic grid reinforcements necessary to ensure an adequate and reliable transmission grid and to supply electricity generated offshore to landlocked Member States.

Member States concerned: Bulgaria, Czechia, Germany, Croatia, Greece, Cyprus, Italy, Hungary, Austria, Poland, Romania, Slovenia and Slovakia.

(3) Baltic Energy Market Interconnection Plan in electricity (BEMIP Electricity): interconnections between Member States and internal lines in the Baltic region, to foster market integration while integrating growing shares of renewable energy in the region, and to increase security of supply and network security.

Member States concerned: Denmark, Germany, Estonia, Latvia, Lithuania, Poland, Finland and Sweden.

2. PRIORITY OFFSHORE GRID CORRIDORS

(4) Northern Seas offshore grids (NSOG): offshore electricity grid development, integrated offshore electricity, as well as, where appropriate, hydrogen grid development and the related interconnectors in the North Sea, the Irish Sea, the Celtic Sea, the English Channel and neighbouring waters to transport electricity or, where appropriate, hydrogen from renewable offshore energy sources to centres of consumption and storage or to increase cross-border renewable energy exchange.

Member States concerned: Belgium, Denmark, Germany, Ireland, France, Luxembourg, Netherlands and Sweden.

(5) Baltic Energy Market Interconnection Plan offshore grids (BEMIP offshore): offshore electricity grid development, integrated offshore electricity, as well as,

where appropriate, hydrogen grid development and the related interconnectors in the Baltic Sea and neighbouring waters to transport electricity or, where appropriate, hydrogen from renewable offshore energy sources to centres of consumption and storage or to increase cross-border renewable energy exchange.

Member States concerned: Denmark, Germany, Estonia, Latvia, Lithuania, Poland, Finland and Sweden.

(6) South and West offshore grids (SW offshore): offshore electricity grid development, integrated offshore electricity, as well as, where appropriate, hydrogen grid development and the related interconnectors in the Mediterranean Sea, including the Cadiz Gulf, and neighbouring waters to transport electricity or, where appropriate, hydrogen from renewable offshore energy sources to centres of consumption and storage or to increase cross-border renewable energy exchange.

Member States concerned: Greece, Spain, France, Italy, Malta and Portugal.

(7) South and East offshore grids (SE offshore): offshore electricity grid development, integrated offshore electricity, as well as, where appropriate, hydrogen grid development and the related interconnectors in the Mediterranean Sea, Black Sea and neighbouring waters to transport electricity or, where appropriate, hydrogen from renewable offshore energy sources to centres of consumption and storage or to increase cross-border renewable energy exchange.

Member States concerned: Bulgaria, Croatia, Greece, Italy, Cyprus, Romania and Slovenia.

(8) Atlantic offshore grids: offshore electricity grid development, integrated offshore electricity grid development and the related interconnectors in the North Atlantic Ocean waters to transport electricity from renewable offshore energy sources to centres of consumption and storage and to increase cross-border electricity exchange.

Member States concerned: Ireland, Spain, France and Portugal.

3. PRIORITY CORRIDORS FOR HYDROGEN AND ELECTROLYSERS

(9) Hydrogen interconnections in Western Europe (HI West): hydrogen infrastructure and the repurposing of gas infrastructure, enabling the emergence of an integrated hydrogen backbone, directly or indirectly (via interconnection with a third country), connecting the countries of the region and addressing their specific infrastructure needs for hydrogen supporting the emergence of an Union-wide network for hydrogen transport in the Union.

Electrolysers: supporting the deployment of power-to-gas applications aiming to enable greenhouse gas reductions and contributing to secure, efficient and reliable system operation and smart energy system integration in the Union.

Member States concerned: Belgium, Czechia, Denmark, Germany, Ireland. Spain, France, Italy, Luxembourg, Malta, Netherlands, Austria and Portugal.

(10) Hydrogen interconnections in Central Eastern and South Eastern Europe (HI East): hydrogen infrastructure and the repurposing of gas infrastructure, enabling the emergence of an integrated hydrogen backbone, directly or indirectly (via interconnection with a third country), connecting the countries of the region and addressing their specific infrastructure needs for hydrogen supporting the emergence of an Union-wide network for hydrogen transport in the Union.

Electrolysers: supporting the deployment of power-to-gas applications aiming to enable greenhouse gas reductions and contributing to secure, efficient and reliable system operation and smart energy system integration in the Union.

Member States concerned: Bulgaria, Czechia, Germany, Greece, Croatia, Italy, Cyprus, Hungary, Austria, Poland, Romania, Slovenia and Slovakia.

(11) Baltic Energy Market Interconnection Plan in hydrogen (BEMIP Hydrogen): hydrogen infrastructure and the repurposing of gas infrastructure, enabling the emergence of an integrated hydrogen backbone, directly or indirectly (via interconnection with a third country), connecting the countries of the region and addressing their specific infrastructure needs for hydrogen supporting the emergence of an Union-wide network for hydrogen transport in the Union.

Electrolysers: supporting the deployment of power-to-gas applications aiming to enable greenhouse gas reductions and contributing to secure, efficient and reliable system operation and smart energy system integration in the Union.

Member States concerned: Denmark, Germany, Estonia, Latvia, Lithuania, Poland, Finland and Sweden.

4. PRIORITY THEMATIC AREAS

(12) Smart electricity grids deployment: adopting smart grid technologies across the Union to efficiently integrate the behaviour and actions of all users connected to the electricity network, in particular the generation of large amounts of electricity from renewable or distributed energy sources and demand response by consumers, energy storage, electric vehicles and other flexibility sources and, in addition, as regards islands and island systems, decreasing energy isolation, supporting innovative and other solutions involving at least two Member States with a significant positive impact on the Union’s targets for energy and climate and its 2050 climate neutrality objective, and contributing significantly to the sustainability of the island energy system and that of the Union.

Member States concerned: all.

(13) Cross-border carbon dioxide network: development of infrastructure for transport and storage of carbon dioxide between Member States and with neighbouring third countries of carbon dioxide capture and storage captured from industrial installations for the purpose of permanent geological storage as well as carbon dioxide utilisation for synthetic fuel gases leading to the permanent neutralization of carbon dioxide.

Member States concerned: all.

ANNEX II

ENERGY INFRASTRUCTURE CATEGORIES

The energy infrastructure categories to be developed in order to implement the energy infrastructure priorities set out in Annex I shall be the following:

(1) concerning electricity:

(a) high and extra-high voltage overhead transmission lines, crossing a border or within a Member State territory including the exclusive economic zone, if they have been designed for a voltage of 220 kV or more, and underground and submarine transmission cables, if they have been designed for a voltage of 150 kV or more. For Member States and small isolated systems with a lower voltage overall transmission system, those voltage thresholds are equal to the highest voltage level in their respective electricity systems;

(b) any equipment or installation falling under energy infrastructure category referred to in point (a) enabling transmission of offshore renewable electricity from the offshore generation sites (energy infrastructure for offshore renewable electricity);

(c) energy storage facilities, in individual or aggregated form, used for storing energy on a permanent or temporary basis in above-ground or underground infrastructure or geological sites, provided they are directly connected to high-voltage transmission lines and distribution lines designed for a voltage of 110 kV or more. For Member States and small isolated systems with a lower voltage overall transmission system, those voltage thresholds are equal to the highest voltage level in their respective electricity systems;

(d) any equipment or installation essential for the systems referred to in points (a), (b) and (c) to operate the systems safely, securely and efficiently, including protection, resilience, monitoring, control and digitalisation equipment or installation at all voltage levels and substations;

(e) any equipment or installation, which is specifically designed to provide protection and resilience to existing critical network elements pursuant to Regulation (EU) 2019/943, is physically directly connected to them, and is essential to operate the systems safely, securely and efficiently;

(f) any equipment or installation essential for existing high-voltage network elements to operate the systems safely and efficiently which constitutes monitoring, control and digitalisation equipment or installation;

(g) smart electricity grids: any equipment or installation, digital systems and components integrating information and communication technologies (ICT), through operational digital platforms, control systems and sensor technologies both at transmission and medium and high voltage distribution level, aiming to ensure a more efficient and intelligent electricity transmission and distribution network, increased capacity to integrate new forms of generation, energy storage and consumption and facilitating new business models and market structures, including investments in islands and island systems to decrease energy isolation, to support innovative and other solutions involving at least two Member States with a significant positive impact on the Union's targets for energy and climate and its 2050 climate neutrality objective, and to contribute

significantly to the sustainability of the island energy system and that of the Union;

(h) offshore grids for renewable energy: any equipment or installation falling under energy infrastructure category referred to in point (a) having dual functionality: interconnection and offshore grid connection system from the offshore renewable generation sites to two or more Member States and a third country, including the onshore prolongation of this equipment up to the first substation in the onshore transmission system, as well as any offshore adjacent equipment or installation essential to operate safely, securely and efficiently, including protection, monitoring and control systems, and necessary substations if they also ensure technology interoperability, inter alia, interface compatibility between various technologies ;

(2) concerning hydrogen:

(a) pipelines for the transport, mainly at high pressure, of hydrogen, including repurposed natural gas infrastructure, giving access to multiple network users on a transparent and non-discriminatory basis;

(b) storage facilities connected to the high-pressure hydrogen pipelines referred to in point (a);

(c) reception, storage and regasification or decompression facilities for liquefied hydrogen or hydrogen embedded in other chemical substances with the objective of injecting the hydrogen, where applicable, into the grid;

(d) any equipment or installation essential for the hydrogen system to operate safely, securely and efficiently or to enable bi-directional capacity, including compressor stations;

Any of the assets listed in points (a) to (d) may be newly constructed or repurposed from natural gas to hydrogen, or a combination of the two;

(3) concerning electrolyser facilities:

(a) electrolysers that:

(i) have at least 500 MW capacity, provided by a single electrolyser or by a set of electrolysers that form a single, coordinated project; and

(ii) the production qualifies as low carbon hydrogen in line with Directive (EU) 2024/1788 in case of low-carbon hydrogen or renewable fuel of non-biological origin in line with the Directive (EU) 2018/2001; and

(iii) have a network-related function for both the electricity and the hydrogen networks, particularly with a view to overall system flexibility and overall system efficiency of the two networks.

(b) related equipment, including pipeline connection to the network.

(4) concerning carbon dioxide:

(a) dedicated pipelines, other than upstream pipeline network, used to transport carbon dioxide from more than one source, for the purpose of permanent geological storage of carbon dioxide pursuant to Directive 2009/31/EC;

(b) fixed facilities for liquefaction, buffer storage and converters of carbon dioxide in view of its further transportation through pipelines and in dedicated modes of transport such as ship, barge, truck, and train;

(c) without prejudice to any prohibition of geological storage of carbon dioxide in a Member State, surface and injection facilities associated with infrastructure within a geological formation that is used, in accordance with Directive 2009/31/EC, for the permanent geological storage of carbon dioxide, where they do not involve the use of carbon dioxide for the enhanced recovery of hydrocarbons and are necessary to allow the cross-border transport and storage of carbon dioxide;

(d) any equipment or installation essential for the system in question to operate properly, securely and efficiently, including protection, monitoring and control systems.

ANNEX III

REGIONAL LISTS OF PROJECTS

1. RULES FOR GROUPS

(1) With regard to energy infrastructure falling under the competence of national regulatory authorities, each Group shall be composed of representatives of the Member States, national regulatory authorities, TSOs as well as the Commission, the Agency, the EU DSO entity and either the ENTSO for Electricity or the ENNOH.

For the other energy infrastructure categories, each Group shall be composed of the Commission and the representatives of the Member States, project promoters concerned by each of the relevant priorities set out in Annex I.

(2) Depending on the number of candidate projects for the Union list, regional infrastructure gaps and market developments, the Groups and the decision-making bodies of the Groups may split, merge or meet in different configurations, as necessary, to discuss matters common to all Groups via the TEN-E Group or pertaining solely to particular regions. Such matters may include issues relevant to cross-regional consistency or the number of proposed projects included on the draft regional lists at risk of becoming unmanageable.

(3) Each Group shall organise its work in line with regional cooperation efforts pursuant to Articles 31 and 65 of Regulation (EU) 2024/1789, Article 80 of Directive (EU) 2024/1788, Article 34 of Regulation (EU) 2019/943, and Article 61 of Directive (EU) 2019/944, and other existing regional cooperation structures.

(4) Each Group shall invite, as appropriate for the purpose of implementing the relevant energy infrastructure priority corridors and areas designated in Annex I, promoters of a project potentially eligible for selection as a project of common interest or projects of mutual interest as well as representatives of national administrations, of regulatory authorities, of civil society and TSOs from third countries.

(5) For the energy infrastructure priority corridors set out in Section 2 of Annex I, each Group shall invite, as appropriate, representatives of the landlocked Member States, competent authorities, national regulatory authorities and TSOs.

(6) Each Group shall invite to the meetings, as appropriate, the organisations representing relevant stakeholders, including representatives from third countries, and, where deemed to be appropriate, directly the stakeholders, including producers, DSOs, suppliers, consumers, local populations and Union-based organisations for environmental protection, to express their specific expertise. Each Group shall organise hearings or consultations where relevant for the accomplishments of its tasks.

(7) As regards the meetings of the Groups, the Commission shall publish, on a platform accessible to stakeholders, the internal rules, an updated list of member organisations, regularly updated information on the progress of work, meeting agendas, as well as meeting minutes, where available. The deliberations of the decision-making bodies of the Groups and the project ranking in accordance with Article 4(5) shall be confidential. All decisions concerning to the functioning and work of the Groups shall be made by consensus between the Member States and the Commission.

(8) The Commission, the Agency and the Groups shall strive for consistency between the Groups. For that purpose, the Commission and the Agency shall ensure, when

relevant, the exchange of information on all work representing an interregional interest between the Groups concerned.

(9) The participation of national regulatory authorities and the Agency in the Groups shall not jeopardise the fulfilment of their objectives and duties under this Regulation or under Regulation (EU) 2019/942, Articles 77, 78, and 79 of Directive (EU) 2024/1788 and Articles 58, 59 and 60 of Directive (EU) 2019/944.

2. PROCESS FOR ESTABLISHING REGIONAL LISTS

(1) Promoters of a project potentially eligible for selection as a project on the Union list wanting to obtain that status shall submit an application for selection as a project on the Union list to the Group that includes:

(a) an assessment of their projects with regard to their contribution to implementing the priorities set out in Annex I;

(b) an indication of the relevant project category set out in Annex II;

(c) an analysis of the fulfilment of the relevant criteria laid down in Article 4;

(d) for projects having reached a sufficient degree of maturity, a cost-benefit analysis, which is consistent with the methodologies pursuant Article 14, and which, for energy infrastructure categories relating to electricity falling under points 1 (a), (b), (c), (d), (f), (h) of Annex II, to hydrogen falling under point 2 of Annex II, and to electrolysers falling under point 3 of Annex II, has been performed by the ENTSO for Electricity or the ENNOH, as applicable, in the framework of the Union-wide ten-year network development plan;

(e) information regarding their ultimate beneficiary owners and their internal ownership structure which shall be treated as confidential by the Commission and the members of the high-level decision-making body at duly justified request by the project promoters, in case of business secrets/commercial information;

(f) for projects of mutual interest, project specific non-binding agreements between or letters of support from the governments of the directly affected countries expressing their explicit support for the project and, for the third country, confirming their explicit commitment to complying with a similar timeline for accelerated implementation and other policy and regulatory support measures as applies to projects of common interest in the Union pursuant to Article 4(2), point (f), and, for energy infrastructure categories relating to electricity falling under points 1(a), (d) or (h), a preliminary grid security and stability study from the transmission system operators confirming that the project can be fully integrated into the electricity networks of the countries concerned;

(g) any other relevant information for the evaluation of the project.

(2) Projects on the Union list that have obtained regulatory approval or final investment decision providing sufficient assurance of the construction of the project, or projects for which construction is on-going and show sufficient progress in their annual report required under Article 5, shall remain on the Union list and not be required to re-submit information pursuant to points (a) to (f) and of point 1. All recipients shall ensure the confidentiality of commercially sensitive information.

(3) The proposed electricity transmission and storage projects of common interest and projects of mutual interest falling under the energy infrastructure categories set out in point (1)(a), (b), (c), (d), (f), and (h) of Annex II to this Regulation, as relevant, shall be part of the latest available Union-wide ten-year network development plan for electricity, developed by the ENTSO for Electricity pursuant Article 30 of Regulation (EU) 2019/943. The proposed electricity transmission projects of common interest falling under the energy infrastructure categories set out in points (1)(b) and (h) of Annex II to this Regulation shall be consistent with the integrated offshore network development and grid reinforcements referred to in Article 15(2) of this Regulation.

(4) The proposed hydrogen projects of common interest and projects of mutual interest falling under the energy infrastructure categories set out in point (2) and (3) of Annex II to this Regulation shall be part of the latest available Union-wide ten-year network development plan for hydrogen, developed by the ENNOH pursuant to Article 60 of Regulation (EU) 2024/1789.

(5) By 30 June 2027 and subsequently for every Union-wide ten-year network development plan, the ENTSO for Electricity, and the ENNOH shall issue updated guidelines for inclusion of projects in their respective Union-wide ten-year network development plan, as referred to in points (3) and (4), in order to ensure equal treatment and the transparency of the process. For all the projects on the Union list in force at the time, the guidelines shall establish a simplified process of inclusion in the Union-wide ten-year network development plans taking into account the documentation and data already submitted during the previous Union-wide ten-year network development plan processes, provided that the documentation and data already submitted remains valid.

The ENTSO for Electricity, and the ENNOH shall consult the Commission and the Agency about their respective draft guidelines for inclusion of projects in the Union-wide ten-year network development plans and take due account of the Commission's and the Agency's recommendations before the publication of the final guidelines.

(6) The ENTSO for Electricity and the ENNOH shall provide information to the TEN-E Group as to how they applied the guidelines to evaluate inclusion in the Union-wide ten-year network development plans.

(7) Proposed carbon dioxide transport and storage projects falling under the energy infrastructure category set out in point (4) of Annex II shall be presented as part of a plan, developed by at least two Member States, for the development of cross-border carbon dioxide transport and storage infrastructure, to be presented by the Member States concerned or entities designated by those Member States to the Commission.

(8) For projects falling under their competence, the national regulatory authorities and, the Agency shall, taking into account regional cooperation pursuant to Article 80 of Directive (EU) 2024/1788 and Article 61 of Directive (EU) 2019/944, check the consistent application of the criteria and of the project-specific cost-benefit analysis methodology pursuant to Article 14 of this Regulation, and evaluate projects' cross-border relevance and progress achieved for projects on the Union list, taking into account the reports submitted pursuant to Article 5(4) of this Regulation. They shall present their assessment to the Group. The Commission shall ensure that criteria and methodologies referred to in Article 4 of this Regulation and Annex IV are applied in a harmonised way to ensure consistency across the regional groups.

(9) For all projects not covered in point (8) of this Annex, the Commission shall evaluate the application of the criteria set out in Article 4 of this Regulation. The Commission shall also take into account the potential for future extension to include additional Member States. The Commission shall present its assessment to the Group. For projects applying for the status of project of mutual interest, third-country representatives and regulatory authorities shall be invited to the presentation of the assessment.

(10) Each Member State to whose territory a proposed project does not relate, but on which the proposed project may have a potential net positive impact or a potential significant effect, such as on the environment or on the operation of the energy infrastructure on its territory, may present an opinion to the Group specifying its concerns.

(11) The Group shall examine, at the request of a Member State of the Group, the substantiated reasons presented by a Member State pursuant to Article 3(3) for not approving a project related to its territory.

(12) The Group shall consider whether the energy efficiency first principle is applied as regards the establishment of the regional infrastructure needs and as regards each of the candidate projects. The Group shall, in particular, consider solutions such as non-wire solutions, demand-side management, non-fossil flexibility, market arrangement solutions, implementation of digital solutions, and renovation of buildings as priority solutions where they are judged more cost-efficient on a system wide perspective than the construction of new supply side infrastructure.

(13) The Group shall meet to examine and rank the proposed projects based on a transparent assessment of the projects and using the criteria set out in Article 4 taking into account the assessment of the national regulatory authorities, or the assessment of the Commission for projects not falling within the competence of national regulatory authorities.

(14) The decision-making body of each Group shall adopt its final list of proposed projects at latest by two months before the adoption date of the Union list *Article 22*, respecting the provisions set out in Article 3(3), on the basis of the Groups' proposal and taking into account the assessment of national regulatory authorities and the Agency and the assessment of the Commission for projects not falling within the competence of national regulatory authorities proposed in accordance with point (9), and the advice from the Commission that aims to ensure a manageable total number of projects on the Union list, especially at borders related to competing or potentially competing projects. The decision-making bodies of the Groups shall submit the final lists to the Commission, together with any opinions as specified in point (10).

(15) Where, on the basis of the draft lists, the total number of proposed projects on the Union list would exceed a manageable number, the Commission shall advise each Group concerned, not to include in the list projects that were ranked lowest by the Group concerned in accordance with the ranking established pursuant to Article 4(5).

ANNEX IV

RULES AND INDICATORS CONCERNING CRITERIA FOR PROJECTS

(1) A project of common interest with a significant cross-border impact shall be a project on the territory of a Member State and shall fulfil the following conditions:

(a) for electricity transmission projects falling under point (1) (a), (b), (d), and (f) of Annex II , the project increases the net transfer capacity, at the border of that Member State with one or several other Member States by at least 200 Megawatts (MW) compared to the situation without commissioning of the project;

(b) for any equipment or installation projects falling under point (1) (e) of Annex II, they need to be deployed on existing critical network elements, as defined in Article 2, point (69), of Regulation (EU) 2019/943, be included as part of the measures defined in the risk preparedness plans established by Member States pursuant to the Risk Preparedness Regulation to address risks to energy security, and increase energy security in at least one additional Member State;

(c) for electricity storage projects falling under point (1) (c) of Annex II, the project provides at least 225 MW installed capacity and has a storage capacity that allows a net annual electricity generation of 250 GW-hours/year;

(d) for smart electricity grids projects falling under point (1) (g) of Annex II, the project is designed for equipment and installations at high-voltage and medium-voltage level, and involves TSOs, TSOs and DSOs, or DSOs from at least two Member States. The project may involve only DSOs provided that they are from at least two Member States and provided that interoperability is ensured. The project shall satisfy at least two of the following criteria: it involves 50 000 users, generators, consumers or prosumers of electricity, it captures a consumption area of at least 300 GW hours/year, at least 20 % of the electricity consumption linked to the project originates from variable renewable resources, or it decreases energy isolation of non-interconnected systems in one or more Member States. The project does not need to involve a physical common border. For projects related to small isolated systems as defined in Article 2, point (42), of Directive (EU) 2019/944, including islands, those voltage levels shall be equal to the highest voltage level in the relevant electricity system;

(e) for hydrogen transmission the project increases existing cross-border hydrogen transport capacity at a border between two Member States by at least 10 % compared to the situation prior to the commissioning of the project, and the project sufficiently demonstrates that it is an essential part of a planned cross-border hydrogen network and provides sufficient proof of existing plans and cooperation with neighbouring countries and network operators or, for projects decreasing energy isolation of non-interconnected systems in one or more Member States, the project aims to supply, directly or indirectly, at least two Member States;

(f) for hydrogen storage or hydrogen reception facilities referred to in point (2) of Annex II, the project aims to supply, directly or indirectly, at least two Member States;

(g) for electrolysers, the project provides at least 500 MW installed capacity provided by a single electrolyser or by a set of electrolysers that form a single

coordinated project and brings benefits directly or indirectly to at least two Member States;

(h) for offshore renewable electricity transmission, the project is designed to transfer electricity from offshore generation sites with capacity of at least 500 MW and allows for electricity transmission to onshore grid of a specific Member State, increasing the volume of renewable electricity available on the internal market. The project shall be developed in the areas with low penetration of offshore renewable electricity and shall demonstrate a significant positive impact on the Union's targets for energy and climate and its 2050 climate neutrality objective;

(i) for carbon dioxide projects, the project is used to transport and, where applicable, store anthropogenic carbon dioxide originating from at least two Member States.

(2) A project of mutual interest with significant cross-border impact shall fulfil the following conditions:

(a) for projects of mutual interest relating to the category set out in point (1)(a), (d) and (h) of Annex II, the project increases the net transfer capacity at the border of that Member State with a third country and brings significant benefits to at least two countries directly or indirectly concerned by the project;

(b) for projects of mutual interest in the category set out in point (2) (a) of Annex II, the hydrogen project enables the transmission of hydrogen across the border of a Member State with a third country and proves bringing significant benefits to at least two countries directly or indirectly concerned by the project;

(c) for projects of mutual interest in the category set out in point (4) of Annex II, the project can be used to transport and store anthropogenic carbon dioxide by at least two Member States and a third country.

(3) Concerning projects falling under the energy infrastructure categories set out in point (1)(a), (b), (c), (d), (f) and (h) of Annex II, the criteria listed in Article 4 shall be evaluated as follows:

(a) transmission of renewable energy generation to major consumption centres and storage sites, measured in line with the analysis made in the latest available Union-wide ten-year network development plan in electricity, in particular by:

(i) for electricity transmission set out in point (1)(a), (b), (d), (f) and (h) of Annex II, estimating the amount of generation capacity from renewable energy sources (by technology, in MW), which is connected and transmitted due to the project, compared to the amount of planned total generation capacity from those types of renewable energy sources in the Member State concerned according to the National Energy and Climate Plans submitted by Member States in accordance with Regulation (EU) 2018/1999;

(ii) or energy storage set out in point (1)(c) of Annex II, comparing new capacity provided by the project with total existing capacity for the same storage technology in the area of analysis as set out in Annex V;

(b) market integration, competition and system flexibility, measured in line with the analysis made in the latest available Union-wide ten-year network development plan in electricity, in particular by:

(i) calculating, for cross-border projects, including reinvestment projects, the impact on the grid transfer capability in both power flow directions, measured in terms of amount of power (in MW), and their contribution to reaching the interconnection target, and for projects with significant cross-border impact, the impact on grid transfer capability at borders between relevant Member States, between relevant Member States and third country or within relevant Member States and on demand-supply balancing and network operations in relevant Member States;

(ii) assessing the impact, for the area of analysis as set out in Annex V, in terms of energy system-wide generation and transmission costs and evolution and convergence of market prices provided by a project under various planning scenarios, in particular taking into account the variations induced on the merit order;

(c) security of supply, interoperability and secure system operation, measured in line with the analysis made in the latest available Union-wide ten-year network development plan in electricity, in particular by assessing the impact of the project on the loss of load expectation for the area of analysis as set out in Annex V in terms of generation and transmission adequacy for a set of characteristic load periods, taking into account expected changes in climate-related extreme weather events and their impact on infrastructure resilience. Where applicable, the impact of the project on independent and reliable control of system operation and services shall be measured.

(4) Concerning projects falling under the energy infrastructure category set out in point (1)(g) of Annex II, the criteria listed in Article 4 shall be evaluated as follows:

(a) the level of sustainability, measured by assessing the extent of the ability of the grids to connect and transport variable renewable energy;

(b) security of supply, measured by assessing the level of losses in distribution, transmission networks, or both, the percentage utilisation (i.e. average loading) of electricity network components, the availability of network components (related to planned and unplanned maintenance) and its impact on network performances, and on the duration and frequency of interruptions, including climate related disruptions;

(c) market integration, measured by assessing the innovative uptake in system operation, the decrease of energy isolation and interconnection, as well as the level of integrating other sectors and facilitating new business models and market structures;

(d) network security, flexibility and quality of supply, measured by assessing the innovative approach to system flexibility, cybersecurity, efficient operability between TSO and DSO level, the capacity to include demand response, storage, energy efficiency measures, the cost-efficient use of digital tools and ICT for monitoring and control purposes, the stability of the electricity system and the voltage quality performance.

(5) Concerning projects falling under the energy infrastructure category set out in point (1)(e) of Annex II, the criteria listed in Article 4 shall be evaluated as follows:

(a) security of supply, measured by the percentage utilisation (i.e. average loading) of electricity network components; the availability of network components and

its impact on network performances; the duration and frequency of interruptions, including climate related disruptions;

(b) network security, measured by assessing the ability to prevent significant incidents through physical and cybersecurity measures;

(6) Concerning hydrogen falling under the energy infrastructure category set out in point (2) of Annex II, the criteria listed in Article 4 shall be evaluated as follows:

(a) sustainability, measured as the contribution of a project to greenhouse gas emission reductions in various end-use applications in hard-to-abate sectors, such as industry or transport; flexibility and seasonal storage options for renewable electricity generation; or the integration of renewable and low-carbon hydrogen with a view to consider market needs and promote renewable hydrogen;

(b) market integration and interoperability, measured by calculating the additional value of the project to the integration of market areas and price convergence to the overall flexibility of the system;

(c) security of supply and flexibility, measured by calculating the additional value of the project to the resilience, diversity and flexibility of hydrogen supply;

(d) competition, measured by assessing the project's contribution to supply diversification, including the facilitation of access to indigenous sources of hydrogen supply.

(7) Concerning electrolyser projects falling under the energy infrastructure category set out in point (3) of Annex II the criteria listed in Article 4 shall be evaluated as follows:

(a) sustainability, measured by assessing the share of renewable hydrogen or low-carbon hydrogen, in particular from renewable sources meeting the criteria defined in point (3)(a)(ii) of Annex II integrated into the network or estimating the amount of deployment of synthetic fuels of those origins and the related greenhouse gas emission savings;

(b) security of supply, measured by assessing its contribution to the safety, stability and efficiency of network operation, including through the assessment of avoided curtailment of renewable electricity generation;

(c) enabling flexibility services such as demand response and storage by the facilitation of smart energy sector integration through the creation of links to other energy carriers and sectors, measured by assessing the cost savings enabled in connected energy sectors and systems, such as the gas, hydrogen, power and heat networks, the transport and industry sectors.

(8) Concerning carbon dioxide infrastructure falling under the energy infrastructure categories set out in point (4) of Annex II the criteria listed in Article 4 shall be evaluated as follows:

(a) sustainability, measured by assessing the total expected project life-cycle greenhouse gas reductions and the absence of alternative technological solutions such as, but not limited to, energy efficiency, electrification integrating renewable sources, to achieve the same level of greenhouse gas reductions as the amount of carbon dioxide to be captured at connected industrial installations at a comparable cost within a comparable timeline

taking into account the greenhouse gas emissions from the energy necessary to capture, transport and store the carbon dioxide, as applicable, considering the infrastructure including, where applicable, other potential future uses;

(b) resilience and security, measured by assessing the security of the infrastructure;

(c) the mitigation of environmental burden and risk via the permanent neutralisation of carbon dioxide.

ANNEX V

ENERGY SYSTEM-WIDE COST-BENEFIT ANALYSIS

The methodologies for cost-benefit analyses developed by the ENTSO for Electricity and the ENNOH shall be consistent with each other, taking into account sectorial specificities. The methodologies for a harmonised and transparent energy system-wide cost-benefit analysis for projects on the Union list shall be uniform for all infrastructure categories, unless specific divergences are justified. They shall address costs in the broader sense, including externalities, in view of the Union's targets for energy and climate and its 2050 climate neutrality objective and shall comply with the following principles:

(1) the area for the analysis of an individual project shall cover all Member States and third countries, on whose territory the project is located, all directly neighbouring Member States and all other Member States in which the project has a significant impact. For this purpose, ENTSO for Electricity and ENNOH shall cooperate with all the relevant system operators in the relevant third countries. In the case of projects falling under the energy infrastructure category set out at point (3) of Annex II, the ENTSO for Electricity and the ENNOH shall cooperate with the project promoter, including where it is not a system operator;

(2) each cost-benefit analysis shall include sensitivity analyses concerning the input data set, where relevant, including the cost of generation and greenhouse gases as well as the expected development of demand and supply, including with regard to renewable energy sources, and including the flexibility of both, and the availability of storage, the commissioning date of various projects in the same area of analysis, climate impacts and other relevant parameters;

(3) they shall establish the analysis to be carried out, based on the relevant multi-sectorial input data set by determining the impact with and without each project and shall include the relevant interdependencies with other projects;

(4) they shall give guidance for the development and use of energy network and market modelling necessary for the cost-benefit analysis. The modelling shall allow for a full assessment of economic benefits, including market integration, security of supply and competition, as well as lifting energy isolation, social and environmental and climate impacts, including the cross-sectorial impacts. The methodology shall be fully transparent including details on why, what and how each of the benefits and costs are calculated;

(5) they shall include an explanation on how the energy efficiency first principle is implemented in all the steps of the Union-wide ten-year network development plans;

(6) they shall explain that the development and deployment of renewable energy will not be hampered by the project;

(7) they shall ensure that the Member States on which the project has a net positive impact, the beneficiaries, the Member States on which the project has a net negative impact, and the cost bearers, which may be Members States other than those on which territory the infrastructure is constructed, are identified;

(8) they shall take into account, at least, the capital expenditure, operational and maintenance expenditure costs, as well as the costs induced for the related system over the technical lifecycle of the project as a whole, such as decommissioning and waste management costs, including external costs. The methodologies shall give guidance on discount rates, technical lifetime and residual value to be used for the

cost- benefit calculations. They shall furthermore include a mandatory methodology to calculate benefit-to-cost ratio and the net present value, as well as a differentiation of benefits in accordance with the level of reliability of their estimation methods. Methods to calculate the climate and environmental impacts of the projects and the contribution to Union energy targets, such as renewable penetrations, energy efficiency and interconnection targets shall also be taken into account;

(9) they shall ensure that the climate adaptation measures taken for each project are assessed and reflect the cost of greenhouse gas emissions and that the assessment is robust and consistent with other Union policies in order to enable comparison with other solutions which do not require new infrastructures.

ANNEX VI

GUIDELINES FOR TRANSPARENCY AND PUBLIC PARTICIPATION

(1) The manual of procedures referred to in Article 9(1) shall contain at least:

(a) specifications of the relevant pieces of legislation upon which decisions and opinions are based for the various types of relevant projects of common interest, including environmental law;

(b) the list of relevant decisions and opinions to be obtained;

(c) the names and contact details of the competent authority, other authorities concerned and major stakeholders concerned;

(d) the work flow, outlining each stage in the process, including an indicative timeline and a concise overview of the decision-making process for the various types of relevant projects of common interest;

(e) information about the scope, structure and level of detail of documents to be submitted with the application for decisions, including a checklist;

(f) the stages and means for the general public to participate in the process;

(g) the manner in which the competent authority, other authorities concerned and the project promoter shall demonstrate that the opinions expressed in the public consultation were taken into account, for example by showing what amendments were done in the location and design of the project or by providing reasons why such opinions have not been taken into account;

(h) to the extent possible, translations of its content in English and all languages of the neighbouring Member States to be realised in coordination with the relevant neighbouring Member States.

(2) The detailed schedule referred to in Article 10(8), shall at least specify the following:

(a) the decisions and opinions to be obtained;

(b) the authorities, stakeholders, and the public likely to be concerned;

(c) the individual stages of the procedure and their duration;

(d) major milestones to be accomplished and their deadlines in view of the comprehensive decision to be taken;

(e) the resources planned by the authorities and possible additional resource needs.

(3) Without prejudice to the requirements for public consultations under environmental law, to increase public participation in the permit granting process and ensure in advance information and dialogue with the public, the following principles shall be applied:

(a) the stakeholders affected by a project of common interest, including relevant national, regional and local authorities, landowners and citizens living in the vicinity of the project, the general public and their associations, organisations or groups, shall be extensively informed and consulted at an early stage, in an inclusive manner, when potential concerns by the public can still be taken into account and in an open and transparent manner. Where relevant, the competent authority shall actively support the activities undertaken by the project promoter;

(b) competent authorities shall ensure that public consultation procedures for projects of common interest are grouped together where possible including public consultations already required under national law. Each public consultation shall cover all subject matters relevant to the particular stage of the procedure, and one subject matter relevant to the particular stage of the procedure shall not be addressed in more than one public consultation; however, one public consultation may take place in more than one geographical location. The subject matters addressed by a public consultation shall be clearly indicated in the notification of the public consultation;

(c) comments and objections shall be admissible only from the beginning of the public consultation until the expiry of the deadline;

(d) the project promoters shall ensure that consultations take place during a period that allows for open and inclusive public participation.

(4) The concept for public participation shall at least include information about:

(a) the stakeholders concerned and addressed;

(b) the measures envisaged, including proposed general locations and dates of dedicated meetings;

(c) the timeline;

(d) the human resources allocated to various tasks.

(5) In the context of the public consultation to be carried out before submission of the application file, the relevant parties shall at least:

(a) publish in electronic and, where relevant, printed form, an information leaflet of no more than 15 pages, giving, in a clear and concise manner, an overview of the description, purpose and preliminary timetable of the development steps of the project, the national grid development plan, alternative routes considered, types and characteristics of the potential impact, including of cross-border or transboundary nature, and possible mitigation measures, such information leaflet is to be published prior to the start of the consultation and to list the web addresses of the website of the project of common interest referred to in Article 9(7), the transparency platform referred to in Article 23 and the manual of procedures referred to in point (1) of this Annex;

(b) publish the information on the consultation on the website of the project of common interest referred to in Article 9(7), on the bulletin boards of the offices of local administrations, and, at least, in one or, if applicable, two local media outlets;

(c) invite, in written or electronic form, the relevant affected stakeholders, associations, organisations and groups to dedicated meetings, during which concerns shall be discussed.

(6) The project website referred to in Article 9(7) shall at least publish the following information:

(a) the date when the project website was last updated;

(b) translations of its content in English and in all languages of the Member States concerned by the project or on which the project has a significant cross-border impact in accordance with point (1) of Annex IV;

(c) the information leaflet referred to in point (5) updated with the latest data on the project;

(d) a non-technical and regularly updated summary reflecting the current status of the project, including geographic information, and clearly indicating, in case of updates, changes to previous versions;

(e) the implementation plan as set out in Article 5(1) updated with the latest data on the project;

(f) the funds allocated and disbursed by the Union for the project;

(g) the project and public consultation planning, clearly indicating dates and locations for public consultations and hearings and the envisaged subject matters relevant for those hearings;

(h) contact details in view of obtaining additional information or documents;

(i) contact details in view of conveying comments and objections during public consultations.

ANNEX VII

INFRASTRUCTURE NEEDS IDENTIFICATION REPORTS

The framework methodology developed by ACER for identification of infrastructure needs by the ENTSO for Electricity and the ENNOH shall ensure that the identification of infrastructure needs reports referred to in Article 12 comply with the following principles:

(1) It shall be based on the central scenario pursuant to Article 11 of this Regulation, and complemented by further assessment, when relevant, using the central scenario's sensitivities.

(2) It shall follow cross-sectoral and integrated approach taking into account interlinkages between electricity, hydrogen and gas sectors, as well as, where applicable, district heating and CO2 sectors.

(3) It shall ensure that the needs are identified by analysing most efficient joined-up contribution of the electricity and hydrogen network solutions, including non-wire solutions, non-fossil flexibility or other alternatives to system expansion, to achieve the optimal energy network for achieving the energy and climate targets and objectives. The optimal energy network should also ensure security of supply and lead to a higher market integration and competitiveness of the European industry by increasing price convergence between respective market and bidding zones as and higher electricity interconnectivity levels.

(4) It shall look at medium (10-15 years) and long-term (20-30 years) time horizon based on a realistic starting network for each time horizon, identifying needs at Member States borders and at national level if of cross-border relevance, taking also into account infrastructure developments in the third countries in line with the EU policy priorities.

(5) It shall reflect the European perspective by first identifying cross-border needs leading to the identification of possible infrastructure reinforcement needs at national level.

(6) It shall provide sufficient level of detail and granularity to properly consider current and future network constraints and enable subsequent identification of infrastructure needs on regional as well as national level. It shall also provide clear information on the necessary investments to address the infrastructure gaps as well as the cumulative benefits of these investments for the energy system..

(7) In electricity, it shall consider infrastructure and non-wire solutions, with due consideration of non-fossil flexibility potential and use, including storage, which would lead to more optimised energy system. The matchmaking of needs with projects submitted for inclusion in the Union wide ten-year network development shall be accompanied by an explanation how non-wire solutions, non-fossil flexibility or other alternatives to system expansion were taken into account.

(8) It shall be an outcome of a transparent process, based on robust tools and data, requiring up to date and verified cost assumptions. In this context, it shall use clear and quantifiable criteria for the set-up of the starting network. Key relevant stakeholders shall be involved into provision of inputs as well as validation of the results through the consultation process structured in a way to enable the accommodation of comments.

(9) It shall deliver specific and quantified results allowing for measuring the magnitude of potential infrastructure gaps in specific locations, referring both non-wire and new

infrastructure. To this aim, the identified needs should indicate to market participants the main cross-border transmission infrastructure gaps, including internal infrastructure with significant cross-border impact, that need to be addressed over the next ten to twenty years.