



EUROPEAN UNION

THE EUROPEAN PARLIAMENT

THE COUNCIL

**Brussels, 17 May 2024
(OR. en)**

2023/0081(COD)

PE-CONS 45/24

**COMPET 182
IND 88
MI 181
BETREG 7
DIGIT 49
ECOFIN 203
EDUC 46
ENER 82
ENV 185
POLCOM 61
RECH 73
CODEC 520**

LEGISLATIVE ACTS AND OTHER INSTRUMENTS

Subject: REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on establishing a framework of measures for strengthening Europe's net-zero technology manufacturing ecosystem and amending Regulation (EU) 2018/1724

REGULATION (EU) 2024/...
OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of ...

**on establishing a framework of measures
for strengthening Europe's net-zero technology manufacturing ecosystem
and amending Regulation (EU) 2018/1724**

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 114 thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national Parliaments,

Having regard to the opinion of the European Economic and Social Committee¹,

Having regard to the opinion of the Committee of the Regions²,

Acting in accordance with the ordinary legislative procedure³,

¹ OJ C 349, 29.09.2023, p. 179.

² OJ C, C/2023/254, 26.10.2023, ELI: <http://data.europa.eu/eli/C/2023/254/oj>.

³ Position of the European Parliament of 25 April 2024 (not yet published in the Official Journal) and decision of the Council of

Whereas:

- (1) The net-zero transformation is already causing huge industrial, economic, and geopolitical shifts across the globe, which will become ever more pronounced as the world advances in its decarbonisation efforts. The Union needs to respond to those developments while implementing the energy, climate and environmental transitions. A strong manufacturing base is a key element in securing access to net-zero technologies and maintaining quality jobs in the Union. That requires that the Union preserve its competitiveness, including through innovation, in particular with regard to clean technologies.
- (2) Given the complexity and the transnational character of net-zero technologies, uncoordinated national measures to ensure access to those technologies risk distorting competition and fragmenting the internal market. Such measures by Member States can result in imposing diverging regulation on market operators, in providing different levels of access to the supply of net-zero technologies across Member States, including by providing different levels of support for net-zero technology manufacturing projects, and in providing for diverging rules and uncoordinated forms of procurement, diverging processes and durations in relation to permit-granting processes thus creating obstacles to the cross-border trade between Member States and hindering the proper functioning of the internal market. To safeguard the functioning of the internal market it is therefore necessary to create a common Union legal framework to collectively address that central challenge by increasing the Union's resilience and security of supply in the field of net-zero technologies.

- (3) The Union has committed to the accelerated decarbonisation of its economy and the ambitious deployment of renewable energy sources, in order to achieve climate neutrality, namely net-zero emissions or emissions after the deduction of removals, by 2050. That objective is at the heart of the European Green Deal, which is set out in the Commission communication of 11 December 2019, entitled ‘The European Green Deal’, the Commission communication of 5 May 2021, entitled ‘Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe’s recovery, and is in line with the Union’s commitment to global climate action under the Paris Agreement⁴. In order to reach the Union’s climate neutrality goal, Regulation (EU) 2021/1119 of the European Parliament and of the Council⁵ sets a binding Union climate target to reduce net greenhouse gas emissions by at least 55 % by 2030 compared to 1990. The proposed ‘Fit for 55’ package, set out in the Commission communication of 14 July 2021, entitled ‘Fit for 55’: delivering the EU’s 2030 Climate Target on the way to climate neutrality’ aims to deliver on the Union’s 2030 climate target and revises and updates Union law in that respect.

⁴ Council Decision (EU) 2016/1841 of 5 October 2016 on the conclusion, on behalf of the European Union, of the Paris Agreement adopted under the United Nations Framework Convention on Climate Change (OJ L 282, 19.10.2016, p. 1).

⁵ Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 (‘European Climate Law’) (OJ L 243, 9.7.2021, p. 1).

- (4) Moreover, the Green Deal Industrial Plan set out in the Commission communication of 1 February 2023 sets out a comprehensive approach to support a clean energy technology scale-up on the basis of four pillars. The first pillar aims to create a regulatory environment that simplifies and streamlines permit- granting processes for new net-zero technology manufacturing and assembly sites, and to facilitate the scaling up of the Union’s net-zero industry. The second pillar aims to boost investment in and financing of net-zero technology production by means of the revised Temporary Crisis and Transition Framework for State Aid measures to support the economy following the aggression against Ukraine by Russia established in the Commission communication of 17 March 2023 and the creation of the Strategic Technologies for Europe Platform (STEP) established by Regulation (EU) 2024/795 of the European Parliament and of the Council⁶, to preserve the Union’s edge on critical and emerging technologies relevant to the green and digital transitions. The third pillar relates to developing the skills needed to make the transition happen and to increase the number of skilled workers in the clean energy technology sector. The fourth pillar focuses on trade and the diversification of the supply chain of critical raw materials. That includes creating a critical raw materials club, working with like-minded partners to collectively strengthen supply chains and diversifying from single suppliers for critical input. This Regulation forms part of those measures and contributes to enhancing the business case for industrial decarbonisation in the Union.

⁶ Regulation (EU) 2024/795 of the European Parliament and of the Council of 29 February 2024 establishing the Strategic Technologies for Europe Platform (‘STEP’), and amending Directive 2003/87/EC and, Regulations (EU) 2021/1058, (EU) 2021/1056, (EU) 2021/1057, (EU) No 1303/2013, (EU) No 223/2014, (EU) 2021/1060, (EU) 2021/523, (EU) 2021/695, (EU) 2021/697 and (EU) 2021/241 (OJ L, 2024/795, 29.02.2024, ELI: <https://data.europa.eu/eli/reg/2024/795/oj>).

- (5) The internal market provides the appropriate environment for enabling access at the necessary scale and pace to the technologies required to achieve the Union's climate and energy ambitions as well as the objective of the European Green Deal to turn decarbonisation into sustainable competitiveness. The road towards a climate neutral, resource-efficient and net-zero economy creates strong opportunities for the expansion of the Union's net-zero industry, making use of the strength of the internal market, by promoting investment in net-zero technologies and their supply chains. Those technologies are necessary for achieving the objectives of the Member States' integrated national energy and climate plans pursuant to Regulation (EU) 2018/1999 of the European Parliament and of the Council⁷, contribute to the resilience and competitiveness of Union industry and enable the decarbonisation of economic sectors, from energy supply to transport, buildings, and industry in the Union. A strong net-zero industry within the Union can help significantly in reaching the Union's climate and energy targets effectively, as well as in supporting other European Green Deal objectives, while fostering an industrial base and therefore creating quality jobs and sustainable growth.

⁷ Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (OJ L 328, 21.12.2018, p. 1).

- (6) To fulfil those commitments, the Union must accelerate its pace of transition to a net-zero economy, including by increasing the share of clean energy in its energy mix, as well as by increasing energy efficiency and the share of renewable energy sources. That will contribute to achieving the Union targets set out in the European Pillar of Social Rights Action Plan for 2030, which is the Commission's contribution to the implementation of the European Pillar of Social Rights proclaimed in Gothenburg in 2017 (the 'Pillar').
- (7) The higher energy prices following Russia's unjustified and unlawful military aggression against Ukraine led to a strong impetus to accelerate the implementation of the European Green Deal and reinforce the resilience of the Energy Union governed by Regulation (EU) 2018/1999, by speeding up the clean energy transition and ending any dependence on fossil fuels exported from Russia. The REPowerEU plan, set out in the Commission communication of 18 May 2022, entitled 'REPowerEU Plan', plays a key role in responding to the hardships and global energy market disruption caused by Russia's invasion of Ukraine. That plan aims to accelerate the energy transition in the Union, in order to reduce the Union's gas and electricity consumption and to boost investments in the deployment of energy efficient and low carbon solutions.

- (8) To meet the Union’s climate and energy targets, energy efficiency needs to be prioritised. Saving energy is the cheapest, safest and cleanest way to meet those targets. ‘Energy efficiency first’ is an overall principle of the Union’s energy policy and is important in both its practical applications in policy and investment decisions. Therefore, it is essential to expand the Union’s manufacturing capacity for energy efficient technologies, such as heat pumps, district heating and cooling, and smart grid technologies that help the Union to reduce and control its energy consumption.

- (9) The Union's decarbonisation objectives, security of energy supply, digitalisation of the energy system and electrification of demand, for example with regard to mobility and the need for additional and faster recharging points, require an enormous expansion of electricity grids in the Union, both at transmission level and at distribution level. At transmission level, high-voltage direct current systems are needed, inter alia, to connect offshore renewable energies, while at distribution level, connecting electricity providers and managing demand-side flexibility builds on investments in innovative grid technologies, such as electric vehicles smart charging, energy efficiency building and industry automation and smart controls, advanced meter infrastructure and home energy management systems. The electricity grid needs to interact with many actors or devices on the basis of a detailed level of observability, and hence availability of data, to enable flexibility, smart charging, smart buildings with smart electricity grids and small-scale flexibility services enabling demand-side response from consumers and the uptake of renewables. Connecting the net-zero technologies to the network of the Union requires the substantial expansion of manufacturing capabilities for electricity grids in areas such as offshore and onshore cables, substations and transformers.

- (10) Additional policy effort is therefore necessary for the Union to have a strong potential for a rapid scale-up of manufacturing capacity to support the Union's 2030 climate target by improving market conditions for those technologies that are commercially available, as well as the security of supply for net-zero technologies and their supply chains, reducing market fragmentation, and safeguarding or strengthening the overall resilience and competitiveness of the Union's energy system. It includes access to a safe and sustainable source of best-in-class fuels, as referred to in Commission Delegated Regulation (EU) 2022/1214⁸.

⁸ Commission Delegated Regulation (EU) 2022/1214 of 9 March 2022 amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities (OJ L 188, 15.7.2022, p. 1).

(11) This Regulation should complement Regulation (EU) 2024/... of the European Parliament and of the Council⁹⁺ by focusing on the manufacturing of net-zero technologies in terms of final products, specific components, and specific machinery that is primarily used to produce them. Regulation (EU) 2024/...⁺ focuses instead on the upstream part of the supply chain, particularly critical raw materials, and their extraction, processing and recycling. Those technologies are indispensable for a wide set of strategic sectors including net-zero technology industries, the digital industry and the aerospace and defence sectors. By following the same logic of nurturing a business case, upgrading, and providing adequate skills, and supporting investments, this Regulation and Regulation (EU) 2024/...⁺ complement each other to create regulatory support synergies across the entire supply chain of net-zero technology manufacturing in the Union. This Regulation also covers processed materials that are an essential component of net-zero technologies, with the exception of critical raw materials falling under Regulation (EU) 2024/...⁺.

⁹ Regulation (EU) 2024/... of the European Parliament and of the Council of ... establishing a framework for ensuring a secure and sustainable supply of critical raw materials and amending Regulations (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1724 and (EU) 2019/1020, (OJ L, ..., ELI: ...).

⁺ OJ: Please insert the number of Regulation contained in document PE-CONS 78/23 (2023/0079 (COD)) and complete a corresponding footnote.

- (12) Final products and specific components which are essential for the production of net-zero technologies should be listed in an annex in a non-exhaustive manner. These include final products and their components that are manufactured and traded by a company, including processed materials, but excluding raw materials covered by Regulation (EU) 2024/...⁺. The aim of that annex is to identify, to the extent possible, final products and specific components that are essential for the production of net-zero technologies and that can therefore reasonably be considered always to be primarily used for all net-zero technologies listed in this Regulation. Specific components and specific machinery not covered in that annex may still fall under the scope of this Regulation where, on the basis of evidence provided to a national competent authority, the project promoter can prove, for example via market studies or off-take agreements, that the specific components or specific machinery are primarily used for the production of net-zero technologies, with the exception of critical raw materials falling under the scope of Regulation (EU) 2024/...⁺.

⁺ OJ: Please insert the number of Regulation contained in document PE-CONS 78/23 (2023/0079 (COD)).

- (13) Certain specific components in the supply chain of net-zero technologies are produced through energy-intensive production processes namely in the steel, aluminium, non-ferrous metals, basic chemicals, cement, lime, glass, ceramics, fertilisers, as well as pulp and paper sectors. Many of those processes are characterised by a high energy and carbon intensity, making their CO₂ emissions usually hard to abate. At the same time, Regulation (EU) 2021/1119 requires rapid decarbonisation of the Union's economy. In light of the fact that energy-intensive industries accounted for 17 % of overall greenhouse gas emissions in the Union in 2019, their decarbonisation is indispensable to reach climate neutrality in the Union. That means that the security of supply in the Union of specific components used for net-zero technologies also depends on intensifying decarbonisation efforts in energy-intensive industries. Energy-intensive industry facilities fall under the scope of this Regulation where the relevant facilities produce specific components that are primarily used in net-zero technologies. Due to the need to decarbonise those sectors as a whole and in order to ensure the availability of specific components produced by them that are used in the net-zero technology supply chains, unlike other net-zero technology manufacturing projects to which this Regulation applies, this Regulation should also apply to projects of energy-intensive industries that produce specific components that are used, but not exclusively so in the supply chains of net-zero technologies. The inclusion of such hard-to-abate facilities in the scope of this Regulation should be conditional on a project comprising the construction or conversion of such a facility leading to a significant reduction of CO₂ emissions stemming from the production activities. Supporting those sectors in a targeted manner under this Regulation contributes to ensuring access to a sustainable supply of net-zero technologies in the internal market, increases investment certainty and creates a demand-side pull for net-zero transformative and decarbonisation technologies.

- (14) The list of net-zero technologies sets out the technologies which are essential for the decarbonisation objectives of the Union and improving the functioning of the internal market. The list includes technologies that not all Member States accept as a source of clean and secure energy. That is in line with their right to determine their choice between different energy sources and the general structure of their energy supply as well as their industrial policy. To safeguard those rights, the list of net-zero technologies is without prejudice to the funding allocation under the current Multiannual Financial Framework 2021 to 27, in particular in terms of allocation eligibility and award criteria related to energy technologies in Union funds, including those financed through Emissions Trading System (ETS) allowances or support by the European Investment Bank (EIB). A Member State should also not be obliged to recognise as strategic projects that support a supply chain for a technology that it does not accept as part of its energy mix.
- (15) In order to ensure that the Union's future energy system is resilient, this scaling-up should be carried out across the whole supply chain of the technologies in question, in full consistency and complementarity with Regulations (EU) 2024/....⁺ and (EU) 2023/1781¹⁰ of the European Parliament and of the Council.

⁺ OJ: Please insert the reference number and date of the adoption of PE-CONS 78/23 (2023/0079 (COD)).

¹⁰ Regulation (EU) 2023/1781 of the European Parliament and of the Council of 13 September 2023 establishing a framework of measures for strengthening Europe's semiconductor ecosystem and amending Regulation (EU) 2021/694 (Chips Act) (OJ L 229, 18.9.2023, p. 1).

- (16) In order to address security of supply issues while contributing to supporting the resilience of the Union's energy system and decarbonisation and modernisation efforts, the net-zero technology manufacturing capacity in the Union needs to expand. The Union needs to ensure that the regulatory environment for manufacturers of photovoltaic (PV) technologies enables them to increase their competitive edge and improve security of supply perspectives, by aiming to reach at least 30 gigawatt of operational PV manufacturing capacity by 2030 across the full PV value chain, in line with the goals set out in the European Solar Photovoltaic Industry Alliance, which is supported under the Union's Solar Energy Strategy established by the Commission communication of 18 May 2022. The Union needs to ensure that the regulatory environment for manufacturers of wind and heat pump technologies enables them to consolidate their competitive edge and maintain or expand their current market shares throughout the 2020s, in line with the Union's technology deployment projections that meet its 2030 energy and climate targets. This translates into a Union manufacturing capacity for wind of at least 36 GW and for heat pumps of at least 31 GW by 2030. Union manufacturers of batteries and electrolysers need to find a regulatory environment that enables them to consolidate their technology leadership and actively contribute to shaping those markets. For battery technologies, that would mean contributing to the objectives of the European Battery Alliance and aim to meet almost 90 % of the Union's battery annual demand by the Union's battery manufacturers, meaning a Union manufacturing capacity of at least 550 GWh by 2030. For Union electrolyser manufacturers, the REPowerEU plan projects 10 million tonnes of domestic renewable hydrogen production and up to 10 million tonnes of renewable hydrogen imports by 2030.

To ensure that the Union’s technological leadership translates into commercial leadership, as supported under the Electrolyser Joint Declaration of the Commission and the European Clean Hydrogen Alliance, Union electrolyser manufacturers should be enabled to further boost their capacity, so that the overall installed electrolyser capacity being deployed reaches at least 100 GW hydrogen by 2030. The RePowerEU plan also sets an objective of boosting sustainable biomethane production to 35 billion cubic meter by 2030. With its supply chain largely based in Europe today, biomethane already makes a contribution to the Union’s resilience and should be further promoted. Union manufacturers of aviation and maritime fuels need to further develop, produce and scale up sustainable alternative fuels in order to significantly contribute to the reduction of the transport sector’s greenhouse gas emissions by 90 % in 2050, as well as to meet the obligations laid down in Regulation (EU) 2023/2405 of the European Parliament and of the Council¹¹ and Regulation (EU) 2023/1805 of the European Parliament and of the Council¹². That reduction is also strongly supported by the Renewable and Low-Carbon Fuels Value Chain Industrial Alliance. The Union needs to ensure that the regulatory environment and support framework for producers of sustainable aviation and maritime alternative fuels technologies enables them to increase their production capacities across the full fuels value chain, from the collection and supply of feedstock to blending, including conversion and refining capacities.

¹¹ Regulation (EU) 2023/2405 of the European Parliament and of the Council of 18 October 2023 on ensuring a level playing field for sustainable air transport (ReFuelEU Aviation) (OJ L, 2023/2405, 31.10.2023, ELI: <http://data.europa.eu/eli/reg/2023/2405/oj>).

¹² Regulation (EU) 2023/1805 of the European Parliament and of the Council of 13 September 2023 on the use of renewable and low-carbon fuels in maritime transport, and amending Directive 2009/16/EC (OJ L 234, 22.9.2023, p. 48).

- (17) Considering those objectives together, while also taking into account that for certain elements of the supply chain, such as inverters, as well as solar cells, wafers, and ingots for PV or cathodes and anodes for batteries, the Union manufacturing capacity is low. In order to help tackle import dependency and vulnerability concerns and to ensure that the Union's climate and energy targets are met, an overall benchmark for the manufacturing capacity for net-zero technology products in the Union should be set, while striving towards a similar benchmark for net-zero technologies. The Union net-zero technologies annual capacity should aim to approach or reach an overall annual manufacturing benchmark of at least 40 % of annual deployment needs by 2030 for net-zero technologies considered as a whole.
- (18) At the same time, net-zero technology products will contribute to the Union's resilience and security of supply of clean energy. A secure supply of clean energy is a prerequisite for economic development, as well as for public order and security. Net-zero technology products will also yield benefits to other strategically important economic sectors, such as farming and food production, by securing access to clean energy and machinery at competitive prices, thus contributing sustainably to the Union's food security and to providing an increasing outlet for bio-based alternatives through the circular economy. In the same way, the fulfilment of the Union's climate ambitions will lead to both economic growth and social well-being.

- (19) The global market for key mass manufactured clean energy technologies will be worth around USD 650 billion a year by 2030, which is more than three times the current level. Globally, the net-zero industry is growing at an increasing rate. The Union industry can deliver prosperity for Union citizens only if it is competitive on and open to the global market. A Union net-zero technology sector that is competitive globally will provide support for the development of a strong Union manufacturing capacity of net-zero technologies. Furthermore, Union industries that are globally competitive in segments of the net-zero technology supply chains will contribute to the overall resilience of the Union's net-zero technology supply chains, and enhance the Union's access to net-zero technologies.

(20) The manufacturing of net-zero technologies depends on complex and globally interlinked value chains. In order to maintain competitiveness and reduce current strategic import dependencies in net-zero technology products and their supply chains, while avoiding the formation of new ones, the Union needs to continue strengthening its net-zero industrial base and become more competitive and open to innovation. Together with other measures to enhance the Union's competitiveness, measures to increase the manufacturing capacity in the Union should also ensure that the Union play a dominant role in strategic parts of the global value chain, including final products, to ensure the level of security of supply that the Union needs for the purpose of achieving its climate and energy objectives. Therefore, a second overall benchmark should be established. The Union's manufacturing capacity for net-zero technologies should aim to reach an increased share of world production, with a view to reaching 15 % of world production in value by 2040, on the basis of the monitoring as provided for in this Regulation. That second benchmark should not apply where the increased Union's manufacturing capacity would be significantly higher than the Union's deployment needs for the corresponding technologies necessary to achieve the Union's climate and energy targets.

- (21) In order for net-zero technology manufacturing projects, including net-zero strategic projects, to be deployed or expanded as quickly as possible to ensure the Union's security of supply for net-zero technologies, it is important to ensure efficiency in planning and investment certainty by keeping the administrative burden on project promoters to a minimum. For that reason, permit-granting processes of the Member States for net-zero technology manufacturing projects, including net-zero strategic projects, should be streamlined, while ensuring that such projects are safe, secure, environmentally sustainable, and comply with environmental, social and safety requirements. Union environmental law sets common conditions for the process and content of national permit-granting processes, thereby ensuring a high level of environmental protection. Being granted the status of net-zero strategic project should be without prejudice to any applicable permitting conditions for the relevant projects, including those set out in Directives 2000/60/EC¹³, 2004/35/EC¹⁴, 2010/75/EU¹⁵, 2011/92/EU¹⁶ and 2012/18/EU¹⁷ of the European Parliament and of the Council and Council Directive 92/43/EEC¹⁸.

¹³ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1).

¹⁴ Directive 2004/35/EC of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage (OJ L 143, 30.4.2004, p. 56).

¹⁵ Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (recast) (OJ L 334, 17.12.2010, p. 17).

¹⁶ Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (OJ L 26, 28.1.2012, p. 1).

¹⁷ Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC (OJ L 197, 24.7.2012, p. 1).

¹⁸ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ L 206, 22.7.1992, p. 7).

- (22) Member States should be able, in light of their internal organisation, to choose whether to establish or designate their single points of contact at local, regional or national level, or at any other relevant administrative level. Moreover, the relevant competent authorities should specify and make available to the single point of contact the requirements and extent of information requested by a project promoter before the permit-granting process commences. The single point of contact should be responsible for communicating that information to the project promoter. The single point of contact should, in its role of coordinator, facilitate the provision of information to the competent authorities, in particular to avoid duplication of any permit-granting process requests. Such requests could include studies, permits or authorisations.
- (23) In order to reduce complexity and increase efficiency and transparency in the permit-granting process, net-zero manufacturing projects, including strategic project promoters should be able to interact with a single point contact which is responsible for facilitating and coordinating the entire permit- granting process. To that end, Member States should establish or designate one or more single points of contact, while ensuring that project promoters have to interact with a sole point of contact. It should be for Member States to decide whether a single point of contact is also an authority that makes permitting decisions. To ensure the effective implementation of their responsibilities, Member States should provide their single points of contact, as well as any authority involved in the permit-granting process with sufficient personnel and resources.

- (24) In order to allow businesses and project promoters, including for cross-border projects, to directly enjoy the benefits of the internal market without incurring an unnecessary additional administrative burden, Regulation (EU) 2018/1724 of the European Parliament and of the Council¹⁹, which established the Single Digital Gateway, provides for general rules for the online provision of information, procedures and assistance services relevant for the functioning of the internal market. The information that needs to be submitted to any relevant authorities via the single point of contact concerned as part of the permit-granting process under this Regulation are covered in Annex I to Regulation (EU) 2018/1724, and the related procedures are included in Annex II to that Regulation to ensure that project promoters can benefit from fully online procedures and the Once-Only Technical System Services. Single points of contact established or designated pursuant to this Regulation are included in the list of assistance and problem-solving services in Annex III to Regulation (EU) 2018/1724.

¹⁹ Regulation (EU) 2018/1724 of the European Parliament and of the Council of 2 October 2018 establishing a single digital gateway to provide access to information, to procedures and to assistance and problem-solving services and amending Regulation (EU) No 1024/2012 (OJ L 295, 21.11.2018, p. 1).

(25) Net-zero technology manufacturing projects undergo lengthy and complex permit-granting processes which can last between two and seven years, depending on the Member State technology and value chain segment. Considering the size of the required investments, in particular for gigafactory-size projects which are needed to reach the expected economies of scale, inadequate permit-granting processes create an additional and often detrimental barrier to increasing net-zero technology manufacturing capacity in the Union. In order to provide project promoters and other investors with the security and clarity needed to increase development of net-zero technology manufacturing projects, Member States should ensure that the permit-granting process related to such projects does not exceed pre-set time limits. For net-zero strategic projects, the length of the permit-granting process should not exceed 12 months for facilities with a yearly production output of 1 GW or more, nine months for those with a yearly production output of less than 1 GW, or 18 months for all necessary permits to operate a strategic CO₂ storage site and the deployment of related CO₂ capture and CO₂ transport projects. For net-zero technology manufacturing projects, the length of the permit-granting process should not exceed 18 months for facilities with a yearly production output of 1 GW or more, and 12 months for those with a yearly production output of less than 1 GW. For net-zero technologies for which the GW metric is not relevant, such as grids and carbon capture and storage (CCS) or CO₂ transport and utilisation technologies, the upper limits of the those deadlines should apply. However, the first step of the environmental impact assessment pursuant to Directive 2011/92/EU, which consists of the preparation of an environmental impact assessment report, is often predominantly performed by the project promoter.

That step should therefore not be integrated in the timelines which the Member States are bound by as referred to in the permit-granting process. To that end, the single point of contact should notify the date by which the project promoter needs to submit the environmental impact assessment report, and any period between that notified date and the actual submission of the report should not be counted towards the timeline. The same principle should apply where, after the required consultations, the single point of contact notifies the project promoter of the opportunity to submit additional information to complete the environmental impact assessment report. In exceptional cases related to the nature, complexity, location or size of the proposed project, Member States should be able to extend the timelines. Such exceptional cases could include unforeseen circumstances triggering the need to add to or complete environmental assessments related to the project, or delays due to expropriation processes where required.

- (26) It is possible for some specific net-zero manufacturing projects to be recognised as net-zero strategic projects. They bring additional benefits, in particular with regard to the reduction of the Union dependencies or the achievement of the Energy Union and climate goals. Net-zero manufacturing projects can contribute to strengthening the technological and industrial resilience of the Union by increasing manufacturing capacity for a key segment of a supply chain. In particular, adding manufacturing capacity for sectors for which the Union's manufacturing capacity represents a significant share of world production, and which play a crucial role in the resilience of the Union, makes it possible to strengthen the Union's position in the global net-zero manufacturing supply chain and helps tackle import vulnerability concerns. Furthermore, those projects can bring additional benefits in terms of skills development and competitiveness as well as support the Union decarbonisation goals through implementing circular and sustainable manufacturing practices. In light of any such additional benefits, those projects should be selected as strategic projects by the Member States and should benefit from a framework allowing their speedier implementation, in particular through priority status and shorter time limits in the permit-granting process. Project promoters that wish to receive the status of a net-zero strategic project need to formally apply for such a status to the relevant Member State in accordance with the application and recognition criteria laid down in this Regulation.

- (27) The environmental assessments and authorisations required under Union law, including in relation to water, soil, air, ecosystems, habitats, biodiversity and birds, are an integral part of the permitgranting process for a net-zero technology manufacturing project and an essential safeguard to ensure negative environmental impacts are prevented or minimised. However, to ensure that permit-granting processes for net-zero technology manufacturing projects are predictable and timely, any potential to streamline the required assessments and authorisations should be realised, while not lowering the level of environmental protection. In that regard, the necessary assessments should be bundled to prevent unnecessary overlap and project promoters and the relevant authorities should explicitly agree on the scope of the bundled assessment before the assessment is carried out to prevent unnecessary follow-up.
- (28) Land use conflicts can create barriers to the deployment of net-zero technology manufacturing projects. Well-designed plans, including spatial plans and zoning, should consider whether to introduce possible net-zero technology manufacturing projects, while taking into account the results of public consultations and potential environmental impacts. Those plans have the potential to help balance the public interest and common good, decreasing the potential for conflict and accelerating the sustainable deployment of net-zero technology manufacturing projects in the Union. The relevant national, regional and local authorities should therefore be encouraged to include, where appropriate, provisions for net-zero technology manufacturing projects, including net- zero strategic projects, when developing plans.

(29) Clustering industrial activity directed towards industrial symbiosis can minimise the environmental impact of the activities and provide efficiency gains for industrial actors involved. Clustering can contribute substantially to achieving the objectives of this Regulation. In that regard, this Regulation promotes the development of net-zero Acceleration Valleys (the ‘Valleys’). The objectives of Valleys are to create clusters of net-zero industrial activity in order to increase the attractiveness of the Union as a location for manufacturing activities and to further streamline the administrative procedures for setting up net-zero manufacturing capacities. Valleys should be limited in geographical and technology scope in order to promote industrial symbiosis. When defining the scope, Member States should take into account the need to favour multiple uses of the areas identified to ensure the expansion, reindustrialisation or creation of the Union’s net-zero technology industrial clusters and the availability of relevant transport and network infrastructure, storage and other flexibility tools. Setting up Valleys should correspond to any planned or existing project pipeline and the potential to access or organise education and training opportunities to ensure the availability of skilled labour. Valleys should be designated by Member States and each designation should be accompanied by a plan setting out concrete national measures to increase the attractiveness of the Valley as a location for manufacturing activities. Valleys should, in particular, be used as a tool for strengthening net-zero industrial activities in regions, taking into account the just transition and its objectives, in particular in coal regions in transition.

- (30) Member States should be able to designate and support the Valleys. When designating a Valley, Member States should draw up a plan specifying which net-zero manufacturing activity is to be covered in the Valley (the ‘Plan’). Member States should also conduct environmental impact assessments as required for the net-zero manufacturing activities that are to take place in the Valley. Such impact assessments substantially limit the need for undertakings to perform those assessments for permits for the net-zero manufacturing activities within the scope of the Valley. The Plan should include the results of the environmental impact assessments as well as the national measures to be taken to minimise or mitigate any negative environmental impact. The Plan should also include concrete national measures to support industrial activity within the scope of the Valley. Those measures should include measures to invest in or trigger private investment in energy, digital and transport infrastructure, as well as measures to reduce the operational expenditure for the industry in the Valley, such as contracts of difference for energy prices. Other measures to be considered include those strengthening intellectual property protection, to set up an innovation hub in the Valley and to attract start-ups to the Valley. In order to provide investment security for Union industry, the Plan should also specify the duration of the support measures.

- (31) Member States are encouraged to designate Valleys in less developed and transition regions, as well as in assisted areas. Investments with the aim of setting up Valleys, equipping them with appropriate infrastructure, converting brownfield sites and developing local skills, can benefit from public financial support, including through shared managed funds, namely European Regional Development Fund and Cohesion Fund established by Regulation (EU) 2021/1058 of the European Parliament and of the Council²⁰, the Just Transition Fund established by Regulation (EU) 2021/1056 of the European Parliament and of the Council²¹, and the European Social Fund Plus (ESF+) established by Regulation (EU) 2021/1057 of the European Parliament and of the Council²². In accordance with the rules governing each fund and at the discretion of the relevant managing authorities, those investments can receive the highest possible co-financing rates permitted by each fund.

²⁰ Regulation (EU) 2021/1058 of the European Parliament and of the Council of 24 June 2021 on the European Regional Development Fund and on the Cohesion Fund (OJ L 231, 30.6.2021, p. 60).

²¹ Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 establishing the Just Transition Fund (OJ L 231, 30.6.2021, p. 1).

²² Regulation (EU) 2021/1057 of the European Parliament and of the Council of 24 June 2021 establishing the European Social Fund Plus (ESF+) and repealing Regulation (EU) No 1296/2013 (OJ L 231, 30.6.2021, p. 21).

(32) Given the role of Valleys in aggregating and pooling of resources that are relevant for the Union's open strategic autonomy, and their contribution to the Union's security of supply for net-zero technologies, as well as the green and digital transition, the relevant permitting authorities should consider Valleys to be in the public interest. That measure consists of the introduction of a provision specifying that projects in Valleys are of public interest for the purposes of the relevant Union environmental law. Those projects should not have major adverse effects on the environment which cannot be mitigated or compensated for. On the basis of an ex-ante assessment, the relevant permitting authority can conclude that the public interest served by the projects in a Valley overrides the public interests related to nature and environmental protection and that, consequently, the projects can be authorised, provided that all relevant conditions set out in Directive 2000/60/EC, Directive 2009/147/EC of the European Parliament and of the Council²³, Directive 92/43/EEC and Union legislative acts on nature restoration are met.

²³ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (OJ L 20, 26.1.2010, p. 7).

- (33) The unpredictability, complexity and, at times, excessive length of national permit-granting processes undermines the investment security necessary for the effective development of net-zero technology manufacturing projects, including net-zero strategic projects. Therefore, in order to ensure and speed up effective implementation, Member States should apply streamlined and efficient permit-granting processes. Furthermore, Member States should consider policy innovation in that field. Moreover, net-zero strategic projects should be regarded as urgent at national level and should therefore be given a priority status insofar as and to the extent that national law provides for such urgency procedures in all judicial and dispute resolution procedures relating to them, while ensuring respect for the rights of defence, if and to the extent, national law provides for such urgency procedures. This should be done without preventing competent authorities from streamlining permit-granting processes for, inter alia, other net-zero technology manufacturing projects that are not net-zero strategic projects.

- (34) In order to achieve the 2030 objectives, a particular focus is needed on net-zero strategic projects, also in view of their significant contribution towards the path to net-zero CO₂ emissions by 2050. Those projects play a key role in the Union's open strategic autonomy, ensuring that citizens have access to clean, affordable, secure energy. Given their role, those projects should benefit from even more streamlined and efficient permitting procedures, obtain the status of the highest national significance possible under national law and benefit from additional support to crowd-in investments, while still meeting Union and international obligations pursuant to Regulation (EU) 2024/...⁺, Directive 2009/147/EC, and Directive 92/43/EEC and the United Nations Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, signed at Aarhus on 25 June 1998, as well as applicable obligations in the fields of social and labour law established by Union or national law.
- (35) Given their role in ensuring the Union's security of supply for net-zero technologies, and their contribution to the Union's open strategic autonomy and the green and digital transition, the relevant permitting authority should consider net-zero strategic projects to be in the public interest. On the basis of its case-by-case assessment, a permitting authority can conclude that the public interest served by the project overrides the public interests related to nature and environmental protection and that consequently the project can be authorised, provided that all relevant conditions set out in Directive 92/43/EEC, 2000/60/EC or 2009/147/EC, or in Union legislative acts on nature restoration, are met.

⁺ OJ: Please insert in the text the number of document PE-CONS 74/23.

- (36) It is also necessary to provide for measures to reach the Union's target of 50 million tonnes of annual operational CO₂ injection capacity by 2030, thereby supporting the decarbonisation of the Union's industries and combating climate change.
- (37) In 2020, the Commission adopted an EU strategy for energy system integration. That strategy sets out a vision on how to accelerate the transition towards a more integrated energy system that supports a climate neutral economy at the lowest cost across sectors. It encompasses three complementary and mutually reinforcing concepts: first, a more 'circular' energy system, with energy efficiency at its core; second, a greater direct electrification of end-use sectors; third, the use of renewable and low-carbon fuels, including hydrogen. Considerations related to energy system integration refer to solutions for fully integrating all the electricity generated by renewable energy installations into the wider energy system. That includes adopting technical solutions that allow for the integration of surplus electricity generated by renewable electricity installations, including through storage and by expanding plannable fossil free power sources in the grid, in its various forms and demand-side management.
- (38) CCS is a technology that will contribute to mitigating climate change. It consists of the capture of CO₂ from industrial installations, its transport to a storage site and its injection into a suitable underground geological formation for the purposes of permanent storage.

- (39) The development of CCS solutions for industry is confronted with a coordination failure. On the one hand, despite the fact that the CO₂ price signal provided by the ETS makes such investments economically viable, industries investing in capturing CO₂ emissions face a significant risk of not being able to access a permitted geological storage site. On the other hand, investors in first CO₂ storage sites face upfront costs to identify, develop and appraise them even before they can apply for a regulatory storage permit. Transparency about potential CO₂ storage capacity in terms of the geological suitability of relevant areas and all existing geological data, including raw and model data, in particular from the exploration of hydrocarbon production sites, can support market operators to plan their investments. Member States should, while taking into account confidentiality, national security and commercial sensitivities, as well as adequate compensation for privately generated and owned data, make such existing data publicly available and report regularly from a forward-looking perspective about any progress in developing CO₂ storage sites and the corresponding needs for injection and storage capacities, in order to collectively reach the Union-wide target for CO₂ injection capacity. Those transparency obligations are without prejudice to the right of Member States not to authorise or to limit the deployment of CO₂ storage capacity on their territory.
- (40) To avoid stranded assets and to ensure that economically viable injection capacity leads to CO₂ reductions, a business case along the full value chain should be built. Therefore, full and individual CCS value chains including capture, transport and storage need to be established by 2030 via effective Union and national policies with appropriate regulations guaranteeing competition and open access.

(41) A key bottleneck for carbon capture investments that are today increasingly economically viable is the availability of operating CO₂ storage sites in the Union, which underpin the incentives derived from Directive 2003/87/EC of the European Parliament and the Council²⁴. To scale up the technology and expand its leading manufacturing capacities, the Union needs to develop a forward-looking supply of permanent geological CO₂ storage sites permitted in accordance with Directive 2009/31/EC of the European Parliament and of the Council²⁵ as well as CO₂ transport infrastructures. By defining a Union target of 50 million tonnes of annual operational CO₂ injection capacity by 2030, in line with the expected capacities needed by 2030, and taking into account the companies operating primarily in Member States with very limited storage capacity due to legal, geological, geographical, technical or market constraints, the relevant sectors can coordinate their investments towards a European net-zero CO₂ transport and storage value chain that industries can use to decarbonise their operations. This initial deployment will also support further CO₂ storage in a 2050 perspective. According to the Commission's estimates, the Union could need to capture up to 550 million tonnes of CO₂ annually by 2050 to meet the net-zero objective, including for carbon removals. Such a first industrial-scale storage capacity objective will de-risk investments in the capturing of CO₂ emissions as an important tool to reach climate neutrality. When this Regulation is incorporated into the European Economic Area Agreement, the Union target of 50 million tonnes of annual operational CO₂ injection capacity by 2030 will be adjusted accordingly. To ensure the achievement of the Union's target, Member States should take the necessary measures to facilitate and incentivise the deployment of CCS projects. Such measures should also include measures incentivising emitters to capture emissions and investment support for investors for CO₂ transport infrastructures to transport CO₂ to the storage sites.

²⁴ Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Union and amending Council Directive 96/61/EC (OJ L 275, 25.10.2003, p. 32).

²⁵ Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006 (OJ L 140, 5.6.2009, p. 114).

- (42) Any international agreement relating to the permanent storage of Union CO₂ in third countries should provide for equivalent conditions to ensure permanently secure and environmentally safe geological storage of captured CO₂ and ensure that the storage of Union CO₂ is not used to increase hydrocarbon production and corresponds to a genuine reduction of emissions.

(43) By defining CO₂ storage sites and any related CO₂ capture and CO₂ infrastructure projects that contribute to the Union's 2030 target as net-zero strategic projects, the development of CO₂ storage sites can be accelerated and facilitated, and the increasing industrial demand for storage sites can be channelled towards the most-cost-effective storage sites. An increasing volume of depleting gas and oil fields that could be converted into safe CO₂ storage sites are at the end of their useful production lifetime. In addition, the oil and gas industry has affirmed its determination to embark on an energy transition and possesses the assets, skills and knowledge needed to explore and develop additional storage sites. To reach the Union's target of 50 million tonnes of annual operational CO₂ injection capacity by 2030, the sector needs to pool its contributions to ensure that CCS as a climate solution is available ahead of demand. In order to ensure a timely, Union-wide and cost-effective development of CO₂ storage sites in line with the Union objective for injection capacity, licensees of oil and gas production in the Union should contribute to that target on a pro rata basis of their oil and gas manufacturing capacity, while providing flexibilities to cooperate and take into account other contributions of third parties. A value-chain approach should be fostered by actions taken both at Union and national level. Accordingly, licensees of oil and gas production in the Union should undertake the necessary investments and support the development of viable business models for the entire carbon dioxide value chain.

- (44) In order to contribute to the Union CO₂ injection capacity objective, obligated entities are able to enter into agreements with non-obligated entities to fulfil the entirety or a part of their obligation. Those agreements can be a part of a joint-venture agreement that establishes a storage site or be conducted separately between parties to fulfil the contribution of the obligated entity. Where such joint-ventures have been established before the date of entry into force of this Regulation, the full injection capacity of the relevant joint CO₂ storage project can be used to fulfil the obligations of the obligated partners parties.
- (45) In order to ensure that storage sites are developed under sound market conditions, the Commission should carry out an assessment that looks into the relationship between the concrete demand for injection capacity from CO₂ capture projects and the main infrastructure necessary for the transport of CO₂ in progress or planned to be operational by 2030 and the 2030 storage capacity obligations.

- (46) Derogations from the obligation are an essential tool to prevent stranded assets under these circumstances. To apply these derogations effectively, Member States and the Commission should fully engage with the relevant authorised entities in any assessment of the need for a derogation, particularly in the case where an authorised entity flags the need for a derogation. For the purpose of achieving the Union's CO₂ injection capacity objective, where, on the basis of the Commission's assessment, no derogation is granted, or where the relevant Member State did not request a derogation, the Commission and the Member State will engage with relevant authorised entities to help resolving obstacles and barriers so as to facilitate the achievement of the obligation.
- (47) Additional policy effort is essential to secure the deployment of cross-border infrastructure planning. Accessibility and connectivity of the full range of arrangements for the transport of CO₂ play a critical role for the deployment of CCS and carbon capture and utilisation projects. Such arrangements cover ships, barges, trains and trucks as well as fixed facilities for connecting and docking, for liquefaction, buffer storage and converters of CO₂ in view of its further transport through pipelines and in dedicated modes of transport.
- (48) It should be possible for Member States to form, or to provide support for the formation of, entities that have the objective of creating CO₂ transport networks including the construction of infrastructure or the provision of vessels or other means of conveyance.

- (49) The capture, storage and utilisation of CO₂ will inevitably be part of the Union's decarbonised future including removals. A well-functioning Union-wide market for captured CO₂, CO₂ injection services, CO₂ transport services and carbon utilisation activities is necessary. This market should deliver on certain public policy objectives in the most economically advantageous manner. An overall objective is the sustainable and cost-effective decarbonisation of Union industry by ensuring that any CO₂ emissions which cannot be reduced through technical means, or where it is not economically viable to reduce those emissions, can be captured and either stored or utilised, avoiding delayed emissions. That market should also ensure the safety, sustainability and permanence of the geological storage of captured CO₂ and that captured CO₂ is available for carbon utilisation activities in line with the Union's climate objectives. A functioning market for CO₂ should also be underpinned by a network of CO₂ transport infrastructure with a minimal environmental footprint which is accessible for market actors under fair, open and non-discriminatory conditions. The market should comply with Union environmental standards.
- (50) Using captured CO₂ in certain production processes can permanently store CO₂ or contribute to reducing the Union's dependence on fossil fuels. Therefore, all entities involved in the value chain of CO₂ injection activities set out in this Regulation should be encouraged to consider whether the CO₂ that is to be stored could be permanently stored in new products or could support the Union's objectives to reduce its reliance on fossil fuels.

- (51) The Union has helped build a global economic system on the basis of open, transparent and rules-based trade, has pushed for respecting and advancing social and environmental sustainability and climate transition standards, and is fully committed to those values. The Union aims to level the playing field by reforming the World Trade Organization (WTO), building new partnerships and fighting against unfair trading practices and production overcapacity, to secure a fair competitive environment for Union industry, including through Net-Zero Industrial Partnerships, providing quality jobs for workers.
- (52) In order to ensure the Union's access to a secure and sustainable supply of net-zero technologies necessary to safeguard the Union's resilience and in order to reach its climate neutrality targets, the internal market needs to be a supportive environment for innovation in net-zero technologies to take place. Innovation will be a crucial factor in ensuring the Union's competitiveness as well as reaching net-zero objectives as soon as possible. Given the rapid developments in net-zero technologies as well as the significant regulatory guidance provided for the green transition, it is of utmost importance, in order to achieve the objectives of this Regulation, that the potential impacts of Union law and policy initiatives on innovation are considered during their preparation, review and revision through the application of the innovation principle.

- (53) In order to reflect the objectives of this Regulation, the Commission could consider whether to update the Transition Pathways that are being developed following the Commission communication of May 2021 and that could identify enablers as well as bottlenecks for the transition and competitiveness of Union industry, or take this Regulation into account in any such future initiatives.
- (54) Under the first pillar of the Green Deal Industrial Plan, the Union is to develop and maintain an industrial basis for the provision of net-zero technology solutions to secure its energy supply, while also living up to its ambitions on climate neutrality. To support that goal and to avoid dependencies for the supply of net-zero technologies that would delay the Union's greenhouse gas emission reductions efforts or put the security of supply of energy at risk, this Regulation should lay down provisions to encourage demand for sustainable and resilient net-zero technologies.

(55) The application of minimum mandatory requirements ensures that the leverage of public spending to boost demand for better performing procurement for net-zero products in the field of environmental sustainability is increased in a structured way that is implementable for contracting authorities and contracting entities. Some exceptions should ensure that contracting authorities and contracting entities avoid specific undesirable consequences. Those exceptions relate to monopoly situations, specific market failures or situations where contracting authorities or contracting entities might be faced with disproportionate costs or technical incompatibilities. Contracting authorities and contracting entities should remain free to include additional minimum requirements in their procurement documents, provided that they comply with Directives 2014/23/EU²⁶, 2014/24/EU²⁷ or 2014/25/EU²⁸ of the European Parliament and of the Council and applicable sectoral law. They should also remain free, under the same conditions, to use, in addition, award criteria for identifying the most economically advantageous tender such as price, cost or other criteria.

²⁶ Directive 2014/23/EU of the European Parliament and of the Council of 26 February 2014 on the award of concession contracts (OJ L 94, 28.3.2014, p. 1).

²⁷ Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC (OJ L 94, 28.3.2014, p. 65).

²⁸ Directive 2014/25/EU of the European Parliament and of the Council of 26 February 2014 on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC (OJ L 94, 28.3.2014, p. 243).

- (56) For works contracts and works concessions that fall within the scope of this Regulation, contracting authorities and contracting entities should choose one or more specific conditions, requirements or contractual obligations to help achieve several objectives, such as addressing social or employment-related considerations in order to achieve a positive social outcome, effectively taking into account cybersecurity concerns, where relevant, or obtaining sufficient assurance that the relevant products will be delivered in a timely manner. Those aspects are also important to foster resilience. Exceptions relating to monopoly situations, specific market failures or situations where contracting authorities or contracting entities might be faced with disproportionate costs or technical incompatibilities should also be provided for.

(57) In some cases attention should be given to the tender's resilience contribution in relation to certain third countries. If the Commission has determined that the proportion of a net-zero technology or its main specific components originating in a third country accounts for more than 50 % of the supply of that specific technology or of those components within the Union, contracting authorities and contracting entities should be obliged to include several conditions in their procurement documents in order to achieve a resilient outcome. In that way, the value of the specific net-zero technology or the main specific components of the specific net-zero technology originating from the third country concerned should not exceed a 50 % limit under specific conditions. Moreover, if the Commission has determined that the proportion of supply within the Union of those products or components originating in a third country has increased by at least 10 percentage points on average for two consecutive years and has reached at least 40 % of the supply within the Union, the same mechanism should apply. This will allow the Union to take into account evolving dependencies in an efficient manner. For contracts covered by the Union's Appendix I to the World Trade Organisation Agreement on Government Procurement (GPA) or by other relevant international agreements by which the Union is bound, contracting authorities and contracting entities should not apply those requirements to net-zero technologies or their main specific components originating from sources of supply that are signatories to those agreements.

- (58) In the event of non-observance of those resilience requirements, contracting authorities and contracting entities should also require, in their procurement documents, the main contractor to be obliged to pay a proportionate charge to the contracting authority or contracting entity concerned of at least 10 % of the value of the specific net-zero technologies of the contract, in order to ensure that the mechanism is complied with.
- (59) Member States should not discriminate against, or subject to unjustified different treatment, a provider of net-zero technologies from another Member State. That obligation mirrors the already existing obligation for contracting authorities and contracting entities, in accordance with Directives 2014/23/EU, 2014/24/EU and 2014/25/EU, to treat economic operators equally and without discrimination and to follow the procedural rules laid down in those Directives to ensure that the principles of equal treatment and non-discrimination are given practical effect and public procurement procedures are opened up to competition.

- (60) Without prejudice to Union law applicable to a specific technology, including under Regulation (EU) 2024/... of the European Parliament and of the Council²⁹⁺ and Regulation (EU) 2023/1542 of the European Parliament and of the Council³⁰, and unless otherwise provided for therein, when evaluating the environmental sustainability of the net-zero solutions procured on the basis of this Regulation, contracting authorities and contracting entities should be able to take into account various elements with an impact on the climate and the environment.
- (61) Implementing powers should be conferred on the Commission to establish guiding principles for contracting authorities and contracting entities to specify technical specifications, requirements, and contract performance conditions related to environmental sustainability for public contracts. This should be without prejudice to Union law applicable to specific technologies, including under Regulation (EU) 2024/...⁺⁺ and Regulation (EU) 2023/1542.

²⁹ Regulation (EU) 2024/... of the European Parliament and of the Council of ... establishing a framework for setting ecodesign requirements for sustainable products, amending Directive (EU) 2020/1828 and Regulation (EU) 2023/1542 and repealing Directive 2009/125/EC (OJ L, ..., ELI: ...).

⁺ OJ: Please insert the reference number and date of adoption of PE -CONS 106/23 (2022/0095 (COD)) and complete a corresponding footnote.

³⁰ Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC (OJ L 191, 28.7.2023, p. 1).

⁺⁺ OJ: Please insert the number of Regulation contained in document PE-CONS 106/23, (2022/0095 (COD)).

- (62) In order to take into account, within a public procurement procedure or an auction, of the need to support the production or consumption of energy from renewable sources and the need to diversify sources of supply of net-zero technologies away from single sources of supply, and without prejudice to the Union's international commitments, the supply should be deemed to be insufficiently diversified at least where the specific net-zero technology or its main specific components originates from a single third country and accounts for more than 50 % of that supply within the Union.
- (63) In order to promote the responsible business conduct of bidders, the cybersecurity and data security of the technologies used, projects and related infrastructures and to promote the delivery of projects fully and on time, public authorities designing auctions for the deployment of energy from renewable sources should include pre-qualification criteria related to responsible business conduct, cybersecurity and data security and the ability to deliver the project fully and on time.

- (64) To support the aim of developing and maintaining an industrial basis for the provision of renewable energy technologies to secure the Union's energy supply and to avoid dependencies for the supply of these technologies that would delay the Union's greenhouse gas emission reductions efforts or put the security of energy supply at risk, public authorities designing auctions for the deployment of energy from renewable sources should increase the sustainability and resilience of the supply of those technologies within the Union. Member States should assess the auctions' contribution to sustainability by examining the environmental sustainability of bids, their contribution to innovation and their contribution to energy system integration. For that purpose, Member States should have the choice to introduce pre-qualification or award criteria in the auction design. While pre-qualification criteria should be fulfilled by all the bidders' projects in order to be able to participate in the auction, award criteria are aimed to evaluate and rank the different projects participating in an auction.

- (65) When considering the environmental sustainability of bids, either in the form of pre-qualification criteria or award criteria, public authorities designing auctions for the deployment of energy from renewable sources may take into account various elements with an impact on the climate and the environment. Those elements could include, the durability and reliability of the solution; the ease of repair and maintenance and access to such services; the ease of upgrading and refurbishment; the ease and quality of recycling; the use of substances; the consumption of energy, water and other resources in one or more life cycle stages of the product; the weight and volume of the product and its packaging; the incorporation of renewable materials, recycled or used components; the quantity, characteristics and availability of consumables necessary for proper use and maintenance; the environmental footprint of the product and its life cycle environmental impacts; the carbon footprint of the product; the microplastic release; emissions to air, water or soil released in one or more life cycle stages of the product; the amounts of waste generated; and the conditions for use.
- (66) To support the design and production of more innovative and advanced renewable energy technologies, the sustainability contribution of bids may take into account, either in the form of pre-qualification criteria or award criteria, the contribution to innovation by providing for pre-qualification or award criteria that promote the use of entirely new solutions or the improvement of comparable state-of-the-art solutions.

- (67) To support the integration of energy from renewable sources into the Union's energy system and its benefits for cost-effective decarbonisation, the sustainability contribution of bids may take into account the contribution to energy system integration through, for instance, energy storage, waste heat and cold recovery and the production of renewable hydrogen.
- (68) To increase the resilience of supply of net-zero renewable energy technologies and to avoid excessive dependency on countries with a high concentration of supply within the Union, public authorities should consider, by means of pre-qualification or award criteria, the resilience contribution of the different projects participating in auctions for the deployment of energy from renewable sources, taking into account the need to diversify the supply of renewable energy technologies, without prejudice to the Union's international commitments. When applying the resilience criterion, public authorities should take into account that the supply should at least be deemed insufficiently diversified where more than 50 % of the demand within the Union for a specific net-zero technology or for its main specific components originates from a single third country.

- (69) When applied as award criteria, the weighting of criteria on the sustainability and resilience contribution of the tender in relation to auctions for the deployment of energy from renewable sources is without prejudice to the possibility for the authorities designing those auctions to set a higher threshold for the criteria relating to environmental sustainability, innovation and energy system integration where that is compatible with any limit for non-price criteria set under State aid rules. In any event, the application of these criteria and their minimum and combined weight in auctions should ensure that auctions remain competitive and comply with Articles 107 and 108 of the Treaty on the Functioning of the European Union (TFEU).

(70) In order to increase the Union's supply of renewable energy technologies to reach the overall annual manufacturing benchmark needs by 2030 within the Union, a specific share of the volume auctioned for which non-price criteria are applied should be provided for in this Regulation. This share should be assessed every two years by the Commission in order to determine the impact of the non-price criteria on the development of the Union's annual manufacturing of renewable energy technologies and the deployment of energy from renewable sources, including their financial impact and their impact on the speed of deployment, while also taking into account the workability and clarity of the system for project developers. If the assessments show that the application of the resilience and sustainability criteria positively contributes to the security of supply of the Union for net-zero technologies, in particular by increasing the manufacturing capacity in the Union for renewable energy technologies, and do not significantly hinder the achievement of the targets for renewable energy set out in Directive (EU) 2018/2001 of the European Parliament and of the Council³¹, including the deployment in each Member State, the application of those provisions should be step-wise increased. Each step should be subject to an impact assessment to ensure that higher shares continue to contribute positively to the security of supply of renewable energy technologies and that those benefits outweigh the effects on the cost and speed of deployment of energy from renewable sources. The determination of the share of the volume auctioned should, if appropriate and feasible, strive to reach a gradual overall increase with a view to contributing to meeting the overall objectives of this Regulation and to reaching 50 % by the end of 2029.

³¹ Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (OJ L 328, 21.12.2018, p. 82).

- (71) Depending on their goals for the deployment of energy from renewable sources and their national decarbonisation strategies, Member States could be impacted very differently by the application of the resilience and sustainability criteria. When assessing the impact of those criteria on the deployment of energy from renewable sources, the Commission should therefore examine the overall financial impact and the effects on deployment in the Union as well as the impact on Member States and other relevant stakeholders, including households and companies. To determine the impact on the deployment of energy from renewable sources and take into account practical experiences with applying non-price criteria, the Commission should consult, as part of its assessment and in a structured and transparent manner, the national authorities carrying out auctions.
- (72) The criteria for auctions might add an excessive burden for promoters of renewable energy projects with small capacity. To limit the impact of this Regulation on auctions to support projects with a maximum capacity of 10 megawatt, Member States should be able to exclude those auctions from the calculation of the total volume of capacity auctioned per year.
- (73) Where auctions to which pre-qualification, resilience and sustainability criteria are applied are undersubscribed, the deployment of energy from renewable sources should not be slowed down by obliging Member States to apply those criteria to the undersubscribed share of the auction's volume. Member States should, therefore, be able to exclude from the requirements for auctions the share of the auction's volume that is undersubscribed. An auction is considered to be undersubscribed when the bids presented for that auction cover a volume that is below the total volume of the capacity auctioned.

- (74) For the purpose of setting up schemes benefiting households, businesses, or consumers which incentivise the purchase of net-zero technology final products, and without prejudice to the Union's international commitments, the supply should be deemed insufficiently diversified where a single source supplies more than 50 % of the total demand for a specific net-zero technology within the Union. To ensure consistent application, the Commission should publish an annual list, starting on the date of application of this Regulation, of the distribution of the origin of net-zero technology final products which fall under this category, broken down by the share of Union supply originating in different sources in the most recent year for which data are available.
- (75) Council Decision 2014/115/EU³² approved, inter alia, the amendment of the GPA. The aim of the GPA is to establish a multilateral framework of balanced rights and obligations relating to public contracts with a view to achieving the liberalisation and expansion of world trade. For contracts covered by the Union's Appendix I to the GPA, as well as by other relevant international agreements by which the Union is bound, including free trade agreements and Article III:8(a) of the General Agreement on Tariffs and Trade of 1994 for procurement by governmental agencies of products purchased with a view to commercial resale or with a view to use in the production of goods for commercial sale, contracting authorities and contracting entities should not apply resilience requirements to net-zero technologies or their main specific components originating from sources of supply that are signatories to those agreements.

³² Council decision 2014/115/EU of 2 December 2013 on the conclusion of the Protocol Amending the Agreement on Government Procurement (OJ L 68, 7.3.2014, p. 1).

- (76) The application of the provisions on resilience in public procurement procedures pursuant to this Regulation should be without prejudice to Article 25 of Directive 2014/24/EU and Articles 43 and 85 of Directive 2014/25/EU, and in line with the Commission communication of 24 July 2019 entitled ‘Guidance on the participation of third country bidders and goods in the EU procurement market’. Similarly, public procurement provisions should continue to apply to works, supplies and services subject to this Regulation, including Article 67(4) of Directive 2014/24/EU and any implementing measures resulting from Regulation (EU) 2024/...⁺.
- (77) In order to limit the administrative burden resulting from the need to take into account requirements relating to the sustainability and resilience contribution of the tender, in particular for smaller public buyers and for contracts of lower value which do not have an important impact on the market, the application of the relevant provisions of this Regulation should be deferred for two years for public buyers which are not central purchasing bodies and for contracts of a value below EUR 25 million.
- (78) For the purposes of the application of the provisions relating to public procurement pursuant to this Regulation, where a product is covered by a delegated act adopted pursuant to Regulation (EU) 2017/1369 of the European Parliament and of the Council³³, contracting authorities and contracting entities should purchase only the products that comply with the obligation laid down in Article 7(2) of that Regulation.

⁺ OJ: Please insert the number of Regulation contained in document PE-CONS 106/23 (2022/0095(COD)).

³³ Regulation (EU) 2017/1369 of the European Parliament and of the Council of 4 July 2017 setting a framework for energy labelling and repealing Directive 2010/30/EU (OJ L 198, 28.7.2017, p. 1).

(79) Households, businesses, and final consumers are an essential part of the Union's demand for net-zero technologies final products and public support schemes to incentivise the purchase of such product by households, in particular for vulnerable low- and lower middle-class income households and consumers, are important tools to accelerate the green transition. Under the solar rooftop initiative announced in the Commission communication of 18 May 2022, Member States should for instance set-up national programmes to support the massive deployment of rooftop solar energy. In the REPowerEU plan, the Commission called Member States to make full use of supporting measures which encourage switching to heat pumps. Such support schemes set up nationally by Member States or locally by local or regional authorities should also contribute to improving the sustainability and resilience of the Union's net-zero technologies. Public authorities should for instance provide higher financial compensation to beneficiaries for the purchase of net-zero technology final products that will make a higher contribution to resilience in the Union. Public authorities can make the eligibility of schemes conditional on the sustainability and resilience contribution. In doing so, Member States are encouraged to take into account the accessibility of the scheme for citizens living in energy poverty. Public authorities should ensure that their schemes are open, transparent and non-discriminatory, so that they contribute to increase demand for net-zero technology products in the Union.

Public authorities should also limit the additional financial compensation for such products so as not to slow down the deployment of net-zero technologies in the Union. To increase the efficiency of such schemes, Member States should ensure that information is easily accessible both for consumers and for net-zero technology manufacturers on a free website. The use by public authorities of the sustainability and resilience contribution in schemes targeted at consumers or households should be without prejudice to State aid rules and to WTO rules on subsidies.

- (80) When designing schemes benefiting households, businesses, or consumers which incentivise the purchase of net-zero technology final products, Member States, regional or local authorities, bodies governed by public law or associations formed by one or more such authorities or one or more such bodies governed by public law, should ensure respect for the Union's international commitments, including by ensuring that such schemes do not reach a magnitude that causes serious prejudice to the interest of WTO members.

- (81) The Commission should also be able to assist Member States in the design of schemes targeted at households, businesses, and consumers to build synergies and exchange best practices. The Net-Zero Europe Platform (the ‘Platform’) should also play an important role in accelerating the implementation of the sustainability and resilience contribution by Member States and public authorities in their practices relating to public procurement procedures and auctioning. The Commission should, after consulting the Platform, adopt an implementing act specifying the criteria to assess the sustainability and resilience contribution. That act should give particular attention to small and medium-sized enterprises (SMEs), which should have a fair chance to participate in the substantial market for public procurement. It should also ensure that the requirements with regard to sustainability and resilience are applied in a way that ensures fair and equal competition among market players regardless of their ownership structure.
- (82) In order to ensure that public procurement procedures and auctions for the purpose of deploying renewable energy sources truly contribute to the Union's resilience, those activities need to be predictable for industry. To enable the industry to adjust its production on time, contracting authorities and contracting entities should inform the market in advance of their estimated procurement needs for net-zero technology products.

- (83) In addition to measures oriented towards public and household demand, the Union could consider action to ease the deployment of net-zero technologies in the Union's industrial value chains with particular attention to SMEs, in particular through facilitating the connection between supply and demand from industry.
- (84) As indicated in the Communication on the Green Deal Industrial Plan, the Union industry's market shares are under strong pressure due to subsidies in third countries which undermine a level playing field. That situation poses a competitive challenge for the Union to maintain and develop its own industry and creates a need for a rapid and ambitious reaction from the Union in modernising its legal framework.

(85) Considering the Union’s goal to reduce strategic dependencies on third countries for net-zero technologies, it is crucial that public support mechanisms, such as public procurement procedures and auctions, do not exacerbate such dependency. Therefore, where necessary and appropriate, justified limitations should be set on the proportion of products in supply contracts sourced from third countries if the Commission has determined that the conditions linked to resilience laid down in this Regulation are fulfilled. Furthermore, efforts should be undertaken to effectively tackle unfair subsidies from third countries that undermine the level playing field, for example by using all possible measures provided for in Regulations (EU) 2022/1031³⁴ and (EU) 2022/2560³⁵ of the European Parliament and of the Council.

³⁴ Regulation (EU) 2022/1031 of the European Parliament and of the Council of 23 June 2022 on the access of third-country economic operators, goods and services to the Union’s public procurement and concession markets and procedures supporting negotiations on access of Union economic operators, goods and services to the public procurement and concession markets of third countries (International Procurement Instrument – IPI) (OJ L 173, 30.6.2022, p. 1).

³⁵ Regulation (EU) 2022/2560 of the European Parliament and of the Council of 14 December 2022 on foreign subsidies distorting the internal market (OJ L 330, 23.12.2022, p. 1).

(86) Access to public and private finance is key for ensuring the Union's open strategic autonomy and for establishing a solid and competitive manufacturing base for net-zero technologies and their supply chains across the Union. The majority of investments necessary to reach the European Green Deal objectives will come from private capital, attracted by both the growth potential of the net-zero ecosystem and a stable and ambitious policy framework. Well-functioning, deep and integrated capital markets will therefore be essential to raise and channel the funds necessary for the green transition and net-zero technology manufacturing projects. Swift progress towards the Capital Markets Union is thus necessary for the Union to deliver on its net-zero objectives. The sustainable finance agenda (and blended finance) also plays a crucial role in scaling up investments into the net-zero technologies along the value chains, while guaranteeing the competitiveness of the sector. As indicated in the Staff Working Document accompanying this Regulation, investment needs amount to around EUR 92 billion over the period 2023 to 2030, with a range of between about EUR 52 to 119 billion depending on various scenarios, which would result in public funding requirements of EUR 16 to 18 billion. Considering that this assessment only takes into account six specific technologies, the real investment need is likely to be significantly higher.

(87) Private investment by companies and financial investors is essential. Where private investment alone is not sufficient, the effective roll-out of net-zero technology manufacturing projects might require public support, for example in the form of guarantees, loans or equity and quasi-equity investments, while avoiding distortion within the internal market. When that public support comes in the form of State aid, such aid should have an incentive effect and be necessary, targeted, temporary, appropriate and proportionate, while preserving competition and cohesion in the internal market. The existing State aid guidelines that have recently undergone an in-depth revision in line with the twin transition objectives, provide ample possibilities to support investments for projects within the scope of this Regulation subject to certain conditions. Member States can have an important role in easing access to finance for net-zero technology manufacturing projects by addressing market failures through targeted and temporary State aid support. The Temporary Crisis and Transition Framework adopted on 9 March 2023 aims to ensure a level playing field within the internal market that is targeted to those sectors where a third-country delocalisation risk has been identified and that is proportionate in terms of aid amounts. It enables Member States to put in place measures to support new investments in production facilities in defined, net-zero sectors, including via tax benefits. The permitted aid amount can be modulated with higher aid intensities and aid amount ceilings if the investment is located in assisted areas, in order to contribute to the goal of convergence between Member States and regions. In order to avoid fragmentation of the internal market, appropriate conditions are required to verify the concrete risks of diversion of the investment outside the EEA and that there is no risk of relocation within the EEA. To mobilise national resources for that purpose, Member States are encouraged to spend, in accordance with Article 10(3) of Directive 2003/87/EC, 25 % of ETS revenues that Member States collect annually from ETS auctions.

- (88) Any additional mobilisation of State aid should be targeted, temporary and consistent with Union policy objectives such as the European Green Deal and the Pillar. Such financing should not lead to additional disparities among Member States, in line with the Union's competition and cohesion policies.
- (89) Public support should be used to address specific identified market failures or sub-optimal investment situations in a proportionate manner, and actions should not duplicate or crowd out private financing or distort competition in the internal market. Actions should have a clear added value for the Union. Public investment can, in particular, focus on the necessary infrastructure investments, on fostering innovation and on the upscaling of breakthrough technologies.

- (90) Several Union funding programmes, such as the Recovery and Resilience Facility established by Regulation (EU) 2021/241 of the European Parliament and of the Council³⁶, InvestEU established by Regulation (EU) 2021/523 of the European Parliament and of the Council³⁷, cohesion policy programmes or the Innovation Fund established pursuant to Directive 2003/87/EC of the European Parliament and of the Council³⁸, are also available to fund investments in net-zero technology manufacturing projects. Moreover, STEP will help to better channel existing Union funds towards critical investments aiming to support the development or manufacturing of critical technologies, including clean technologies.

³⁶ Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility (OJ L 57, 18.2.2021, p. 17).

³⁷ Regulation (EU) 2021/523 of the European Parliament and of the Council of 24 March 2021 establishing the InvestEU Programme and amending Regulation (EU) 2015/1017 (OJ L 107, 26.3.2021, p. 30).

³⁸ Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC (OJ L 275, 25.10.2003, p. 32).

- (91) Regulation (EU) 2023/435³⁹ makes available an additional EUR 20 billion of non-repayable support to Member States in order to promote energy efficiency and replace fossil fuels through, inter alia, the Union's net-zero industry projects. As pointed out in the Commission Guidance on the REPowerEU chapters, Member States are encouraged to include in the REPowerEU chapter of their recovery and resilience plans measures which support investments in net-zero technologies manufacturing and industrial innovation, in accordance with Regulation (EU) 2021/241 of the European Parliament and of the Council⁴⁰.
- (92) InvestEU is the Union flagship programme to boost investment, especially the green and digital transition, by providing financing and technical assistance, for instance through blending mechanisms. Such an approach contributes to crowd in additional public and private capital. Moreover, Member States are encouraged to contribute to the InvestEU Member State compartment to support financial products available to net-zero technology manufacturing, without prejudice to applicable State aid rules.

³⁹ Regulation (EU) 2023/435 of the European Parliament and of the Council of 27 February 2023 amending Regulation (EU) 2021/241 as regards REPowerEU chapters in recovery and resilience plans and amending Regulations (EU) No 1303/2013, (EU) 2021/1060 and (EU) 2021/1755, and Directive 2003/87/EC (OJ L 63, 28.2.2023, p. 1).

⁴⁰ Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility (OJ L 57, 18.2.2021, p. 17).

(93) Member States can provide support from cohesion policy programmes, in accordance with Regulation (EU) 2021/1060 of the European Parliament and of the Council⁴¹, to encourage the take up of net-zero strategic projects as well as net-zero technology manufacturing projects in all regions, especially in less developed regions transition regions and Just Transition Funds territories, through investment packages of infrastructure, productive investment in innovation, manufacturing capacity in SMEs, services, training and upskilling measure, including support for capacity building of the public authorities and promoters. The Technical Support Instrument established by Regulation (EU) 2021/240 of the European Parliament and of the Council⁴² can help Member States and regions in preparing net-zero growth strategies, improving the business environment, reducing red tape and accelerating permitting processes. Member States should be encouraged to promote the sustainability of net-zero projects by embedding these investments in the Union's value chains, building in particular on interregional and cross border cooperation networks. The adoption of such measures should be considered in particular with regard to Valleys.

⁴¹ Regulation (EU) 2021/1060 of the European Parliament and of the Council of 24 June 2021 laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime, Fisheries and Aquaculture Fund and financial rules for those and for the Asylum, Migration and Integration Fund, the Internal Security Fund and the Instrument for Financial Support for Border Management and Visa Policy (OJ L 231, 30.6.2021, p. 159).

⁴² Regulation (EU) 2021/240 of the European Parliament and of the Council of 10 February 2021 establishing a Technical Support Instrument (OJ L 57, 18.2.2021, p. 1).

- (94) The Innovation Fund also provides for a very promising and cost efficient avenue to support the scaling up of manufacturing and deployment of clean hydrogen and other net-zero technologies in the Union, thus reinforcing the Union's sovereignty in key technologies for climate action and energy security.
- (95) To overcome the limitations of the current fragmented public and private investments efforts and to facilitate integration and return on investment, the Commission and Member States should better coordinate and create synergies between the existing funding programmes at Union and national level, as well as ensure better coordination and collaboration with industry and key private sector stakeholders. The Platform has a key role to play in building a comprehensive view of available and relevant funding opportunities and in discussing the individual financing needs of net-zero strategic projects. With a view to incentivising the production of net-zero technologies in the Union, the Platform may discuss how to address funding, the regulatory framework as well as investment and location guarantees.
- (96) Moreover, given the importance of net-zero technology manufacturing projects and net-zero strategic projects for the Union's energy supply, certain administrative restrictions should be partly lifted or simplified to speed up the implementation of such projects.

- (97) Space data and services derived from the Union Space Programme established in Regulation (EU) 2021/696 of the European Parliament and of the Council⁴³, in particular Copernicus, shall be used to the extent possible to provide information on the geology, biology, ecology, socio-economic development, and resource availability for the environmental assessments and authorisations. Such data and services, in particular the Copernicus anthropogenic CO₂ emission monitoring and verification capacity, are relevant to the assessment of the impact of industry projects and the impact of anthropogenic CO₂ sinks on the global greenhouse gas concentrations and fluxes.
- (98) The Commission should, as provided for in Article 10(1) of Regulation (EU) No 1025/2012 of the European Parliament and of the Council⁴⁴, request one or more European standardization organisation to draft European standards in support of the objectives of this Regulation.

⁴³ Regulation (EU) 2021/696 of the European Parliament and of the Council of 28 April 2021 establishing the Union Space Programme and the European Union Agency for the Space Programme and repealing Regulations (EU) No 912/2010, (EU) No 1285/2013 and (EU) No 377/2014 and Decision No 541/2014/EU (OJ L 170, 12.5.2021, p. 69).

⁴⁴ Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation, amending Council Directives 89/686/EEC and 93/15/EEC and Directives 94/9/EC, 94/25/EC, 95/16/EC, 97/23/EC, 98/34/EC, 2004/22/EC, 2007/23/EC, 2009/23/EC and 2009/105/EC of the European Parliament and of the Council and repealing Council Decision 87/95/EEC and Decision No 1673/2006/EC of the European Parliament and of the Council (OJ L 316, 14.11.2012, p. 12).

(99) Hydrogen Valleys with industrial end-use applications play an important role in decarbonising the energy-intensive industries. REPowerEU sets the objective of doubling the number of Hydrogen Valleys in the Union. In order to achieve this objective, Member States should accelerate permitting and should consider establishing net-zero regulatory sandboxes and prioritise access to funding. To strengthen net-zero resilience, Member States should ensure the interconnection of Hydrogen Valleys across the Union's borders. Industrial installations which produce their own energy, and which can provide a positive contribution to the production of electricity, should be encouraged to contribute to the smart electricity grid as energy producers by simplifying regulatory requirements.

(100) Net-zero regulatory sandboxes can be an important tool to promote innovation in the field of net-zero technologies and regulatory learning. Innovation needs to be enabled through experimentation spaces as scientific outcomes need to be tested in a controlled real-world environment. Net-zero regulatory sandboxes should be introduced to test innovative net-zero technologies or other innovative technologies with the potential to enable the transition to a climate neutral and clean economy and to reduce strategic dependencies, in a controlled real-world environment for a limited amount of time, thus enhancing regulatory learning and potential scaling up and wider deployment. It is appropriate to strike a balance between legal certainty for participants in the net-zero regulatory sandboxes and the achievement of the objectives of Union law. Member States should be able to provide for derogations of net-zero regulatory sandboxes in national law while ensuring compliance with Union law and with the essential requirements on net-zero technology laid down in national law. The Commission published a Guidance for Sandboxes document in 2023 as announced in the New European Innovation Agenda to support Member States in preparing the net-zero regulatory sandboxes. Those innovative technologies could eventually be essential to achieve the Union's climate neutrality objective and to ensure the security of supply and resilience of the Union's energy system.

(101) The Union's Strategic Energy Technology Plan (SET Plan) revised in the Commission communication of 20 October 2023, supports the development of clean, efficient and cost-competitive energy technologies through coordination and collaboration in clean energy research and innovation, bringing together European industry, research organisations and government representatives from the SET Plan countries⁴⁵. The revision of the SET Plan aims to align the original SET Plan strategic objectives with the European Green Deal, REPowerEU and the Green Deal Industrial Plan, in particular this Regulation. It aims to promote a unified approach towards achieving Europe's decarbonisation goals, supporting European net-zero technologies, and building a sustainable and resilient energy future. The SET Plan has had a structuring effect on joint Research and Innovation (R&I) actions, helping them deliver on common energy research and technology objectives with greater speed and effectiveness. The SET Plan has contributed to aligning the R&I efforts and to leverage national public funding of participating countries to support jointly agreed R&I priorities through the Clean Energy Transition Partnership and the Driving Urban Transition Partnership under Horizon Europe, established by Regulation (EU) 2021/695 of the European Parliament and of the Council⁴⁶, as an example of successful the Union's cross-sectoral cooperation. The SET Plan plays a central role in implementing the research, innovation and competitiveness dimension of the Energy Union of the national energy and climate plans. However, since its beginning in 2007, the SET Plan was an unofficial forum. This Regulation provides momentum to strengthen the bridge between European innovation and the manufacturing of new innovative technologies.

⁴⁵ Currently all EU Member States, plus IS, NO and TR.

⁴⁶ Regulation (EU) 2021/695 of the European Parliament and of the Council of 28 April 2021 establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination, and repealing Regulations (EU) No 1290/2013 and (EU) No 1291/2013 (OJ L 170, 12.5.2021, p. 1).

(102) Additional skilled workers are required in order to enable the green and digital transitions and the sustainable growth and competitiveness of the Union, the scaling up of Union's net-zero technology industries' supply chains and maintaining quality jobs in the Union. That implies important investment needs in re-skilling and upskilling, including in the field of vocational education and training.. The energy transition will require a significant increase in the number of skilled workers in a range of sectors, including renewable energy and energy storage and raw materials, and has a great potential for quality job creation. The skill needs for the fuel cell hydrogen sub-sector in manufacturing alone are estimated at 180 000 trained workers, technicians and engineers by the year 2030, according to the SET Plan. In the photo-voltaic solar energy sector, up to 66 000 jobs would be needed in manufacturing alone. It is therefore of utmost importance to make jobs in net-zero technologies attractive and accessible and to tackle the current mismatch between the skills of workers and the needs of companies.

(103) Since strengthening the manufacturing capacity of key net-zero technologies in the Union will not be possible without a sizeable skilled workforce, it is necessary to introduce measures to boost the integration and activation of more people in the labour market, in particular women, young people not in employment, education or training (NEETs), people with a migrant background, older persons and persons with disabilities. Moreover, this should include workers from third countries as the Union attracts only a small share of qualified migrants. In line with the objectives of the Council Recommendation on ensuring a fair transition towards climate-neutrality, specific support for job-to-job transition for workers in redundant and declining sectors are important. This means investing in skills for all, while having a targeted approach towards vulnerable groups and regions in transition. The end objective should be the creation of quality jobs in the Union required for net-zero technologies in line with the targets for employment and training provided for in the Pillar, including fair and adequate wages, improving living and working conditions and ensuring safe and healthy workplaces as well as the right to quality life-long learning. Skills and labour shortages might also be the result of unattractive jobs and poor working conditions. Improving job quality in sectors and companies with poor working conditions is therefore an important element to attract workers.

Building on and fully taking into account existing initiatives such as the EU Pact for Skills, activities at Union level with regard to skills intelligence and forecasting, such as those by the European Centre for the Development of Vocational Training (Cedefop) and the European Labour Authority, and the Blueprints for sectoral cooperation on skills, the objective is to mobilise all actors to ensure relevance and increase the uptake of the training programmes, including Member States' authorities, including at regional and local level, education and training providers, social partners and industry, in particular SMEs, as well as all types of universities, in order to identify skills needs, develop education and training programmes and deploy them at large scale in a fast and operational manner. Net-zero strategic projects have a key role to play in this regard. Member States and the Commission should ensure relevant financial support including by leveraging the possibilities of the Union budget through instruments such as the ESF +, InvestEU, Just Transition Fund, Horizon Europe, European Regional Development Funds, the Recovery and Resilience Facility, the Modernisation Fund established pursuant to Article 10d of Directive 2003/87/EC, REPowerEU, the Single Market Programme and the STEP. The financial support should include seed-funding to be provided by the Commission to set up the European Net-Zero Industry Academies (the 'Academies') and to allow their functioning with a view to becoming financially sustainable three years after their establishment, including by receiving financial contributions from the private sector.

(104) The Academies should be launched to develop education and training programmes, content and materials, as well as the credentials indicating that a learning programme has been developed by one of the Academies, to upskill and reskill people of all working ages required for key net-zero technology value chains and to offer those programmes, content and materials to appropriate education and training providers and other actors involved in up- and reskilling in the Member States for their voluntary use. The Academies should play a facilitating role, fully respecting the responsibility of the Member States for the content of teaching and the organisation of education systems and for the content and organisation of vocational training. In doing so, the Academies should contribute to the long-term objective of simultaneously reindustrialising and decarbonising the Union, responding to critical skills shortages, as well as contributing to its open strategic autonomy and addressing the need for Union-made net-zero technologies, by strengthening its ability to innovate and produce. The Academies should be launched on the basis of an assessment by the Commission of skills shortages, relying on existing and objective studies, in net-zero technology industries key for the industrial transformation and decarbonisation. Each Academy should develop an action plan setting out milestones and targets, including in terms of number of learners to be based on the assessment of skills shortages.

- (105) The Academies should encourage teaching of transversal skills facilitating occupational mobility, together with other required skills. The Academies should make their learning content available in different languages so that the learning programmes can be accessed by as many learners as possible. They should provide training at all skills levels to the extent needed, thus targeting all levels of education and qualifications along the value chain of the concerned sectors. Education and training providers in the Member States may complement education and training content and materials developed by the Academies with additional relevant information prepared at Member State level and reflecting, for example, national law on labour and social rights, applicable collective agreements or territorial or sector-specific requirements, involving social and economic partners where relevant. The learning content should also target employees in national and local administrations, in particular those responsible for permitting, impact assessment and regulations of new technologies, thus contributing to capacity building among national administrations and to a reduction of disparities among Member States.

(106) In order to support skills transparency and portability and the mobility of workers, the Academies will develop and promote the deployment by education and training providers of credentials, including, if appropriate, micro-credentials covering learning achievements. The credentials developed by the Academies may be issued by education and training providers or awarding bodies in the Member States, where an education and training programme developed by the Academies has been completed successfully. The credentials should be issued in the format of European digital credentials for learning and can be integrated in Europass and, where relevant and feasible, included in National Qualifications Frameworks. The European network of employment services (EURES), which provides information, advice and recruitment or placement for the benefit of workers and employers across the Union, can play a significant role in the publication of vacant positions related to net-zero technologies and, where appropriate, the deployment of European occupation profiles.

- (107) The Platform should provide assistance in guiding the work of the Academies, ensuring that their content addresses the skills shortages identified in the Commission’s assessment and providing general oversight. Member States should ensure that the appointed national representative can act as a bridge between the relevant national ministries and competent authorities of the Member States as well as the national social partners and industry representatives. The Platform should monitor progress made by the different Academies, analyse the root causes of skills shortages and identify to what extent the deployment of the Academies’ training programmes addresses skills shortages in net-zero technology industries and complements existing training opportunities in net-zero technologies in the Member States. The Platform should report on the deployment of the learning programmes, including through a progress report to be submitted three years after the establishment of each Academy and specifying the number of learners benefiting from the Academies’ programmes disaggregated by industrial sectors, gender, age, and levels of education and qualification.

- (108) In the absence of specific provisions in Union law introducing minimum training requirements for access to a regulated profession or the pursuit thereof, deciding whether and how to regulate a profession is the competence of Member States. However, national rules organising access to regulated professions should not constitute an unjustified or disproportionate obstacle to the exercise of those fundamental rights. The competence to regulate access to a profession must be exercised within the limits of the principles of non-discrimination and proportionality, in accordance with Directive (EU) 2018/958 of the European Parliament and of the Council⁴⁷. In their assessment, Member States should take into account any detrimental effects that regulation of professions may have on the availability of skills in the Net-Zero Industry and seek to limit the regulation in these fields to the maximum extent possible.
- (109) Where Member States determine that the learning programmes developed by the Academies are equivalent to the specific qualifications required by the host Member State to access regulated activities within the scope of a profession with particular interest for the net-zero industry in that Member State, Member States should, in the context of access to a regulated profession and in order to facilitate the mobility in net-zero industry professions, treat those credentials as sufficient evidence of formal qualifications, in accordance with Article 11 of Directive 2005/36/EC of the European Parliament and of the Council⁴⁸.

⁴⁷ Directive (EU) 2018/958 of the European Parliament and of the Council of 28 June 2018 on a proportionality test before adoption of new regulation of professions (OJ L 173, 9.7.2018, p. 25).

⁴⁸ Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications (OJ L 255, 30.9.2005, p. 22).

- (110) The contribution of net-zero technologies to the decarbonisation objectives of the Union can only materialise when those technologies are deployed. That deployment, to an extent, is likely to happen in private households, but most decarbonisation is likely to come from decarbonising industrial processes. In order to ensure that investments for such decarbonisation take place in the Union, which is essential to secure quality jobs and prosperity in the Union as well as to fulfil the Union's decarbonisation objectives, it is crucial that this Regulation contributes to an improvement of the investment climate for industry in the Union.
- (111) At Union level, a Platform should be established, composed of the Member States and chaired by the Commission. The Platform may advise and assist the Commission and Member States on specific questions and provide a reference body, in which the Commission and Member States coordinate their action and facilitate the exchange of information on issues relating to this Regulation. The Platform should, furthermore, perform the tasks set out in this Regulation, in particular in relation to permitting, including single points of contact, Net-zero strategic projects, coordination of financing, access to markets, skills, net-zero regulatory sandboxes as well as assisting the Commission in assessing the feasibility and proportionality of proposing measures if the Commission concludes that the general objectives of this Regulation are not likely to be achieved. Where necessary, the Platform may establish standing or temporary subgroups and invite third parties, such as experts or representatives from net-zero industries.

(112) Where appropriate and useful, the Platform should seek close collaboration with other relevant Commission initiatives, platforms and groups, in order to seek synergies, share expertise, exchange information and foster stakeholder involvement, whilst avoiding duplication and overlaps. The Platform will engage with existing Union industrial alliances, and thereby contribute to the work of the alliances by involving Member States. Key alliances for collaboration with the Platform are the European Battery Alliance, the European Solar Photovoltaic Industry Alliance, the European Clean Hydrogen Alliance, the Alliance for Zero-Emission Aviation, the Industrial Alliance on Processors and Semiconductor Technologies and the Renewable and Low-Carbon Fuels Value Chain Industrial Alliance. Sectors which are not currently represented in industrial alliances equally benefit from the structured framework that the Platform provides. As regards net-zero strategic partnerships, close collaboration with the Critical Raw Materials Board is provided for where relevant.

(113) Reducing the regulatory and administrative burden and having a suitable regulatory framework is particularly important for industries to adjust effectively to the climate and energy transitions. Therefore, the Union should aim to achieve by 2030 a significant reduction of the general regulatory burden on industry, in particular for placing a new product on the internal market. Those efforts should, in particular, be made within the Better Regulation framework and without prejudice to the Union's environmental and labour standards. The Commission should inform the Platform of developments regarding the regulatory and administrative burden for net-zero technology industries in the Union on the basis of the Commission's report of 24 October 2023 entitled 'Progress on competitiveness of clean energy technologies' and the Commission's Annual Burden Survey 2022. To facilitate the work of Union institutions to keep the regulatory burden for net-zero technology industries at a minimum, this Regulation establishes a Net-Zero Regulatory Burden Scientific Advisory Group (the 'Scientific Advisory Group'). The Scientific Advisory Group should develop science-based advice on the impact of the regulatory burden in the Union on net-zero industries, utilising a science-based methodology, and where appropriate taking into account the Better Regulation Toolbox, for the assessment of the impact of regulatory burdens. The work of the Scientific Advisory Group is without prejudice to the prerogatives of the Union's institutions.

(114) Regulation (EU) 2018/1999 provides that Member States are to submit updated drafts of their 2021 to 2030 national energy and climate plans. As emphasised in the Commission's Guidance to Member States for those updates, the updated national energy and climate plans should describe Member States' objectives and policies to facilitate the scale-up of manufacturing projects of commercially available energy efficient and low-carbon technologies, equipment and key components within their territory. Those plans should also describe Member States' objectives and policies to achieve that scale-up through diversification efforts in third countries, and to enable their industries to capture, transport, and store CO₂ emissions permanently in geological storage sites. Those plans should form the basis upon which the need for net-zero technologies is determined. When taking into account this Regulation in the preparation of their national energy and climate plans, Member States should consider both general competitiveness as well as research and innovation in the field of net-zero industries in the longer term.

(115) As part of the Green Deal Industrial Plan, the Commission announced its intention to conclude Net-Zero Industrial Partnerships covering net-zero technologies, stepping up its efforts to join forces with partners committed to the Paris Agreement. Cooperation through such Partnerships is likely to promote the adoption of net-zero technologies globally and to support mutually reinforcing partnerships between the Union and third countries, including sustainable investments and technical assistance. The Net-Zero Industrial Partnerships should be mutually beneficial for the Union and its partners, and should contribute to the achievement of global climate objectives. Those Partnerships can also contribute to the diversification and resilience of the Union's supply of net-zero technologies and their components, enhance information sharing between the Union and its partners on the development of net-zero technologies and support the Union's net-zero industries in accessing the global clean energy market, while supporting nascent industries in the field of clean energy technologies in third countries with clear comparative advantages. The Commission and the Member States may coordinate the Net-Zero Industrial Partnerships within the Platform, discussing existing relevant partnerships and processes, such as green partnerships, energy dialogues and other forms of existing bilateral contractual arrangements, as well as potential synergies with relevant Member States' bilateral agreements with third countries.

- (116) The Union should aim to diversify and stimulate international trade and investments in net-zero technologies building mutual reinforcing partnerships, while promoting globally high social, labour and environmental standards. That should be done in close cooperation and partnership with like-minded countries by means of existing agreements or new strategic engagements. Similarly, stronger international cooperation on research and innovation efforts to develop and deploy net-zero technologies should be pursued in close cooperation with partner countries in an open and balanced manner, and on the basis of reciprocity and mutual interests.
- (117) In order to identify and mitigate potential supply risks related to net-zero technologies it should be possible to monitor, on an ongoing basis, indicators related to market trends, manufacturing capacities, innovation, employment and skills, permitting times of net-zero technologies, and CO₂ injection capacities. However, currently there is not sufficient high quality data available to monitor those indicators. As the tasks provided for in this Regulation depend on the availability of quality data, it is necessary for the Commission to prioritise, in its monitoring, among the net-zero technologies on the basis of their importance in the Union while working on the improvement of the availability of such data. The Commission will also work closely with Eurostat, the statistical authority of the Union, to develop common codes for net-zero technologies necessary for high-quality, long-term reporting and statistics.

- (118) Where the power to adopt acts in accordance with Article 290 TFEU is delegated to the Commission under this Regulation, it is of particular importance that the Commission carries out appropriate consultations during its preparatory work, including at expert level, and that those consultations be conducted in accordance with the principles laid down in the Inter-institutional Agreement on Better Law-Making of 13 April 2016⁴⁹. In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts.
- (119) To the extent that any of the measures envisaged by this Regulation constitute State aid, the provisions concerning such measures are without prejudice to the application of Articles 107 and 108 TFEU.
- (120) Since the objective of this Regulation cannot be sufficiently achieved by the Member States and can rather, by reason of the scale or effects of the action, be better achieved at Union level, the Union may adopt measures in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve that objective,

HAVE ADOPTED THIS REGULATION:

⁴⁹ OJ L 123, 12.5.2016, p. 1, ELI: http://data.europa.eu/eli/agree_interinstit/2016/512/oj.

Chapter I

Subject matter, scope and definitions

Article 1

Subject matter

1. The general objective of this Regulation is to improve the functioning of the internal market by establishing a framework in order to ensure the Union's access to a secure and sustainable supply of net-zero technologies, including by scaling up the manufacturing capacity of net-zero technologies and their supply chains to safeguard their resilience while contributing to achieving the Union's climate targets and climate neutrality objective, as defined in Regulation (EU) 2021/1119, with a view to the decarbonisation of the Union's economy and society, and by contributing to quality jobs in net-zero technologies, and thereby also improving the competitiveness of the Union.
2. To achieve the general objective referred to in paragraph 1, this Regulation lays down measures aiming to:
 - (a) lower the risk of supply disruptions related to net-zero technologies likely to distort competition and fragment the internal market, in particular by identifying and supporting the scale-up of the manufacturing capacity of net-zero technologies and their supply chains;

- (b) establish a Union market for CO₂ storage services;
- (c) encourage demand for sustainable and resilient net-zero technologies through public procurement procedures, auctioning and other forms of public intervention;
- (d) enhance skills through the support of the Academies, thereby safeguarding and creating quality jobs;
- (e) support innovation through the creation of net-zero regulatory sandboxes, coordination of research and innovation activities through the Strategic Energy Technologies Plan Steering Group, as well as through the use of pre-commercial procurement and public procurement of innovative solutions;
- (f) improve the Union's ability to monitor and mitigate supply risks related to net-zero technologies.

Article 2

Scope

1. With the exception of Articles 33 and 34 of this Regulation, which apply to innovative net-zero technologies and other innovative technologies, this Regulation applies to net-zero technologies. Critical raw materials falling under the scope of Regulation (EU) 2024/...⁺ are excluded from the scope of this Regulation.

⁺ OJ: Please insert the reference number of PE-CONS 78/23 COD 2023/0079.

2. In the case of integrated production facilities that cover the production of materials falling both under the scope of Regulation (EU) 2024/...⁺ and of this Regulation, it shall be the facilities' final product that determines which Regulation applies.
3. With the exception of Articles 5, 25, 26 and 28, this Regulation applies to energy-intensive industry decarbonisation projects that are part of the supply chain of a net-zero technology and that reduce emission rates of CO₂-eq of industrial processes significantly and permanently to an extent which is technically feasible.

Article 3

Definitions

For the purposes of this Regulation, the following definitions apply:

- (1) 'net-zero technologies' means the technologies listed in Article 4 where they are final products, specific components or specific machinery primarily used for the production of those products;
- (2) 'component' means a part of a net-zero technology final product that is manufactured and traded by a company, including processed material;
- (3) 'renewable energy technologies' means technologies that produce energy from renewable sources;

⁺ OJ: Please insert the reference number of PE-CONS 78/23 COD 2023/0079.

- (4) ‘energy from renewable sources’ means energy from renewable sources or renewable energy as defined in Article 2, second paragraph, point (1), of Directive (EU) 2018/2001;
- (5) ‘energy storage’ means electricity and thermal storage as well as other forms of storage that are used to store fossil-free energy;
- (6) ‘renewable fuels of non-biological origin’ means renewable fuels of non-biological origin as defined in Article 2, second paragraph, point (36), of Directive (EU) 2018/2001;
- (7) ‘sustainable alternative fuels’ means sustainable aviation fuels, synthetic low- carbon aviation fuels or hydrogen for aviation as defined in Article 3, point (7), (13) or(17) of Regulation (EU) 2023/2405 destined for the aviation sector or fuels destined for the maritime sector as identified in accordance with criteria defined in Article 10(1) and (2) of Regulation (EU) 2023/1805;
- (8) ‘transformative industrial technologies for decarbonisation’ means the scaling up of manufacturing capacity for transformative industrial technologies that are used to significantly and permanently reduce emission rates of CO₂-eq of a commercial facility of an energy-intensive business, as defined in Article 17(1), point (a), of Council Directive 2003/96/EC⁵⁰, in the steel, aluminium, non-ferrous metals, chemicals, cement, lime, glass, ceramics, fertilisers, as well as pulp and paper sectors to an extent which is technically feasible;

⁵⁰ Council Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity (OJ L 283, 31.10.2003, p. 51).

- (9) ‘biotech climate and energy solutions’ means technologies anchored in the use of microorganisms or biological molecules such as enzymes, resins or biopolymers, which are able to reduce CO₂ emissions by replacing energy-intensive fossil or chemical-based inputs in industrial manufacturing processes relevant for, inter alia, carbon capture, production of biofuels and production of bio-based materials, in line with the circular economy principles;
- (10) ‘primarily used’ means final products and specific components which are essential for the production of net-zero technologies, as set out in the Annex, or final products, specific components and specific machinery which are essential for the production of net-zero technologies on the basis of evidence provided to a national competent authority by the project promoter, with the exception of energy-intensive industry decarbonisation projects, for which such evidence is not required;
- (11) ‘processed material’ means a material that has been processed in such a way to be suitable for a specific function in a net-zero technology supply chain, with the exception of critical raw materials defined pursuant to Article 4 of Regulation (EU) 2024/...⁺;
- (12) ‘innovative net-zero technologies’ means net-zero technologies that comprise genuine innovations which are not currently available on the market and that are advanced enough to be tested in a controlled environment;

⁺ OJ: Please insert the reference number of Regulation contained in document PE-CONS 78/23 (2023/0079(COD)).

- (13) ‘other innovative technologies’ means energy- or climate-related technologies with a proven potential to contribute to the decarbonisation of industrial or energy systems and to reduce strategic dependencies that comprise genuine innovations that are not currently available on the Union market and that are advanced enough to be tested in a controlled environment;
- (14) ‘pre-commercial procurement’ means the procurement of net-zero technologies in a pre-commercial phase, involving risk-benefit sharing under market conditions and competitive development in phases;
- (15) ‘public procurement of innovative solutions’ means a public procurement procedure for which contracting authorities or contracting entities act as a launch customer for net-zero technologies, which may include conformity testing;
- (16) ‘net-zero technology manufacturing project’ means a planned commercial facility or an extension or repurposing of an existing facility to manufacture net-zero technologies, or an energy-intensive industry decarbonisation project;
- (17) ‘energy-intensive industry decarbonisation projects’ means the construction or conversion of the commercial facility of an energy-intensive business as defined in Article 17(1), point (a), of the Directive 2003/96/EC in the steel, aluminium, non-ferrous metals, chemicals, cement, lime, glass, ceramics, fertilisers, as well as pulp and paper sectors that are part of the supply chain of a net-zero technology and that are to reduce emission rates of CO₂-eq of industrial processes significantly and permanently to an extent which is technically feasible;

- (18) ‘net-zero strategic project’ means a net-zero technology manufacturing project, a CO₂ capture project, a CO₂ storage project or a CO₂ transport infrastructure project located in the Union that a Member State has recognised as a net-zero strategic project pursuant to Articles 13 and 14;
- (19) ‘permit-granting process’ means a process that covers all relevant permits to build, expand, convert and operate net-zero technology manufacturing projects and net-zero strategic projects, including building, chemical and grid connection permits, and environmental assessments and authorisations where required, and encompassing all applications and procedures from the acknowledgement that the application is complete to the notification of the comprehensive decision on the outcome of the procedure by the single point of contact concerned, as well as with regard to CO₂ geological storage, the storage permit-granting process which concerns the processing of all necessary permits for surface installations requested to operate a storage site, including building permits and pipe authorisations, and the environmental authorisation for the injection and storage of CO₂ completed in accordance with Directive 2009/31/EC;
- (20) ‘comprehensive decision’ means the decision or set of decisions taken by Member State authorities that determine whether a project promoter is authorised to implement a net-zero technology manufacturing project, without prejudice to any decision taken in the context of an appeal procedure;

- (21) ‘project promoter’ means any undertaking or consortium of undertakings developing a net-zero technology manufacturing project or a net-zero strategic project;
- (22) ‘net-zero regulatory sandbox’ means a scheme that enables undertakings to test innovative net-zero technologies and other innovative technologies in a controlled real-world environment, under a specific plan, developed and monitored by a competent authority;
- (23) ‘public procurement procedure’ means either of the following:
- (a) any type of award procedure covered by Directive 2014/24/EU for the conclusion of a public contract or Directive 2014/25/EU for the conclusion of a supply, works and service contract;
 - (b) a procedure for the award of works or a service concession covered by Directive 2014/23/EU;
- (24) ‘contracting authority’ means, in the context of public procurement procedures, a contracting authority as defined in Article 6 of Directive 2014/23/EU, Article 2(1), point (1), of Directive 2014/24/EU and Article 3 of Directive 2014/25/EU;
- (25) ‘contracting entity’ means, in the context of public procurement procedures, a contracting entity as defined in Article 7 of Directive 2014/23/EU and Article 4 of Directive 2014/25/EU;

- (26) ‘contract’ means, in the context of public procurement procedures, public contracts as defined in Article 2(1), point (5), of Directive 2014/24/EU, supply, works and service contracts as defined in Article 2, point (1), of Directive 2014/25/EU, and concessions as defined in Article 5, point (1), of Directive 2014/23/EU;
- (27) ‘auction’ means a mechanism for competitive tendering procedures to support the production or consumption of energy from renewable sources that does not fall under Directive 2009/81/EC of the European Parliament and of the Council⁵¹ or Directive 2014/23/EU, 2014/24/EU or 2014/25/EU;
- (28) ‘CO₂ injection capacity’ means the annual amount of CO₂ that can be injected in an operational geological storage site, permitted under Directive 2009/31/EC, with the purpose of reducing emissions or increasing carbon removals, in particular from large scale industrial installations, and which is measured in tonnes per annum;
- (29) ‘CO₂ transport infrastructure’ means the network of pipelines, including associated booster stations, for the transport of CO₂ to the storage site, as well as any ships, road or rail transport modes, including liquefaction devices and temporary storage facilities if needed, for the transport of CO₂ to the harbour facilities and storage site;

⁵¹ Directive 2009/81/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of procedures for the award of certain works contracts, supply contracts and service contracts by contracting authorities or entities in the fields of defence and security, and amending Directives 2004/17/EC and 2004/18/EC (OJ L 216, 20.8.2009, p. 76).

- (30) ‘energy system integration’ means solutions for the planning and operation of the energy system as a whole, across multiple energy carriers, infrastructures, and consumption sectors, by creating stronger links between them with the objective of delivering fossil-free, flexible, reliable and resource-efficient energy services, at the least possible cost for society, the economy and the environment;
- (31) ‘net-zero Industrial Partnerships’ means a commitment between the Union and a third country to increase cooperation related to net-zero technologies that is established through a non-binding instrument setting out concrete actions of mutual interest;
- (32) ‘first-of-a-kind’ means a new or substantially upgraded net-zero technology facility which provides innovation with regard to the manufacturing process of the net-zero technology that is not yet substantively present or committed to be built within the Union;
- (33) ‘manufacturing capacity’ means the total amount of output capacity of the net-zero technologies produced in a manufacturing project or, where a manufacturing project produces specific components or specific machinery primarily used for the production of such products rather than the final products themselves, the output capacity of the final products for which such components or specific machinery are produced.

Article 4
List of net-zero technologies

1. The net-zero technologies within the scope of this Regulation shall be:
 - (a) solar technologies, including PV, solar thermal electric and solar thermal technologies;
 - (b) onshore wind and offshore renewable technologies;
 - (c) battery and energy storage technologies;
 - (d) heat pumps and geothermal energy technologies;
 - (e) hydrogen technologies, including electrolysers and fuel cells;
 - (f) sustainable biogas and biomethane technologies;
 - (g) CCS technologies;
 - (h) electricity grid technologies, including electric charging technologies for transport and technologies to digitalise the grid;
 - (i) nuclear fission energy technologies, including nuclear fuel cycle technologies;
 - (j) sustainable alternative fuels technologies;
 - (k) hydropower technologies;

- (l) renewable energy technologies, not covered under the previous categories;
 - (m) energy system-related energy efficiency technologies, including heat grid technologies;
 - (n) renewable fuels of non-biological origin technologies;
 - (o) biotech climate and energy solutions;
 - (p) transformative industrial technologies for decarbonisation not covered under the previous categories;
 - (q) CO₂ transport and utilisation technologies;
 - (r) wind propulsion and electric propulsion technologies for transport;
 - (s) nuclear technologies not covered under previous categories.
2. Paragraph 1 shall be without prejudice to a Member State's right to determine its choice between different energy sources and the general structure of its energy supply.
3. Paragraph 1 shall be without prejudice to the allocation of Union funding, in particular on eligibility or award criteria, as adopted in accordance with the appropriate procedures, or on Union support through the EIB.

Chapter II

Enabling conditions for net-zero technology manufacturing

SECTION I

BENCHMARKS

Article 5

Benchmarks

1. The Commission and Member States shall support net-zero manufacturing projects in accordance with this Chapter in order to ensure the reduction of strategic dependencies in the Union of net-zero technologies and their supply chains by reaching a manufacturing capacity for those technologies of:
 - (a) a benchmark of at least 40 % of the Union's annual deployment needs for the corresponding technologies necessary to achieve the Union's 2030 climate and energy targets;
 - (b) an increased Union share for the corresponding technologies with a view to reaching 15 % of world production by 2040 on the basis of monitoring pursuant to Article 42, except where the increased Union manufacturing capacity would be significantly higher than the Union's deployment needs for the corresponding technologies necessary to achieve the Union's 2040 climate and energy targets.

SECTION II

STREAMLINING ADMINISTRATIVE AND PERMIT-GRANTING PROCESSES

Article 6

Single points of contact

1. By ... [6 months from the date of entry into force of this Regulation], Member States shall establish or designate one or more authorities as single points of contact at the relevant administrative level. Each single point of contact shall be responsible for facilitating and coordinating the permit-granting process for net-zero technology manufacturing projects, including for net-zero strategic projects, and for providing information on streamlining the administrative processes in accordance with Article 7, including information on when an application is considered to be completed in accordance with Article 9(10).
2. Where a Member State establishes or designates more than one single point of contact pursuant to paragraph 1 of this Article the Member State shall provide tools to help project promoters identify the appropriate established or designated contact point on the online web page set up in accordance with Article 7.

3. A single point of contact established or designated pursuant to paragraph 1 shall be the sole point of contact for the project promoter in the permit-granting process for a net-zero technology manufacturing project, including a net-zero strategic project. It shall coordinate and facilitate the submission of all relevant documents and information and shall notify the project promoter of the outcome of the comprehensive decision.
4. Project promoters shall be allowed to submit any documents relevant to the permit-granting process in electronic form.
5. The competent authorities shall ensure that any relevant studies carried out, or permits or authorisations issued, for a given project are taken into account and that no duplicate studies, permits or authorisations are required, unless otherwise required under Union or national law.
6. Member States shall ensure that applicants have easy access to information on and procedures for the settlement of disputes concerning the permit-granting process including, where applicable, alternative dispute resolution mechanisms, if such procedures are provided for by national law.
7. Member States shall ensure that the single point of contact and all competent authorities responsible for any step along the permit-granting processes, including all procedural steps, have a sufficient number of qualified staff and sufficient financial, technical and technological resources necessary, including, where appropriate, for up- skilling and re-skilling, for the effective performance of their tasks under this Regulation.

8. The Platform referred to in Articles 38 and 39 shall periodically discuss the implementation of this Section and Articles 15 and 16 and share best-practices for organising single points of contact.
9. The authorities involved in the permit-granting process and other authorities concerned shall specify and make available to the single point of contact concerned, the requirements and extent of information requested of a project promoter before the permit-granting process commences.

Article 7

Online accessibility of information

Member States shall provide access to the following information on processes relevant to net-zero technology manufacturing projects, including net-zero strategic projects, online and in a centralised and easily accessible manner:

- (a) the single points of contact referred to in Article 6(1);
- (b) the permit-granting process, including information on dispute settlement;
- (c) financing and investment services;

- (d) funding possibilities at Union or Member State level;
- (e) business support services, including but not limited to corporate tax declaration, local tax laws or labour law.

Article 8

Accelerating implementation

Member States shall provide administrative support to net-zero technology manufacturing projects located on their territory, to facilitate their timely and effective implementation, paying particular attention to SMEs involved in the projects, including by providing:

- (a) assistance with regard to compliance with applicable administrative and reporting obligations;
- (b) assistance to project promoters to inform the public with the aim of increasing public acceptance of the project;
- (c) assistance to project promoters along the permit-granting process, in particular for SMEs.

Article 9

Duration of the permit-granting process

1. The permit-granting process for net-zero technology manufacturing projects shall not exceed any of the following time limits:
 - (a) 12 months for the construction or expansion of net-zero technology manufacturing projects with a yearly manufacturing capacity of less than 1 GW;
 - (b) 18 months for the construction or expansion of net-zero technology manufacturing projects with a yearly manufacturing capacity of 1 GW or more.
2. The permit-granting process for net-zero technology manufacturing projects for which a yearly manufacturing capacity is not measured in GW, shall not exceed a time limit of 18 months.
3. Where energy-intensive industry decarbonisation projects, including when recognised as strategic projects, require the construction of several facilities or units in one site, the project promoter and the single point of contact may agree on splitting the project into several smaller projects for the purposes of complying with the applicable time limits.
4. Where an environmental impact assessment is required pursuant to Directive 2011/92/EU, the steps of the assessment referred to in Article 1(2), point (g)(i), of that Directive shall not be included in the duration of permit-granting process referred to in paragraphs 1 and 2 of this Article.

5. Where the consultation pursuant to Article 1(2), point (g)(ii), of Directive 2011/92/EU results in the need to supplement the environmental impact assessment report with additional information, the single point of contact may give the project promoter the opportunity to submit additional information. In that case, the single point of contact shall notify the project promoter of the date when the additional information is due, which shall be no less than 30 days from the date of the notification. The period between the deadline for providing additional information and the submission of that information shall not be counted towards the duration of the permit-granting process referred to in paragraphs 1 and 2 of this Article.
6. In exceptional cases, where the nature, complexity, location or size of the proposed net-zero technology manufacturing project or net-zero strategic project so requires, a Member State may once extend the time limits referred to in paragraphs 1, 2 and 7 of this Article and in Article 16(1) and (2) by a maximum of 3 months before their expiry and on a case-by-case basis.
7. Where a Member State considers that the proposed net-zero technology manufacturing project or net-zero strategic project raises exceptional risks for the health and safety of workers or of the general population, and where additional time is necessary to establish that measures to address identifiable risks have been put in place, it may extend the time limits referred to in paragraphs 1 and 2 of this Article and in Article 16 (1) and (2) by 6 months, within 6 months of the start of the permit-granting process.

8. In the application of paragraph 6 or 7, the single point of contact shall inform the project promoter in writing of the reasons for the extension and of the date when the comprehensive decision is expected.
9. The single point of contact referred to in Article 6(1) of this Regulation shall notify the project promoter of the date when the environmental impact assessment report referred in Article 5(1) of Directive 2011/92/EU is due, taking into account the organisation of the permit-granting process in the relevant Member State and the need to allow sufficient time to assess the report. The period between the deadline for providing the environmental impact report and the submission of that report shall not be counted towards the duration of the permit-granting process referred to in paragraphs 1 and 2 of this Article.
10. No later than 45 days from the receipt of the permit-granting application, the single point of contact concerned shall acknowledge that the application is complete or, if the project promoter has not sent all the information required to process the application, request the project promoter to submit a complete application without undue delay, specifying which information is missing. In the event that the submitted application is deemed to be incomplete for a second time, the single point of contact may, within 30 days of the second submission, make a second request for information. The single point of contact shall not request information in areas not covered in the first request for additional information and shall be entitled only to request further evidence to complete the identified missing information. The date of the acknowledgement of the completeness of the application from the single point of contact referred to in Article 6(1) shall serve as the start of the permit-granting process for that particular application.

11. No later than two months from the date of the receipt of the application, the single point of contact shall draw up, in close cooperation with other authorities concerned, a detailed schedule for the permit-granting process. That schedule shall start from the moment when the single point of contact acknowledges the completeness of the application. The schedule shall be published by the single point of contact on a free access website.
12. The time limits set in this Article and in Article 16 shall be without prejudice to obligations arising from Union and international law, and without prejudice to administrative appeal procedures and judicial remedies before a court or tribunal.
13. The time limits set in this Article and in Article 16 for any of the permit-granting processes shall be without prejudice to any shorter time limits set by Member States.

Article 10

Environmental assessments and authorisation

1. Where an environmental impact assessment is required pursuant to Articles 5 to 9 of Directive 2011/92/EU, the project promoter concerned may request, before submitting the application, an opinion from the single point of contact on the scope and level of detail of the information to be included in the environmental impact assessment report pursuant to Article 5(1) of that Directive. The single point of contact shall ensure that the opinion is issued as soon as possible and no later than 45 days from the date on which the project promoter submitted its request for an opinion.

2. Where the obligation to assess the effects on the environment arises simultaneously from any two or more of Directive 92/43/EEC, Directive 2000/60/EC, Directive 2001/42/EC of the European Parliament and of the Council⁵², Directive 2008/98/EC, Directive 2009/147/EC, Directive 2010/75/EU, Directive 2011/92/EU or Directive 2012/18/EU, Member States shall ensure that a coordinated or joint procedures fulfilling all the requirements of those Union legislative acts are applied.

Under the coordinated procedure referred to in the first subparagraph, a competent authority shall coordinate the various individual assessments of the environmental impact of a particular project required by the relevant Union legislative acts.

Under the joint procedure referred to in the first subparagraph, a competent authority shall provide for a single assessment of the environmental impact of a particular project required by the relevant Union legislative acts. The application of the joint or coordinated procedure shall not affect the content of the environmental impact assessment.

3. Member States shall ensure that the competent authorities issue the reasoned conclusion referred to in Article 1(2), point (g)(iv), of Directive 2011/92/EU on the environmental impact assessment within 90 days of receiving all necessary information pursuant to Articles 5, 6 and 7 of that Directive and after completing the consultations referred to in Articles 6 and 7 of that Directive.

⁵² Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment (OJ L 197, 21.7.2001, p. 30).

4. In exceptional cases, where the nature, complexity, location or size of the proposed project so requires, Member States may extend the time limit referred to in paragraph 3 by a maximum of 20 days, before its expiry and on a case-by-case basis. In that event, the single point of contact concerned shall inform the project promoter in writing of the reasons justifying the extension and of the deadline for its reasoned conclusion.
5. The timeframes for consulting the public concerned as referred to in Article 1(2), point (e), of Directive 2011/92/EU and the authorities referred to in Article 6(1) of that Directive on the environmental report referred to in Article 5(1) of that Directive shall not be longer than 85 days and, in accordance with article 6(7) of that Directive, not shorter than 30 days. In the cases falling under the second sub-paragraph of Article 6(4) of that Directive, that period shall be extended to a maximum of 90 days on a case-by-case basis.
6. Member States shall ensure that their competent authorities and other authorities designated pursuant to Article 6(1) of Directive 2011/92/EU have a sufficient number of qualified staff and sufficient financial, technical and technological resources necessary to fulfil their obligations under this Article.

Article 11
Planning

1. National, regional and local authorities responsible for preparing plans, including zoning, spatial plans and land use plans, shall consider including in such plans, where appropriate, provisions for the development of net-zero technology manufacturing projects, including net-zero strategic projects and, where appropriate, net-zero industry acceleration valleys, as well as the necessary infrastructure. Where considering to include such provisions, priority shall be given to artificial and built surfaces, industrial sites and brownfield sites. To facilitate the development of net-zero technology manufacturing projects, Member States shall ensure that all relevant spatial planning data is available online in accordance with Article 7.

2. Where plans include provisions for the development of net-zero technology manufacturing projects, including net-zero strategic projects, and their required infrastructure, and are subject to an assessment pursuant to Directive 2001/42/EC and pursuant to Article 6 of Directive 92/43/EEC, those assessments shall be combined. Where applicable, the combined assessment shall also address the impact on potentially affected water bodies referred to in Directive 2000/60/EC. Where relevant Member States are required to assess the impacts of existing and future activities on the marine environment, including land-sea interactions, as referred to in Article 4 of Directive 2014/89/EU of the European Parliament and of the Council⁵³, those impacts shall also be covered in the combined assessment. The fact that assessments are combined pursuant to this paragraph shall not affect their content or quality. The combined assessment shall be carried out in a manner that does not lead to a prolongation of the time limits set out in this Regulation.

Article 12

Applicability of UNECE Conventions

1. This Regulation is without prejudice to the obligations under the United Nations Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, signed at Aarhus on 25 June 1998, and under the UNECE Convention on environmental impact assessment in a transboundary context, signed at Espoo on 25 February 1991 and its Protocol on Strategic Environmental Assessment, signed in Kyiv on 21 May 2003.

⁵³ Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning (OJ L 257, 28.8.2014, p. 135).

2. All decisions adopted pursuant to this Section and Articles 8, 15, 16 and 28 shall be made publicly available in an easily understandable manner and all decisions concerning a net-zero technology manufacturing project or a net-zero strategic project shall be available on the same website.

SECTION III

NET-ZERO STRATEGIC PROJECTS

Article 13

Selection criteria

1. Member States shall recognise as net-zero strategic projects net-zero technology manufacturing projects located in the Union that contribute to achieving the objectives set out in Article 1, including contributing to the Union's climate or energy targets, and fulfil at least one of the following criteria:
 - (a) the net-zero technology manufacturing project contributes to the technological and industrial resilience of the Union's net-zero technologies by increasing the manufacturing capacity of a component or a segment of the net-zero technology supply chain by:
 - (i) adding manufacturing capacity in the Union for a net-zero technology, for which the Union depends for more than 50 % on imports coming from third countries;

- (ii) adding significant manufacturing capacity by making a substantive contribution to the 2030 climate or energy objectives of the Union; or
 - (iii) adding manufacturing capacity or updating existing manufacturing capacity in the Union for a net-zero technology, of which the Union's manufacturing capacity represents a significant share of world production and which plays a crucial role in the resilience of the Union;
- (b) the net-zero technology manufacturing project has a clear positive impact on the Union's net-zero industry supply chain or downstream sectors by providing European net-zero industries with access to the best available net-zero technology or to products produced in a first-of-a-kind manufacturing facility, and fulfils at least one of the following criteria:
- (i) putting into place measures to attract, retain, upskill or reskill a workforce required for net-zero technologies, including through apprenticeships, traineeships, continuing education and training in close cooperation with regional and local authorities, education and training institutions, and social partners including trade unions;
 - (ii) contributing to the competitiveness of SMEs as part of the supply chain of net-zero technologies;

(c) the project contributes to reaching the Union’s climate or energy objectives by manufacturing net-zero technologies through practices that implement improved environmental sustainability and performance or circularity features, including comprehensive low-carbon, energy, water or material efficiency and practices that significantly and permanently reduce emission rates of CO₂-eq.

2. By ... [8 months from the date of entry into force of this Regulation], the Commission shall adopt an implementing act setting out guidelines ensuring uniform conditions for the implementation of the criteria laid down in this Article. Those guidelines shall at least include specific guidance on the criteria to be used to assess:

(a) whether added manufacturing capacity concerns first-of-a-kind or best available technology manufacturing capacity;

(b) whether the additional manufacturing capacity can be considered to be significant.

That implementing act shall be adopted in accordance with the examination procedure referred to in Article 45(2).

3. Member States shall recognise as net-zero strategic projects CO₂ storage projects that meet all of the following criteria:

(a) the CO₂ storage site is located in the territory of the Union, its exclusive economic zones or on its continental shelf within the meaning of the United Nations Convention on the Law of the Sea (UNCLOS);

- (b) the CO₂ storage project contributes to reaching the objective set out in Article 20;
- (c) the CO₂ storage project has applied for a permit for the safe and permanent geological storage of CO₂, in accordance with Directive 2009/31/EC.

Any CO₂ capture project related to a CO₂ storage project that fulfils the criteria referred to in the first subparagraph, and any related CO₂ infrastructure project necessary for the transport of captured CO₂ shall also be recognised as a net-zero strategic project.

4. Net-zero technology manufacturing projects corresponding to a net-zero technology, located in ‘less developed and transition regions’ and Just Transition Fund territories and eligible for funding under cohesion policy rules shall be, after the award procedure has been completed, recognised by Member States as net-zero strategic projects under Article 14(3) upon the written request of the project promoter without the project promoter having to submit a formal application under Article 14(2).
5. A net-zero technology manufacturing project located in the Union that contributes to achieving the objectives set out in Article 1(1) and that benefits from the ETS Innovation Fund or is part of Important Projects of Common European Interest, of European Hydrogen Valleys or of the Hydrogen Bank, where the funds support investment in manufacturing capacities, shall be recognised by Member States as a net-zero strategic project under Article 14(3) upon the written request of the project promoter without the project promoter having to submit a formal application under Article 14(2).

6. Where a net-zero strategic project contributes to a value chain for a technology that a Member State does not accept as part of the general structure of its energy supply, that Member State may refuse to recognise that project as a strategic project. If there are net-zero technologies for which a Member State intends not to recognise projects as strategic projects, that Member State shall communicate that as soon as possible and publicly.

Article 14

Application and recognition

1. Applications for recognition of net-zero technology manufacturing projects as net-zero strategic projects shall be submitted by the project promoter to the relevant Member State.
2. The application referred to in paragraph 1 shall contain the following:
 - (a) relevant evidence related to the fulfilment of the criteria laid down in Article 13(1) or (3);
 - (b) a business plan evaluating the financial viability of the project consistent with the objective of creating quality jobs; and
 - (c) a first draft timetable for the project estimating when the project would be able to contribute to the Union's manufacturing capacity benchmark referred to in Article 5 or the Union level objective of CO₂ injection capacity referred to in Article 20.

The Commission shall provide a pre-set form to submit the applications referred to in paragraph 1.

3. Member States shall assess the application referred to in paragraph 1 through a fair and transparent process within one month of the receipt of the complete application. If the project promoter has not sent all the relevant and complete information required to process an application, the Member State shall request, once only, that the project promoter submit complementary information without undue delay, in order to obtain a complete application. The date of the acknowledgement of the completeness of the submission shall serve as the start of the assessment process. The decision resulting from this process shall be reasoned and shall be communicated to the project promoter and to the Platform referred to in Articles 38 and 39.
4. If there is no decision within the timeframe referred to in paragraph 3, the project promoter may notify the Member State and request without undue delay that the Member State provide the project promoter with an updated deadline, which shall not be later than 30 days from the original deadline.
5. The Commission may provide its opinion on the approved net-zero strategic projects. Where a Member State rejects the application, the applicant shall have the right to submit the application to the Commission, which shall assess the application within 20 working days. The Commission's assessment is without prejudice to the Member State's decision.

6. Where the Commission, following its assessment in accordance with paragraph 5 of this Article, confirms the rejection of the application by the Member State, it shall notify the applicant of its conclusion in the form of a letter. Where the Commission differs in its assessment from the Member State, the Platform referred to in Articles 38 and 39 shall discuss the project in question.
7. Where the Commission or a Member State finds that a net-zero strategic project has undergone substantial changes or that it no longer fulfils the criteria laid down in Article 13, or where its recognition as a net-zero strategic project was based on an application containing incorrect information, it shall inform the project promoter concerned. After hearing the project promoter, the Member State may repeal the decision recognising a project as a net-zero strategic project.
8. A project which is no longer recognised as a net-zero strategic project shall lose all rights connected to that status under this Regulation.
9. The Commission shall set up and maintain an openly available registry of net-zero strategic projects.

Article 15

Priority status of net-zero strategic projects

1. Project promoters and all authorities concerned shall ensure that for net-zero strategic projects the relevant processes are treated in the most rapid way possible in accordance with Union and national law.
2. Without prejudice to obligations provided for in Union law, where a project is recognised as a net-zero strategic project, Member States shall grant that net-zero strategic project the status of the highest national significance possible, where such a status exists in national law, and that net-zero strategic project shall be treated accordingly in the permit-granting processes, including those relating to environmental assessments and, where data is available, to spatial planning.
3. Net-zero strategic projects shall be considered to contribute to the security of supply of net-zero technologies in the Union and, therefore, to be in the public interest. With regard to the environmental impacts or obligations referred to in Articles 6(4) and 16(1) of Directive 92/43/EEC, Article 4(7) of Directive 2000/60/EC, Article 9(1), point (a), of Directive 2009/147/EC and in Union legislative acts on nature restoration, net-zero strategic projects in the Union shall be considered to be of public interest and may be considered to have an overriding public interest and to serve the interests of public health and safety provided that all the conditions set out in those acts are fulfilled.

4. All dispute resolution procedures, litigation, appeals and judicial remedies related to net-zero strategic projects before any national courts, tribunals or panels, including with regard to mediation or arbitration, where they exist in national law, shall be treated as urgent if and to the extent to which national law concerning permit-granting processes provides for such urgency procedures and provided that the usually applicable rights of defence of individuals or of local communities are respected. Project promoters of net-zero strategic projects shall participate in such urgency procedures, where applicable.

Article 16

Duration of the permit-granting process for net-zero strategic projects

1. The permit-granting process for net-zero strategic projects shall not exceed:
 - (a) 9 months for the construction or expansion of net-zero strategic projects with a yearly manufacturing capacity of less than 1 GW;
 - (b) 12 months for the construction or expansion of net-zero strategic projects with a yearly manufacturing capacity of 1 GW or more;
 - (c) 18 months for all necessary permits to operate a storage site in accordance with Directive 2009/31/EC.

2. For net-zero strategic projects for which a yearly manufacturing capacity is not measured in GW, the permit-granting process shall not exceed 12 months.
3. Where an environmental impact assessment is required pursuant to Directive 2011/92/EU, the step of the assessment referred to in Article 1(2), point (g)(i), of that Directive shall not be included in the duration for the permit-granting process referred to in paragraphs 1 and 2 of this Article.

Article 17

Net-zero Acceleration Valleys

1. Member States may decide to designate net-zero Acceleration Valleys (the ‘Valleys’) as specific areas to accelerate net-zero industrial activities, in particular to accelerate the implementation of net-zero technology manufacturing projects, including net-zero strategic projects or clusters thereof, or to test innovative net-zero technologies. The objectives of the Valleys shall be to create clusters of net-zero industrial activity and to further streamline administrative procedures.
2. The decision referred to in paragraph 1 shall:
 - (a) define a clear geographic and technology scope for the Valleys;

- (b) take into account areas that include artificial and built surfaces, industrial sites, and brownfield sites;
 - (c) be subject to an environmental assessment pursuant to Directive 2001/42/EC, and, where applicable, to an assessment pursuant to Article 6(3) of Directive 92/43/EEC; to the extent possible, the results of those assessments shall facilitate the preparation of net-zero technology manufacturing projects or net-zero strategic projects with a view to meeting the objectives of this Regulation and avoiding duplication of assessments; this provision is without prejudice to the compliance of individual projects with applicable Union environmental law;
 - (d) ensure synergies, where possible, with the designation of renewables acceleration areas as established by Directive (EU) 2023/2413 of the European Parliament and of the Council⁵⁴.
3. A decision by a Member State to designate a Valley shall be accompanied by a plan setting out concrete national measures to increase its attractiveness as a location for manufacturing activities, including at least the following economic and administrative support schemes to:
- (a) facilitate the development of the necessary infrastructure in the Valley;

⁵⁴ Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652 (OJ L, 2023/2413, 31.10.2023, ELI: <http://data.europa.eu/eli/dir/2023/2413/oj>).

- (b) support private investments in the Valley;
 - (c) achieve the adequate reskilling and upskilling of the local workforce;
 - (d) make information about the Valley accessible online in accordance with Article 7.
4. Public investments with the aim of setting up Valleys, equipping them with appropriate infrastructure, converting brownfield sites and developing the adequacy of the local skills pool may benefit, where appropriate, from the maximum co-financing rates under Regulations (EU) 2021/1058, (EU) 2021/1056 and (EU) 2021/1057.

Article 18

Permitting under Valleys

1. Sections II and III shall apply to individual projects in Valleys. A single point of contact, shall be designated for each Valley.
2. With a view to avoiding duplication of assessments, when issuing the opinion referred to in Article 10(1), the competent authority shall take into account the results of the assessments carried out pursuant to Article 17, (2), point (c).

3. The single point of contact shall make available to project promoters templates indicating the specific permits needed for projects in Valleys. Those templates shall include information on any features of the project and measures envisaged to avoid or prevent significant adverse effects on the environment in order to ensure that only projects with significant environmental impacts are subject to an assessment pursuant to Directive 2011/92/EU and to facilitate the determination by a competent authority as to whether the project is to be made subject to an assessment pursuant to Article 4(2) to (6) of that Directive.
4. Net-zero technology manufacturing projects in Valleys shall be considered to contribute to the security of supply of net-zero technologies in the Union and, therefore, to be in the public interest. With regard to the environmental impacts or obligations referred to in Articles 6(4) and 16(1) of Directive 92/43/EEC, Article 4(7) of Directive 2000/60/EC, Article 9(1), point (a), of Directive 2009/147/EC and in Union legislative acts on nature restoration, net-zero technology manufacturing projects in Valleys in the Union shall be considered to be of public interest and may be considered to have an overriding public interest and to serve the interests of public health and safety provided that all the conditions set out in those acts are fulfilled.

Article 19
Coordination of financing

1. The Platform as established in Article 38 shall examine the bottlenecks and Union-wide financial needs of net-zero strategic projects, advise on ways of coordinating Union and national financing with regard to those financial needs, and collect potential best practices, inter alia, for the purpose of developing Union cross-border supply chains, in particular on the basis of regular exchanges and recommendations of the net-zero Industry Group and with the relevant industrial alliances.
2. The Platform shall, at the request of the net-zero strategic project promoter, discuss and advise on how the financing of the project can be completed, taking into account the funding already secured and considering at least the following elements:
 - (a) additional private sources of financing;
 - (b) support through resources from the EIB Group or other international financial institutions including the European Bank for Reconstruction and Development;
 - (c) existing Member State instruments and programmes, including from national promotional banks, institutions and Export Credit Agencies;
 - (d) relevant Union funding and financing programmes.

3. By ... [3 months from the date of entry into force of this Regulation] and every two years thereafter, the Platform shall provide recommendations to the Commission on ways to ensure sufficient funding, including through the Union budget, to pursue the objectives of this Regulation.
4. Member States and, where appropriate, the Commission shall undertake activities to accelerate public investments in net-zero technology manufacturing projects. Such activities may, without prejudice to Articles 107 and 108 TFEU, include advising on and coordinating support for net-zero technology manufacturing projects which are facing difficulties in accessing finance.

Chapter III

CO₂ injection capacity

Article 20

Union level objective of CO₂ injection capacity

1. An annual injection capacity of at least 50 million tonnes of CO₂ shall be achieved by 2030 in storage sites, meaning geological storage sites permitted under Directive 2009/31/EC including depleted oil and gas fields and saline aquifers, located in the territory of the Union, its exclusive economic zones or on its continental shelf within the meaning of the United Nations Convention on the Law of the Sea and which are not combined with Enhanced Hydrocarbon Recovery.

2. All storage sites shall be designed to operate for a minimum of five years and shall respect the principles of fair and open access provided in a transparent and non-discriminatory manner, as defined in Directive 2009/31/EC.
3. By ... [three years from the date of entry into force of this Regulation] and every two years thereafter, the Commission shall submit a report to the European Parliament and to the Council on the progress achieved towards meeting the Union annual injection capacity target, including the state of the market related to the injection capacity. The reports shall include an overview of the geographical spread of storage sites across the Union. The first report shall assess whether it is considered to be necessary to introduce a Union-wide objective for 2040 or earlier if needed.
4. The reports referred to in paragraph 3 shall include a CO₂ storage and injection capacity assessment, using, in particular, the information collected pursuant to Article 21(2) and Article 23(6). The reports shall:
 - (a) provide a detailed analysis of the geographical and temporal planning of CO₂ storage sites and of the CO₂ capture projects for CO₂ emissions from industrial installations within the Union taking into account the specific potential for CO₂ usage to contribute to the permanent storage of CO₂;

- (b) identify the main infrastructure needed for the transport and storage of CO₂ emissions from industrial installations throughout the Union;
 - (c) provide a detailed analysis on the possible barriers obstructing the development of the CCS market.
5. By 31 December 2028, the Commission may submit, on the basis of the assessment referred to in paragraph 3, a legislative proposal to introduce a new Union-level objective for CO₂ injection capacity by 2040 or earlier if needed. If the Commission decides not to propose a legislative proposal to introduce that objective, it shall provide the European Parliament and the Council with reasons for its decision.
6. Within three months of the signature by the Union of an international agreement relating to this Chapter, the Commission shall submit a report assessing the implications of the international agreement, in particular with regard to promoting and safeguarding the Union's environmental standards, climate objectives and the potential need for additional Union policies and measures in view of the provisions of that international agreement. On the basis of that report, the Commission shall, as appropriate, submit a legislative proposal to the European Parliament and to the Council amending this Regulation pursuant to paragraph 1.

7. The Commission shall publish guidelines indicating the appropriate levels of CO₂ purity and of trace elements within the CO₂ stream for CO₂ storage projects contributing to the Union's injection capacity objective.

Article 21

Transparency of CO₂ storage capacity data

1. By ... [6 months from the date of entry into force of this Regulation], Member States shall:
- (a) make data on all areas where CO₂ storage sites could be permitted on their territory, including saline aquifers, publicly available, without prejudice to requirements regarding the protection of confidential information;
 - (b) oblige entities which are or have been holders of an authorisation as defined in Article 1, point 3, of Directive 94/22/EC of the European Parliament and of the Council⁵⁵ on their territory to make publicly available on a non-reliance basis geological data relating to production sites that have been decommissioned or whose decommissioning has been notified to the competent authority and, if available, economic assessments of the respective costs of enabling CO₂ injection, unless the entity has applied for an exploration permit in accordance with Directive 2009/31/EC, including data on:
 - (i) whether the site is suitable for sustainably, safely and permanently injecting and storing CO₂;

⁵⁵ Directive 94/22/EC of the European Parliament and of the Council of 30 May 1994 on the conditions for granting and using authorizations for the prospection, exploration and production of hydrocarbons (OJ L 164, 30.6.1994, p. 3).

- (ii) the availability or need for transport infrastructure and modes suitable for safely transporting CO₂ to reach the site.

For the purposes of point (a) of the first subparagraph of this paragraph, the data shall include at least the information requested in the Commission Notices on the Guidance to Member States for integrated national energy and climate plans notified pursuant to Article 3(1) of Regulation (EU) 2018/1999 and the updates thereof submitted pursuant to Article 14 thereof (national energy and climate plans).

2. By ... [six months from the date of entry into force of this Regulation] and each year thereafter, each Member State shall submit to the Commission a report, which shall be made publicly available, and shall be without prejudice to requirements regarding the protection of confidential information, describing:
 - (a) a mapping of CO₂ capture projects in progress on its territory or in cooperation with other Member States, and an estimation of the corresponding needs for injection and storage capacities, and CO₂ transport;
 - (b) a mapping of CO₂ storage and CO₂ transport projects in progress on its territory, including the status of permitting under Directive 2009/31/EC, expected dates for Final Investment Decision (FID) and entry into operation;

- (c) the national support measures that have been or will be adopted to prompt projects referred to in points (a) and (b) of this paragraph, as well as measures relating to the cross-border transport of CO₂;
 - (d) the national strategy and targets that will be and have been set for the capture of CO₂ by 2030, where applicable;
 - (e) bilateral and regional cooperation that facilitates the cross-border transport of CO₂, including their implications for the access of entities capturing CO₂ to a safe and non-discriminatory means of transporting CO₂;
 - (f) CO₂ transport projects in progress and an estimation of the necessary future CO₂ transport projects' capacity to match the corresponding capture and storage capacity.
3. Should the report referred to in paragraph 2 show that no CO₂ storage projects are in progress on their territory, Member States shall report on plans to facilitate the decarbonisation of industrial sectors. This shall, if applicable, include the cross-border transport of CO₂ to storage sites located in other Member States as well as CO₂ utilisation projects.

Article 22

CO₂ transport infrastructure

1. In order to facilitate the achievement of the objective set out in Article 20, the Union and its Member States, where appropriate in collaboration with relevant companies, shall make all reasonable efforts to develop the necessary CO₂ transport infrastructure, including cross-border infrastructure, while taking into account the economic and environmental benefits of proximity of capture and storage sites.
2. Member States shall take the necessary measures to enable access to CO₂ transport networks and to storage sites for the purposes of geological storage of the produced and captured CO₂ as far as it is economically feasible to do so or when a potential customer is willing to pay, in accordance with Article 21 of Directive 2009/31/EC.
3. Where CO₂ is captured and transported in one Member State and transported and stored in other Member States, Member States shall coordinate the measures taken by them pursuant to paragraph 2. The Commission may facilitate such coordination through the establishment of CCS Regional Groupings when there is a joint request from the Member States involved.

Article 23

Contribution of authorised oil and gas producers

1. Each entity holding an authorisation as defined in Article 1, point 3, of Directive 94/22/EC shall be subject to an individual contribution to the Union-wide target for available CO₂ injection capacity set in Article 20 of this Regulation. Those individual contributions shall be calculated pro-rata on the basis of each entity's share in the Union's crude oil and natural gas production from 1 January 2020 to 31 December 2023 and shall consist of CO₂ injection capacity in a storage site permitted in accordance with Directive 2009/31/EC and available to the market by 2030. Entities with crude oil and natural gas production below the threshold set in accordance with a delegated act pursuant to paragraph 12 of this Article, shall be excluded from this calculation and shall not be subject to a contribution.
2. By ...[three months from the date of entry into force of this Regulation], Member States shall identify and report to the Commission the entities referred to in paragraph 1 and their volumes in crude oil and natural gas production from 1 January 2020 to 31 December 2023.
3. Following the receipt of the reports submitted pursuant to Article 21(2), the Commission, after consulting Member States and interested parties, shall specify the contributions to the Union CO₂ injection capacity objective by 2030 from entities referred to in paragraph 1 of this Article.

4. By ... [12 months from the date of entry into force of this Regulation], the entities referred to in paragraph 1 shall submit to the Commission a plan specifying in detail how they intend to meet their contribution to Union CO₂ injection capacity objective by 2030. Those plans shall:
 - (a) confirm the entity's contribution, expressed in terms of targeted volume of new CO₂ storage and injection capacity commissioned by 2030;
 - (b) specify the means and the milestones for reaching the targeted volume.
5. In order to meet their targeted volumes of available injection capacity, the entities referred to in paragraph 1 may:
 - (a) invest in, or develop, CO₂ storage projects alone or in cooperation;
 - (b) enter into agreements with other entities referred to in paragraph 1;
 - (c) enter into agreements with third-party storage project developers or investors to fulfil their contribution.
6. By ... [two years from the date of entry into force of this Regulation] and every year thereafter, the entities referred to in paragraph 1 shall submit a report to the Commission detailing their progress towards meeting their contribution. The Commission shall make those reports public.

7. By way of derogation from paragraph 1, a Member State may request the Commission to exempt the entities referred to in that paragraph from individual contributions in relation to the production activities that they have carried out on the territory of that Member State from 1 January 2020 to 31 December 2023, provided that:
- (a) the overall annual injection capacity of all storage sites operated by any entity that has received a storage permit within the meaning of Directive 2009/31/EC and that has reached a final investment decision located on the territory of that Member State exceeds the sum of the individual contributions of the entities referred to in paragraph 1 of this Article in relation to the relevant production activities, and that the annual injection capacities associated with those storage sites corresponds to those mentioned in the storage permits and in the final investment decisions and contributes to the Union-wide target for available CO₂ injection capacity set in Article 20 of this Regulation;
 - (b) the application is submitted before the end of 2027.
8. Provided that the conditions laid down in paragraph 7 are fulfilled, the Commission shall adopt a decision exempting the entities concerned from their individual contribution in relation to the production activities they have carried out on the territory of the Member State submitting the request.

9. Entities exempted pursuant to paragraph 8 may enter into agreements in accordance with paragraph 5, points (b) and (c), only in respect of any injection capacity exceeding the individual contribution from which they are exempted and the sum of the individual contributions that have been exempted.
10. One year after the exempting decision and every year thereafter, the Member State shall submit a report to the Commission specifying in detail the progress of the entities exempted pursuant to paragraph 8 towards meeting their contribution to the Union-wide target for available CO₂ injection capacity set in Article 20. The Commission shall make those reports public.
11. By 31 December 2028, the Commission shall, on the basis of the reports referred to in Article 42(1), point (c), and Article 42(8), assess the relationship between the demand for injection capacity from CO₂ capture projects and the main infrastructure needed for the transport of CO₂ in progress or planned to be operational by 2030 and the sum of the individual contributions of the entities referred to in paragraph 1 of this Article in relation to the production activities on the territory of a given Member State. In the case of a substantial imbalance, the Member State concerned may exceptionally ask the Commission for a derogation regarding the date by which the individual contributions are to be fulfilled.

12. The Commission is empowered to adopt delegated acts in accordance with Article 44 to supplement this Regulation with regard to:
- (a) the rules concerning the identification of entities subject to a contribution pursuant to paragraph 1, including the threshold below which entities are exempt from contribution;
 - (b) the arrangements whereby agreements between entities referred to in paragraph 1 and investments in storage capacity held by third parties are taken into account to meet their individual contribution under paragraph 5, points (b) and (c);
 - (c) the content of the reports referred to in paragraph 6;
 - (d) the detailed conditions under which the Commission may grant an exemption or a derogation to entities under paragraph 7, 8 or 11.
13. No later than ... [24 months from the date of entry into force of this Regulation], Member States shall lay down penalties by means of administrative procedures, legal proceedings, or both, applicable to infringements by entities referred to in paragraph 1 with regard to their obligations under paragraph 3. Those penalties shall be effective, proportionate and dissuasive.

Article 24

Regulatory framework for the market for captured CO₂

1. By ... [three years from the date of entry into force of this Regulation], the Commission shall carry out an assessment of the functioning of the market for captured CO₂. That assessment shall be based on a clear methodology, take into account the annual reports referred to in Article 21(2) and, in particular, consider whether:
 - (a) the obligations set out in Article 23(1) effectively promote the development of the CO₂ storage market in the Union;
 - (b) the market provides for open, fair and non-discriminatory access and safety of the CO₂ storage and transport network;
 - (c) the market provides for open, fair and non-discriminatory access to capture CO₂ for usage or storage purposes;
 - (d) the adequacy of the CO₂ transport network and other infrastructure across the Union to sufficiently support the injection capacity objectives as well as the need for CO₂ capture;
 - (e) the functioning of the CO₂ market ensures sufficient access to injection capacity for hard-to-abate CO₂ emissions.

2. On the basis of the assessment referred to in paragraph 1, the Commission may propose a legislative act to regulate the market in order to address any shortcomings identified, in particular with regard to hard-to-abate emissions.

Chapter IV

Access to markets

Article 25

Sustainability and resilience contribution in public procurement procedures

1. For public procurement procedures falling within the scope of Directive 2014/23/EU, 2014/24/EU or 2014/25/EU, where contracts have net-zero technologies listed in Article 4(1), points (a) to (k), of this Regulation as part of their subject matter, or in the case of works contracts and works concessions including said technology, contracting authorities and contracting entities shall apply minimum mandatory requirements regarding environmental sustainability established in the implementing act referred to in paragraph 5 of this Article.
2. Paragraph 1 shall not preclude contracting authorities or contracting entities from using additional minimum requirements or award criteria in relation to environmental sustainability.

3. Notwithstanding paragraph 1, contracting authorities and contracting entities shall apply at least one of the following conditions, requirements or contractual obligations for the works contracts and works concessions referred to in paragraph 1:
- (a) a special condition that relates to social or employment-related considerations that takes the form of a contract performance clause within the meaning of Article 70 of Directive 2014/24/EU and of Article 87 of Directive 2014/25/EU and of the general principles of Directive 2014/23/EU;
 - (b) a requirement to demonstrate compliance with applicable cybersecurity requirements provided for in the a cyber resilience regulation, including, where appropriate and where available, through a relevant European cybersecurity certification scheme;
 - (c) a specific contractual obligation to deliver the component of the contract relating to net-zero technologies listed in Article 4 (1), points (a) to (k) on time, that may give rise to an obligation to pay an appropriate charge if this obligation is not fulfilled, and that goes beyond the requirements provided for in applicable national legislation, if such legislation exists.

4. The minimum mandatory requirements referred to in paragraph 1, where applicable, shall take the form, where appropriate, of:
- (a) technical specifications or requirements within the meaning of Article 36 of Directive 2014/23/EU, of Article 42 of Directive 2014/24/EU and of Article 60 of Directive 2014/25/EU; or
 - (b) contract performance clauses within the meaning of Article 70 of Directive 2014/24/EU and of Article 87 of Directive 2014/25/EU and of the general principles of Directive 2014/23/EU.
5. By ... [9 months from the date of entry into force of this Regulation], the Commission shall adopt an implementing act specifying minimum requirements on environmental sustainability for the public procurement procedures referred to in paragraph 1.

When adopting that implementing act, the Commission shall consider at least the following elements:

- (a) the market situation at Union level of the relevant technologies;
- (b) provisions regarding environmental sustainability set out in other Union legislative and non-legislative acts applicable to public procurement procedures covered by the obligation set out in paragraph 1;

- (c) the Union's international commitments, including the GPA and other international agreements of which the Union is bound.

That implementing act shall be adopted in accordance with the examination procedure referred to in Article 45(2).

- 6. A Member State shall not discriminate against, or subject to unjustified different treatment, a provider or net-zero products from another Member State.
- 7. The tender's resilience contribution shall be taken into account in the case of public procurement procedures falling within the scope of Directives 2014/23/EU, 2014/24/EU or 2014/25/EU where such contracts have net-zero technologies listed in Article 4 (1), points (a) to (k), of this Regulation as part of their subject matter, or in the case of the works contracts and works concessions referred to in paragraph 1, including said technology, and in the case of contracts awarded on the basis of a framework agreement where the estimated value of those agreements is equal to or above the values set out in Article 8 of Directive 2014/23/EU, Article 4 of Directive 2014/24/EU and Article 15 of Directive 2014/25/EU, in accordance with this paragraph.

If, the Commission, at the time of the call for competition for a public procurement procedure as referred to in paragraph 1 of this Article, or commencement of such a procedure, has determined in accordance with Article 29(2) that the proportion of a specific net-zero technology or its main specific components originating in a third country accounts for more than 50 % of the supply of that specific net-zero technology or its main specific components within the Union, or if the Commission has determined in accordance with Article 29(2) that the proportion of supply within the Union of a specific net-zero technology or its main specific components originating in a third country has increased by at least 10 percentage points on average for two consecutive years and reaches at least 40 % of the supply within the Union, contracting authorities and contracting entities shall include the following conditions for the public procurement procedures referred to in paragraph 1 of this Article:

- (a) an obligation for the duration of the contract not to supply more than 50 % of the value of the specific net-zero technology referred to in this paragraph from each individual third country as determined by the Commission;
- (b) an obligation for the duration of the contract that no more than 50 % of the value of the main specific components of the specific net-zero technology referred to in this paragraph is supplied or provided directly by the successful tenderer or by a subcontractor from each individual third country as determined by the Commission;

- (c) an obligation to provide contracting authorities and contracting entities, upon their request, adequate evidence relating to point (a) or (b), at the latest upon completion of the execution of the contract;
 - (d) an obligation to pay a proportionate charge, in the event of non-observance of the conditions referred in point (a) or (b), of at least 10 % of the value of the specific net-zero technologies of the contract referred to in this paragraph.
8. For contracts covered by the Union's Appendix I to the GPA as well as by other relevant international agreements by which the Union is bound, contracting authorities and contracting entities shall not apply the requirements of points (a) to (d) of the second subparagraph of paragraph 7, where the specific net-zero technology or its main specific components originates from sources of supply that are signatories to those agreements.
9. Contracting authorities and contracting entities may, on an exceptional basis, decide not to apply paragraphs 1 to 4, where:
- (a) the required net-zero technology can only be supplied by a specific economic operator and no reasonable alternative or substitute exists and the absence of competition is not the result of an artificial narrowing down of the parameters of the public procurement procedure;

- (b) no suitable tenders or no suitable requests to participate have been submitted in response to a similar former public procurement procedure launched by the same contracting authority or contracting entity in the two years immediately before the commencement of the planned new procurement procedure;
 - (c) their application would oblige that contracting authority or contracting entity to acquire equipment having disproportionate costs or would result in technical incompatibility in operation and maintenance.
- 10. Estimated cost differences above 20 %, based on objective and transparent data, may be presumed by contracting authorities and contracting entities to be disproportionate.
- 11. Where the application of the resilience contribution pursuant to paragraph 7 of this Article has led to a situation where no suitable tenders or no suitable requests to participate have been submitted in response to a public procurement procedure, the contracting authorities or contracting entities may, on an exceptional basis:
 - (a) decide to use the negotiated procedure without prior publication pursuant to Article 32(2), point (a), of Directive 2014/24/EU, Article 50, point (a), of Directive 2014/25/EU or Article 31(5) of Directive 2014/23/EU; or
 - (b) decide not to apply paragraph 7 of this Article in a specific subsequent public procurement procedure that aims to address the same needs as those which led to the commencement of the initial procedure referred to in this paragraph.

12. This Article shall be without prejudice to:
- (a) the possibility of using additional non price criteria;
 - (b) the possibility of excluding abnormally low tenders under Article 69 of Directive 2014/24/EU and Article 84 of Directive 2014/25/EU;
 - (c) Articles 107 and 108 TFEU, in the case of uncompetitive public procurement procedures.

Article 26

Auctions to deploy renewable energy sources

1. For the technologies listed in Article 4 (1), points (a) to (j) that are renewable energy technologies, Member States shall, when designing auctions for the deployment of energy from renewable sources, include:
- (a) pre-qualification criteria related to:
 - (i) responsible business conduct;
 - (ii) cyber security and data security; and
 - (iii) ability to deliver the project fully and on time;
 - (b) pre-qualification criteria or award criteria to assess the auction's sustainability and resilience contribution as referred to in paragraph 2.

This paragraph is without prejudice to Article 4 of Directive (EU) 2018/2001 and Articles 107 and 108 TFEU, and to the Union's international obligations.

2. The auctions' sustainability and resilience contribution shall be based on the criteria laid down in this paragraph. Those criteria shall be objective, transparent and non-discriminatory.

Auctions shall contribute to resilience, taking into account the proportion of the net-zero technology or its main specific components that originates from a third country accounting for more than 50 % of the supply of that specific net-zero technology or its main specific components within the Union.

For the purposes of the second subparagraph of this paragraph, the country of origin shall be determined in accordance with Regulation (EU) No 952/2013 of the European Parliament and of the Council⁵⁶.

Auctions shall also contribute to at least one of the following:

- (a) environmental sustainability going beyond the minimum requirements in applicable law;
- (b) innovation by providing entirely new solutions or improving comparable state-of-the-art solutions;
- (c) the energy system integration.

⁵⁶ Regulation (EU) No 952/2013 of the European Parliament and of the Council of 9 October 2013 laying down the Union Customs Code (OJ L 269, 10.10.2013, p. 1).

This paragraph shall not preclude Member States from using additional non-price criteria beyond those listed in this paragraph.

3. By ... [9 months from the date of entry into force of this Regulation], the Commission shall adopt an implementing act further specifying the pre-qualification and award criteria referred to in paragraph 1.

That implementing act shall be adopted in accordance with the examination procedure referred to in Article 45(2).

4. Member States shall give to each of the criteria to assess the auction's sustainability and resilience contribution, when applied as award criteria, a minimum weight of 5 % and a combined weight of between 15 % and 30 % of the award criteria. This is without prejudice to the possibility to give a higher weighting to the criteria referred to in the fourth subparagraph of paragraph 2, in accordance with any limit for non-price criteria set under State aid rules.
5. Member States shall not be obliged to apply the considerations relating to the pre-qualification and award criteria laid down in paragraph 1 where, by applying those criteria, they would incur disproportionate costs. Estimated cost differences above 15 % per auction, based on objective and verifiable data, may be presumed by Member States to be disproportionate.

6. Member States shall, where appropriate, take measures to maximise the execution rate of projects through appropriate incentives, for example, by applying price indexation. Member States may assess the effects of negative bidding on the speed and scale of deployment.
7. Paragraphs 1 to 5 shall apply to at least 30 % of the volume auctioned per year per Member State or alternatively to at least 6 Gigawatt per year per Member State.
8. By 31 December 2027 and every two years thereafter, the Commission shall carry out a comprehensive assessment of the application of the resilience and sustainability criteria for auctions for the deployment of energy from renewable sources and their effect on the accelerated deployment of renewable energy technologies. In particular, the Commission shall assess the impact of the resilience and sustainability criteria on:
 - (a) the development of the Union's annual manufacturing of renewable energy technologies;
 - (b) the deployment of energy from renewable sources, including their financial impact and their impact on the speed of deployment, while also taking into account the workability, including the administrative burden, and clarity of the system for project developers and national administration, on the basis of available data.

As part of that assessment, the Commission shall consult experts from Member States in the field of auctioning.

9. If the assessment referred to in paragraph 8 is positive, in particular if application of the resilience and sustainability criteria has not significantly hindered the deployment of energy from renewable sources, the Commission shall, where appropriate, submit a proposal to amend paragraph 7 to determine the shares of the volume auctioned per year per Member State or the absolute volume to which paragraphs 1 to 5 apply, in particular with a view to increasing those volumes, and to adapt the threshold of the estimated cost differences referred to in paragraph 5.
10. For the purpose of calculating the volumes auctioned per year per Member State, auctions for installations with a maximum project size of 10 MW may be excluded. For auctions for a specific technology to which paragraphs 1 to 5 apply and that have subsequently been undersubscribed, the undersubscribed share of the auction volume may be excluded from the application of paragraphs 1 to 5.
11. To facilitate implementation for all Member States, in particular for those with a low volume of auctions, Member States that have not launched more than 2 auctions per year during the previous 2 years, may compute the share of auctions to which paragraphs 1 to 5 apply over that 2-year period.

Article 27

Pre-commercial procurement and public procurement of innovative solutions

1. Member States shall seek to use, where appropriate, pre-commercial procurement and public procurement of innovative solutions in order to stimulate innovation in net-zero technology and the creation of new manufacturing capacity for net-zero technologies in the Union. Pre-commercial procurement and public procurement of innovative solutions may be topped up with Union-level funding within the framework of existing Union programmes for joint pre-commercial procurement or public procurement across Member States.
2. The Platform shall prepare recommendations on the design of pre-commercial procurement or public procurement of innovative solutions.

Article 28

Other forms of public intervention

1. Without prejudice to Articles 107 and 108 TFEU and Article 4 of Directive (EU) 2018/2001 and in line with the Union's international commitments, when deciding to set up new schemes or to update existing schemes benefitting households, companies or consumers which incentivise the purchase of net-zero technology final products, Member States, regional or local authorities, bodies governed by public law or associations formed by one or more such authorities or one or more such bodies governed by public law shall design those schemes in such a way as to promote the purchase by beneficiaries of net-zero technology final products with a high sustainability and resilience contribution as referred in paragraph 4 of this Article, by providing additional proportionate financial compensation or by conditioning the eligibility of the scheme on the basis of the criteria laid down in paragraph 4 of this Article, while considering the accessibility of the schemes for citizens living in energy poverty.

2. The additional financial compensation granted by authorities in accordance with paragraph 1 of this Article, due to the application of the criteria laid down in paragraph 4, points (a), (c) and (d), of this Article, shall not exceed 5 % of the cost of the net-zero technology final product for the consumer, with the exception of schemes targeting citizens living in energy poverty, as defined in Article 2, point (1), of Regulation (EU) 2023/955 of the European Parliament and of the Council⁵⁷, for which the limit shall be 15 %.

⁵⁷ Regulation (EU) 2023/955 of the European Parliament and of the Council of 10 May 2023 establishing a Social Climate Fund and amending Regulation (EU) 2021/1060 (OJ L 130, 16.5.2023, p. 1)

3. When designing and implementing a scheme pursuant to paragraph 1, the authority shall assess the resilience and sustainability contribution of available net-zero technology final products on the market on the basis of an open, non-discriminatory and transparent process. Any net-zero technology final product shall be entitled to apply to join the scheme at any time. The authority shall specify a pass mark for net-zero technology final products to be eligible to the additional financial compensation under the support scheme.
4. The sustainability and resilience contribution of other forms of public intervention shall be based on their contribution to resilience, taking into account the proportion of the net-zero technology or its main specific components originating from a third country that accounts for more than 50 % of the supply of that specific net-zero technology within the Union, and at least one of the following:
 - (a) environmental sustainability going beyond the minimum requirements in applicable law;
 - (b) contribution to innovation by providing entirely new solutions or improving comparable state-of-the-art solutions;
 - (c) contribution to the energy system integration.

The criteria referred to in the first subparagraph shall be objective, transparent and non-discriminatory.

This shall not preclude Member States from using additional non-price criteria beyond those laid down in this paragraph.

For the purposes of the first subparagraph, point (a), of this Article, the country of origin shall be determined in accordance with Regulation (EU) No 952/2013.

5. Member States shall publish on a single free access website all information relating to schemes pursuant to paragraph 1 for each relevant net-zero technology final product.

Article 29

Coordination of access to markets initiatives

1. Where relevant, the Commission shall provide guidance on the application of the criteria to assess the resilience and sustainability contribution of net-zero technology products covered by the forms of public intervention referred to in Articles 25, 26 and 28.
2. For the purposes of the assessment of the contribution to resilience, the Commission shall adopt an implementing act providing for a list of each of the net-zero technology final products and their main specific components. That implementing act shall be adopted in accordance with the examination procedure referred to Article 45(2).

On the basis of the implementing act referred to in the first subparagraph, the Commission shall provide updated information on the shares of the Union supply originating in different third countries in the most recent year for which data is available for each of the net-zero technologies and their main specific components. The country of origin shall be determined in accordance with Regulation (EU) No 952/2013.

3. The Platform shall discuss measures carried out by Member States to implement Articles 25 to 28 and exchange best practices, inter alia, with regard to the practical use of criteria defining the sustainability and resilience contribution in public procurement procedures, or schemes incentivising the purchase of net-zero technology final products.

Chapter V

Enhancing skills for quality job creation

Article 30

European net-zero industry academies

1. Based on an assessment, by the Commission, using existing data and reports, of skills shortages in net-zero technology industries key for the industrial transformation and decarbonisation, and fully respecting the competence of Member States in the field of education and training, the Commission shall support, including through the provision of seed-funding, the launch of European net-zero industry academies (the ‘Academies’), as organisations or consortia or projects of relevant stakeholders, which have the following objectives:
 - (a) developing, for voluntary use by Member States and education and training providers on their territories, learning programmes, content and learning and training materials for training and education, such as on developing, producing, installing, commissioning, operating, maintaining, repairing, ecodesigning, re-using and recycling net-zero technologies, and on raw materials as well as relevant occupational health and safety aspects and transversal competences; this shall reflect the assessment of skills shortages and support the capacities of public authorities, in particular those competent to issue permits and authorisations referred to in Chapter II and contracting authorities and contracting entities referred to in Chapter IV of this Regulation;

- (b) promoting the voluntary use of the learning programmes, content and materials by education and training providers in the Member States;
- (c) offering support to the education and training providers that use the learning programmes, content and materials produced by the Academies to uphold the quality of the training offered and to develop mechanisms to ensure the quality of the training offered;
- (d) developing credentials, including, if appropriate, micro-credentials, for voluntary use by Member States and education and training providers on their territories, in order to facilitate the identification of skills and, where appropriate, the recognition of qualifications, to enhance the transferability between jobs and industries, to facilitate the cross-border mobility of the workforce, to promote matching with relevant quality jobs through tools such as the European network of employment services (EURES) and EURAXESS, and to ensure visibility of the fact that a learning programme or learning content was developed by an Academy.

2. The Academies shall involve relevant actors, such as net-zero technology industry, education and training providers and social partners from a range of Member States. The Academies shall develop action plans setting out, among others, milestones, targets including in terms of number of learners to be based on the assessment of skills shortages, as well as a financial plan aiming to achieve financial sustainability. Those action plans shall pay particular attention to regions in industrial transformation or with a high rate of unemployment, where relevant.

3. The Academies shall produce gender-balanced content, contribute to counter gender stereotypes and promote equal access to learning contents for all, paying particular attention to the need to activate more women and young people, in particular NEETs, older people, workers in professions which are at risk of disappearing or the content and tasks of which are being highly transformed by new technologies, people working in regions in transition and persons with disabilities. The Academies shall promote diversity and the inclusivity of people with disability, migrants and people in vulnerable situations.
4. Without prejudice to the respective powers of the budgetary authority, financial means shall be made available where appropriate at Union level to support the launch of the Academies with seed-funding as referred to in paragraph 1. In addition, Member States are encouraged to make use of relevant Union funds such as ESF+, to support the deployment of the learning content developed by the Academies.

Article 31

*Regulated professions in the net-zero technology industries and
recognition of professional qualifications*

1. Within nine months after the completion of the learning content and materials developed by an Academy and every two years thereafter, Member States shall strive to identify whether the learning programmes developed by that Academy are equivalent to the specific qualifications required by the host Member State to access regulated activities within the scope of a profession with particular interest for the net-zero technology industry in that Member State. Member States shall ensure that the results of the assessments are made public and easily accessible online. In the event that the learning programmes are deemed not to be equivalent to the qualifications required by the host Member State to access regulated activities, or where a Member State has not sought to identify equivalence, that Member State shall inform the Platform, providing relevant information on:
 - (a) the reasoning for not completing the identification exercise; or
 - (b) the differences between the learning programmes developed by the Academies and the specific qualifications required by that host Member State, and how to achieve equivalence.

2. If a Member State concludes that the learning programmes developed by an Academy are equivalent to the specific qualifications required by the host Member State to access regulated activities, it shall facilitate the recognition of credentials issued by education and training providers on the basis of the learning programmes developed by the Academy, under Title III, Chapter I of Directive 2005/36/EC, where a holder of such a credential requests access to a regulated profession within the meaning of Article 3(1), point (a), of Directive 2005/36/EC, and of particular importance for the net-zero technology industry, by treating the credential as sufficient evidence of formal qualifications, in accordance with Article 11 of Directive 2005/36/EC.

3. Where access to a profession of particular importance for the net-zero technology industry is regulated within the meaning of Article 3(1), point (a), of Directive 2005/36/EC, Member States shall work towards developing a common set of minimum knowledge, skills and competences necessary for the pursuit of that specific profession for the purpose of establishing a common training framework as referred to in Article 49a(1) of Directive 2005/36/EC to enable automatic recognition of qualifications. The Platform may also submit suggestions for common training frameworks, as referred to in Article 49a (3) of Directive 2005/36/EC.

Article 32

Net-Zero Europe Platform and skills

The Platform shall support and supplement the action of Member States in the deployment of skills in net-zero technologies, while respecting their competence, by advising and assisting the Commission and Member States, including competent authorities, and contracting authorities and contracting entities, as referred to in Chapters II and IV, by means of the following:

- (a) assessing, continuously monitoring and forecasting the demand and supply of a workforce with the skill sets needed in net-zero technologies and the availability and uptake of corresponding education and training opportunities, for the purpose of informing the activities of the Academies, as appropriate;
- (b) monitoring the activity of the Academies, on the basis of the data and information on how many people have benefited from the learning programmes developed by the Academies, including disaggregated data by industrial sector, gender, age and level of education and qualification, fostering synergies with Union and national skills initiatives and projects, and strengthening and scaling up good practices, inter alia, to attract a diverse workforce and provide general oversight;

- (c) analysing the root causes of labour and skills shortages, on the basis of existing insights and data, including those related to the quality of the job offer, thus assessing whether additional measures are needed to attract more workers of all qualification levels in certain industries;
- (d) assisting the mobilisation of stakeholders including industry, undertakings including SMEs, social partners and education and training providers, such as universities, for the promotion, and, in line with national practices, their possible participation in the roll-out of learning programmes developed by the Academies;
- (e) assisting the uptake of learning credentials developed by the Academies in the Member States to promote the identification of skills and, where relevant, recognition of qualifications and the matching of skills and jobs, inter alia, by promoting the validity and acceptance of the credentials throughout the labour market of the Union;
- (f) monitoring the uptake and recognition of learning credentials and contributing to providing solutions where issues of non-recognition are detected;

- (g) facilitating, where appropriate, the development of European occupation profiles, for the voluntary use by Member States, consisting of a common set of knowledge, skills and competences for key professions in the net-zero technologies, drawing inter alia upon the learning programmes developed by the Academies, and, where appropriate, using the terminology provided by the European Skills, Competences, Qualifications and Occupations (ESCO) classification to facilitate transparency and mobility between jobs and across internal market borders;
- (h) promoting career prospects and quality working conditions, including adequate wages, in jobs in net-zero technology industries, integration in the labour market for net-zero technology industries of more women and young people, in particular NEETs, older people, workers in professions which are at risk of disappearing or the content and tasks of which are being highly transformed by new technologies, people working in regions in transition and persons with disabilities, and attracting skilled workers from third countries through instruments such as the European Blue Card and in accordance with national competences, law and practice, and thereby achieving a more diverse workforce;

- (i) encouraging and supporting labour mobility across the Union and promoting the publication of vacant positions related to net-zero technologies by EURES, in accordance with Regulation (EU) 2016/589 of the European Parliament and of the Council⁵⁸;
- (j) facilitating closer coordination and the exchange of best practices and knowhow between Member States and within the private sector to enhance the availability of skills in the net-zero technologies, including by contributing to Union and Member States policies to attract new talents from third countries and all educational levels, in accordance with national competences, law and practice and in coordination with the already existing structures of European cooperation in education and training;
- (k) looking for synergies with existing training or education programmes, with the aim, among others, of matching the learning programmes of the Academies with the needs of the Union's industry.

⁵⁸ Regulation (EU) 2016/589 of the European Parliament and of the Council of 13 April 2016 on a European network of employment services (EURES), workers' access to mobility services and the further integration of labour markets, and amending Regulations (EU) No 492/2011 and (EU) No 1296/2013 (OJ L 107, 22.4.2016, p. 1).

Chapter VI

Innovation

Article 33

Net-zero regulatory sandboxes

1. By ... [9 months from the date of entry into force of this Regulation], Member States shall, when setting up net-zero regulatory sandboxes, establish or designate one or more contact points. A sole contact point shall be responsible for each request to establish a net-zero regulatory sandbox pursuant to this Article.
2. Member States, together with local and regional authorities and other Member States where appropriate, may at their own initiative establish net-zero regulatory sandboxes. Member States shall establish net-zero regulatory sandboxes, in close collaboration with industry and, where relevant, research institutes, the social partners and civil society, in accordance with paragraph 1 at the request of any company, organisation or consortium developing innovative net-zero technologies that fulfils the eligibility and selection criteria laid down in the paragraph 3, second subparagraph, point (a), and that has been selected by the competent authorities following the selection procedure referred to in the paragraph 3, second subparagraph, point (b).

3. The arrangements and the conditions for the establishment and operation of the net-zero regulatory sandboxes pursuant to paragraph 2 shall be adopted by means of implementing acts. Those arrangements and conditions shall support flexibility of the competent authorities with regard to prioritising between and approving applications for net-zero regulatory sandboxes. They shall foster innovation and regulatory learning and shall particularly take into account the special circumstances and capacities of participating SMEs and start-ups.

Those implementing acts shall include common main principles on the following issues:

- (a) the eligibility criteria and selection procedure for participation in the net-zero regulatory sandboxes;
- (b) the procedure for the application, participation, monitoring, exiting from and termination of the net-zero regulatory sandboxes;
- (c) the terms and conditions applicable to the participants.

Those implementing acts shall be adopted in accordance with examination procedure referred to in Article 45(2).

4. Participation in net-zero regulatory sandboxes shall not affect the supervisory and corrective powers of the authorities supervising the net-zero regulatory sandbox. The testing, development and validation of innovative net-zero technologies or other innovative technologies shall take place under the supervision and with the support of the competent authorities. The competent authorities shall exercise their supervisory powers in a flexible manner within the limits of the relevant law, adapting existing regulatory practices and using their discretionary powers when implementing and enforcing legal provisions to a specific net-zero regulatory sandbox project, with the objective of removing barriers, alleviating regulatory burden, reducing regulatory uncertainty, and supporting innovation in net-zero technologies or other innovative technologies.

5. For the purpose of achieving the objective of this Article, the competent authorities shall consider whether to grant derogations or exemptions in national law to the extent allowed by relevant Union law. The competent authorities shall ensure that the net-zero regulatory sandbox plan respects the requirements of Union law and the key objectives and essential requirements of national law. Competent authorities shall ensure that any significant risk to health, safety or the environment identified during the development and testing of innovative net-zero technologies or other innovative technologies is publicly communicated and results in the immediate suspension of the development and testing process until such risk is mitigated. Where competent authorities consider that the proposed project raises exceptional risks for the health and safety of workers, of the general population, or of the environment, in particular because it relates to testing, development or validation involving particularly toxic substances, they shall only approve the net-zero regulatory sandbox plan provided that they are satisfied that adequate safeguards commensurate with the exceptional risk identified have been put in place.

6. Participants in the net-zero regulatory sandbox shall remain liable under applicable Union and Member States' liability law for any material harm inflicted on third parties as a result of the testing taking place in the net-zero regulatory sandbox.
7. The duration of the net-zero regulatory sandbox may be extended through the same procedure upon agreement of the national competent authority.
8. The net-zero regulatory sandboxes shall be designed and implemented in such a way that, where relevant, they facilitate cross-border cooperation between the national competent authorities. Member States that have established net-zero regulatory sandboxes shall coordinate their activities and cooperate within the framework of the Platform with the objective of sharing relevant information with other Member States. The Platform may invite companies that have participated in a net-zero regulatory sandbox to share their experience of the process. The Commission shall, on the basis of information provided by the Members States and the discussions held in the Platform, report regularly on the results of the implementation of net-zero regulatory sandboxes, including good practices, lessons learnt and recommendations on their setup and, where relevant, on the application, within the net-zero regulatory sandbox, of this Regulation and other Union law in a manner adapted for the purposes of the net-zero regulatory sandbox.

Article 34
Measures for SMEs and start-ups

1. Member States shall:
 - (a) provide SMEs and start-ups with priority access to the net-zero regulatory sandboxes to the extent that they fulfil the eligibility conditions laid down in Article 33;
 - (b) organise awareness raising activities about participation to the net-zero regulatory sandboxes by SMEs and start-ups;
 - (c) where appropriate, establish a dedicated channel for communication with SMEs and start-ups to provide guidance and respond to queries about the implementation of Article 33.

2. Member States shall take into account the specific interests and needs of SMEs and start-ups, and provide adequate administrative support to take part in the net-zero regulatory sandboxes. Without prejudice to the application of Articles 107 and 108 TFEU, Member States shall inform SMEs and start-ups of available financial support for their activities in the net-zero regulatory sandboxes.

Article 35

Establishment of the Strategic Energy Technology Plan Steering Group

1. The Strategic Energy Technology Plan Steering Group (SET Plan Steering Group) is hereby established.
2. The SET Plan Steering Group shall perform the tasks set out in this Regulation.

Article 36

Tasks of the SET Plan Steering Group

1. The SET Plan Steering Group shall provide guidance and direction to the Strategic Energy Technology Plan.
2. The Commission and Member States shall work and coordinate within the SET Plan Steering Group to help support the development of clean, efficient and cost-competitive energy technologies through coordination and collaboration in clean energy research and innovation and, where relevant, with third countries upon invitation.
3. The SET Plan Steering Group shall advise and assist the Commission in setting up initiatives related to the tasks referred to in paragraphs 1 and 2.

Article 37

Structure and functioning of the SET Plan Steering Group

1. The SET Plan Steering Group shall be composed of Member States and the Commission. It shall be chaired by one or more representatives of the Commission.
2. Each Member State shall appoint a high-level representative to the SET Plan Steering Group. Where relevant as regards the function and expertise, a Member State may appoint more than one representative in relation to different tasks of the SET Plan Steering Group. Each representative appointed to the SET Plan Steering Group shall have an alternate.
3. On a proposal by the Commission, the SET Plan Steering Group shall adopt its rules of procedure by a simple majority of its members.
4. The SET Plan Steering Group shall meet at regular intervals to ensure the effective performance of its tasks. Where necessary, the SET Plan Steering Group shall meet on the basis of a reasoned request by the Commission or by a simple majority of its members.
5. The Commission shall assist the SET Plan Steering Group by means of an executive secretariat that provides technical and logistic support.
6. The SET Plan Steering Group may establish standing or temporary working groups and task forces dealing with specific questions and tasks.

Chapter VII

Governance

Article 38

Establishment and tasks of the net-zero Europe Platform

1. The net-zero Europe Platform ('the Platform') is hereby established.
2. The Platform shall perform the tasks set out in this Regulation.
3. The Platform may advise and assist the Commission and Member States with regard to their actions to reach the objectives set out in Chapter I of this Regulation, while avoiding disproportionate administrative burden for Member States where feasible, and taking into account Member States' national energy and climate plans.

4. Members of the Platform shall coordinate the Net-Zero Industrial Partnerships within the Platform to help promote the adoption of net-zero technologies globally, to collaborate in the development of innovative net-zero technologies and to support the role of Union industrial capabilities in paving the way for the global clean energy transition, in accordance with the general objective of this Regulation as laid down in Article 1. The Platform may periodically discuss, inter alia:
- (a) how to improve and promote cooperation, knowhow and technology sharing along the net-zero value chain between the Union and third countries;
 - (b) the resilience including through enhanced competitiveness of the European industries within the scope of this Regulation in relation to global value chains and recommended actions for enhancement;
 - (c) where appropriate, improving consistency between this Regulation and other Union initiatives which could contribute to the objectives of this Regulation and whether to issue recommendations in relation thereto;
 - (d) the progress on value chains for net-zero technologies, ongoing technological and industrial changes, and potential future emerging strategic value chains in view of the objectives of this Regulation;

- (e) best practices with regard to the implementation of Section II of Chapter II as well as to Articles 15 and 16 and accelerating the permitting deadlines;
- (f) how to address non-tariff barriers to trade, such as through mutual recognition of conformity assessment or commitments to avoid export restrictions;
- (g) which third countries could be prioritised for the conclusion of Net-Zero Industrial Partnerships, taking into account the following:
 - (i) the potential contribution to security of supply, taking into account their manufacturing capacity of net-zero technologies;
 - (ii) whether there are existing cooperation agreements between a third country and the Union;
 - (iii) whether a third country's regulatory framework and its implementation ensures the monitoring, prevention and minimisation of environmental impacts, the use of socially responsible practices including respect of human and labour rights and meaningful and equitable engagement with local communities, the use of transparent business practices and the prevention of adverse impacts on the proper functioning of public administration and the rule of law;
 - (iv) CO₂ injection and storage capacities within their territories;

- (h) how to incentivise production of net-zero technologies in the Union, by addressing funding, regulatory framework and investment and location guarantees;
- (i) the assessment of the application of trade measures in net-zero industries.

This paragraph shall be without prejudice to the prerogatives of the Council in accordance with the Treaties in relation to non-binding international instruments.

5. Member States may support the Commission in the implementation of the cooperation measures set out in the Net-Zero Industrial Partnership.
6. Taking into account the Commission's report of 24 October 2023 entitled 'Progress on competitiveness of clean energy technologies' and the Commission's Annual Burden Survey 2022, the Commission shall report to the Platform on the development of the regulatory burden for net-zero industries in the Union.
7. The Platform shall regularly coordinate with the High-Level Forum on Standardisation to discuss the use of standardisation to support the development of net-zero technologies in the Union.

Article 39

Structure and functioning of the Platform

1. The Platform shall be composed of representatives of Member States and of the Commission. It shall be chaired by a representative of the Commission.
2. Each Member State shall appoint a high-level representative to the Platform. Where relevant as regards the function and expertise, a Member State may appoint more than one representative in relation to different tasks of the Platform. Each representative appointed to the Platform shall have an alternate. Only Member States shall have voting rights. Each Member State shall have only one vote regardless of the number of representatives.
3. On a proposal by the Commission, the Platform shall adopt its rules of procedure by a simple majority of its members.
4. The Platform shall meet at regular intervals in order to ensure the effective performance of its tasks provided for in this Regulation. Where necessary, the Platform shall hold extraordinary meetings on the basis of a reasoned request by the Commission or by a Member State.
5. The Commission shall assist the Platform by means of an executive secretariat that provides technical and logistic support.

6. The Platform may establish standing or temporary sub-groups dealing with specific questions and tasks relating to this Regulation.

The Platform shall establish at least a sub-group to ensure the appropriate implementation of the Academies pursuant to Chapter V.

7. The Platform shall invite representatives of the European Parliament to attend, as observers, its meetings, including the meetings of the standing or temporary sub-groups referred to in paragraph 6. The European Parliament shall receive all documentation and information related to the work of the Platform at the same time as the members of the Platform.
8. The Platform shall establish a net-zero Industry Group. That group shall, on its own initiative or upon a request of the Platform, provide recommendations to the Platform with a view to contributing to achieving the objectives of this Regulation.
9. Where appropriate, the Platform or the Commission may invite experts representing industry, civil society, academia, trade unions and other third parties to participate in the meetings of the Platform and in sub-group meetings or to provide written contributions. Those experts shall not participate in decision making.
10. The Platform shall take the necessary measures to ensure the safe handling and processing of confidential and commercially sensitive information.

11. The Platform shall use its best endeavours to take decisions by means of consensus.
12. The Platform shall coordinate and cooperate with existing and relevant industrial alliances and, where appropriate, invite them to attend its meetings, including the meetings of the standing or temporary sub-groups referred to in paragraph 6.
13. The Platform shall meet at least once every year with representatives from the SET Plan Steering Group referred to in Article 35 in order to discuss the most recent developments, synergies between the implementation of this Regulation and the Strategic Energy Technology Plan and to issue recommendations thereon.

Article 40

Net-zero Regulatory Burden Scientific Advisory Group

1. A Net-zero Regulatory Burden Scientific Advisory Group (the ‘Scientific Advisory Group’) is hereby established.
2. The Scientific Advisory Group shall be composed of at least 7 senior scientific experts covering a broad range of relevant disciplines. Members of the Scientific Advisory Group shall fulfil the criteria laid down in paragraph 4.
3. No more than two members of the Scientific Advisory Group shall hold the nationality of the same Member State. The independence of the members of the Scientific Advisory Group shall be beyond doubt.

4. The members of the Scientific Advisory Group shall be appointed for a term of four years, which shall be renewable once, following an open, fair and transparent selection procedure. The selection of members shall be based on the following criteria:
- (a) scientific excellence;
 - (b) experience in carrying out scientific assessments and providing scientific advice in their fields of expertise;
 - (c) expertise in the field of public administration or other fields relevant for the tasks of the Scientific Advisory Group;
 - (d) professional experience in an inter-disciplinary environment in an international context.
5. The members of the Scientific Advisory Group shall be appointed in a personal capacity and shall provide their opinions independently of the Member States and of the Union institutions. The Scientific Advisory Group shall elect a chairperson from among its members for a period of four years. It shall adopt its rules of procedure.

6. The Scientific Advisory Group shall in the exercise of its activities function exclusively in an advisory capacity and act without prejudice to the Commission's right of initiative, the Interinstitutional Agreement on Better Law-Making and the Commission's scrutiny and quality-control functions in the Regulatory Scrutiny Board.
7. The Scientific Advisory Group shall support, in accordance with paragraph 6, the work of the Commission, of the European Parliament and of the Member States, while acting independently in discharging its tasks by providing advisory reports on the regulatory impact and burden of Union law on industrial activities within the scope of this Regulation. In order to provide consistent advice, the Scientific Advisory Group shall assess regulatory impacts and burdens on industrial activities within the scope of this Regulation, utilising a science informed methodology and, where appropriate, taking into account the Better Regulation Toolbox.
8. The Commission shall provide the secretariat of the Scientific Advisory Group.
9. The Scientific Advisory Group shall regularly exchange views on its work with the Platform.

Article 41

National energy and climate plans

Member States shall take into consideration this Regulation when preparing their national energy and climate plans, in particular as regards the dimension “research, innovation and competitiveness” of the Energy Union, reflecting the priorities of the Energy Union Strategy and the Strategic Energy Technology Plan, and when submitting their biennial progress reports in accordance with Article 17 of Regulation (EU) 2018/1999.

Chapter VIII

Monitoring

Article 42

Monitoring

1. The Commission shall monitor on an ongoing basis:
 - (a) the Union’s progress with respect to the Union’s objectives referred to in Article 1, in particular the supply risks of net-zero technologies that would distort competition or fragment the internal market, and the related impact of this Regulation;
 - (b) the Union’s progress in meeting the benchmarks referred to in Article 5, taking into account constraints and opportunities on the global market;

- (c) the value or volume of imports into its territory and exports outside of the Union's territory of net-zero technologies;
- (d) the progress with respect to the Union level objective of CO₂ injection capacity referred to in Article 20 and to the related CO₂ transport infrastructure as well as the related CO₂ capture activities.

2. Member States and the national authorities they designate for that purpose shall collect and provide data and other evidence required pursuant to paragraph 1.

In particular, they shall, at least every 3 years collect data on:

- (a) obstacles to trade in net-zero technologies or in goods that use net-zero technologies within the internal market and their potential drivers, including where such obstacles stem from global supply chain disruptions;
- (b) developments in net-zero technologies and market trends, as well as market prices for the respective net-zero technologies, including information on auctions, their frequency, awarding prices, and volume as relevant for fulfilling the requirements of Chapter IV;

- (c) net-zero technology manufacturing capacity and related activities, including data on employment and skills;
- (d) the number of SMEs that are part of net-zero technology manufacturing projects;
- (e) the following information related to permit-granting processes per net-zero technology:
 - (i) the number of permit-granting processes initiated, the number of applications refused, and the number of comprehensive decisions taken, specifying whether they approved or refused the project;
 - (ii) the duration of the permit-granting processes where a comprehensive decision was taken, including the duration of extensions of the time limits;
 - (iii) information on the resources allocated to the operation of the single points of contact;
- (f) the number and nature of net-zero regulatory sandboxes;
- (g) the amount of CO₂ stored permanently underground in accordance with Directive 2009/31/EC.

3. Where they are not already included in, or in accordance with the elements of, the national energy and climate plans, each Member State shall submit to the Commission a report setting out the data referred to in paragraph 2 by 15 March 2027 and every three years thereafter.
4. The reporting obligation referred to in paragraph 3 of this Article shall not apply where Member States consider that it would be contrary to their essential security interests pursuant to Article 346 TFEU.
5. The Commission may adopt implementing acts to provide a template for the reports referred to in paragraph 3 of this Article. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 45(2).
6. On the basis of the reports submitted pursuant to paragraph 3 of this Article, the Commission shall monitor the Union's progress as referred to in paragraph 1, point (a), of this Article and publish related recommendations as part of the Annual Reports on Competitiveness of Clean Energy Technologies, pursuant to Article 35 (2), point (m), of Regulation (EU) 2018/1999. The recommendations shall also consider whether all the net-zero technologies necessary to achieve the objectives laid down in Article 1 of this Regulation are covered by this Regulation.

7. On the basis of the draft permit applications submitted pursuant to Article 10 of Directive 2009/31/EC and of the reports submitted pursuant to Articles 21(2), 23(4) and 23(6) of this Regulation, the Commission shall monitor the progress towards reaching the Union-wide target for CO₂ injection capacity as referred to in paragraph 1, point (d), of this Article. The Commission shall report annually thereon to the European Parliament and to the Council.
8. The Commission shall inform the Platform on of its findings in relation to this Article.

Chapter IX

Final provisions

Article 43

Delegation of power

The Commission is empowered to adopt delegated acts in accordance with Article 44 to amend the arrangements whereby agreements between entities referred to in Article 23(1) and investments in storage capacity held by third parties are taken into account to meet their individual contribution set out in Article 23 (5) and to establish the content of the reports referred to in Article 23 (6).

Article 44
Exercise of the delegation

1. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.
2. The power to adopt delegated acts referred to in Article 23(12), Article 43 and Article 46(7) shall be conferred on the Commission for a period of five years from ... [date of entry into force of this Regulation]. The Commission shall draw up a report in respect of the delegation of power not later than nine months before the end of the five-year period. The delegation of power shall be tacitly extended for periods of an identical duration, unless the European Parliament or the Council opposes such extension not later than three months before the end of each period.
3. The delegation of power referred to in Article 23(12), Article 43 and Article 46(7) may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect on the day following the publication of the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

4. Before adopting a delegated act, the Commission shall consult experts designated by each Member State in accordance with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making.
5. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.
6. A delegated act adopted pursuant to Article 23(12), Article 43 or Article 46(7) shall enter into force only if no objection has been expressed either by the European Parliament or by the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council.

Article 45
Committee procedure

1. The Commission shall be assisted by a Committee. That committee shall be a committee within the meaning of Regulation (EU) No 182/2011. For matters related to Article 25 of this Regulation, the Commission shall be assisted by the Advisory Committee on Public Procurement established by Council Decision 71/306/EEC⁵⁹. For matters related to Article 26 of this Regulation, the Commission shall be assisted by the Energy Union Committee established by Article 44 of Regulation (EU) 2018/1999.
2. Where reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply.

Article 46
Evaluation

1. By ... [4 years from the date of entry into force of this Regulation] and every three years thereafter, the Commission shall evaluate this Regulation and present a report on its main findings to the European Parliament, to the Council and to the European Economic and Social Committee.

⁵⁹ Council Decision 71/306/EEC of 26 July 1971 setting up an Advisory Committee for Public Works Contracts (OJ L 185, 16.8.1971, p. 15).

2. The evaluation referred to in paragraph 1 shall assess:
 - (a) whether the objectives of this Regulation as laid down in Article 1, in particular its contribution to the functioning of the internal market, have been achieved, this Regulation's impact on business users, in particular SMEs, and end users, and the European Green Deal objectives;
 - (b) whether this Regulation is fit to deliver beyond 2030 and towards the longer term 2050 climate neutrality target referred to in Article 1, taking into account, among other aspects, the possibility to include in this Regulation other technologies that can play a significant role in achieving climate neutrality by 2050;
 - (c) whether benchmarks for specific technologies are needed in order to achieve the security of supply of those technologies for the Union.

3. The evaluation shall take into account:
 - (a) the result of the monitoring process referred to in Article 42;
 - (b) the technology needs stemming from the updates of the national energy and climate plans, including the Strategic Energy Technology Plan, taking into account the most recent State of the Energy Union Report.

4. Within the same period referred to in paragraph 1 of this Article, as well as after each renewal or update of the national energy and climate plans and after consulting with the Platform, the Commission shall assess the need, and where appropriate submit a proposal, to expand the list of net-zero technologies set out in Article 4.
5. The competent authorities of the Member States shall provide the Commission with any relevant information they have and that the Commission may require to draw up the report referred to in paragraph 1.
6. Where, on the basis of the report referred to in paragraph 1 of this Article, the Commission concludes that the Union is likely not to achieve the objectives set out in Article 1(1), it shall, after consulting the Platform, assess the feasibility and proportionality of proposing measures in order to ensure the achievement of those objectives.

7. By ... [9 months from the date of entry into force of this Regulation], the Commission shall adopt a delegated act in accordance with Article 44 to amend the Annex on the basis of the list of net-zero technologies set out in Article 4, in order to identify the sub-categories within net-zero technologies and the list of specific components used for those technologies. That delegated act shall be based on a comprehensive assessment to identify specific essential components that can reasonably be considered to be primarily used for net-zero technologies. That assessment shall be based on a methodological analysis of the supply chains of the net-zero technologies, taking into account, in particular, the commercial availability of the components, the appropriate level of detail and developments in technology. The Commission may review that delegated act on the basis of that assessment.

Article 47

Handling of confidential information

1. Information acquired in the course of implementing this Regulation shall be used only for the purposes of this Regulation and shall be protected by the relevant Union and national law.

2. Member States and the Commission shall ensure the protection of trade and business secrets and other sensitive, confidential and classified information obtained and processed in application of this Regulation, including recommendations and measures to be taken, in accordance with Union and relevant national law.
3. The Commission and Member States shall ensure that classified information provided or exchanged pursuant to this Regulation is not downgraded or declassified without the prior written consent of the originator in accordance with relevant Union or national law.
4. Where a Member State considers that the disclosure of aggregated information pursuant to Article 23 is likely to compromise its national security interest, it may, by means of a reasoned notice, object to the Commission's disclosure of that information.
5. The Commission and the national authorities, their officials, employees and other persons working under the supervision of those authorities shall ensure the confidentiality of information obtained in carrying out their tasks and activities in accordance with relevant Union or national law. This obligation also applies to all representatives of Member States, observers, experts and other participants attending meetings of the Platform pursuant to Article 39.

Article 48
Amendment to Regulation (EU) 2018/1724

Regulation (EU) 2018/1724 is amended as follows:

- (1) in Annex I, in the first column, a new row ‘R. Net-zero technology manufacturing projects’ is added;
- (2) in Annex I, in the second column, in the row ‘R. Net-zero technology manufacturing projects’, the following points are added:
 - ‘1. information on the permit-granting process;
 2. financing and investment services;
 3. funding possibilities at Union or Member State level;
 4. business support services, including but not limited to corporate tax declaration, local tax laws, labour law.’;
- (3) in Annex II, in the first column, a new row ‘Net-zero technology manufacturing projects’ is added;

- (4) in Annex II, in the second column, in the row ‘Net-Zero technology manufacturing projects’, the following point is added:

‘Procedures for all relevant permits to build, expand, convert and operate net-zero technology manufacturing projects, and net-zero strategic projects, including building, chemical and grid connection permits, environmental assessments and authorisations where required, and encompassing all applications and procedures.’;

- (5) in Annex II, in the third column, in the row ‘Net-Zero technology manufacturing projects’, the following point is added:

‘All outputs pertaining to the procedures ranging from the acknowledgement that the application is complete to the notification of the comprehensive decision on the outcome of the procedure by the designated contact point.’;

- (6) in Annex III, the following point is added:

‘(8) Single points of contact established or designated, pursuant to Article 6(1) of Regulation (EU) 2024/... of the European Parliament and of the Council⁶⁰⁺, including for the purposes of Article 18(1) of that Regulation and contact points established or designated pursuant to Article 33(1) thereof.’

⁶⁰ Regulation (EU) 2024/... of the European Parliament and of the Council of ... on establishing a framework of measures for strengthening Europe’s net-zero technology manufacturing ecosystem and amending Regulation (EU) 2018/1724 (OJ L, ..., ELI: ...).
+ OJ: Please insert in the text the number of the Regulation contained in document PE-CONS No 45/24 (2023/0081(COD)) and insert the number, date, title, and OJ reference of that Regulation in the footnote.

Article 49

Entry into force and application

1. This Regulation shall enter into force on the day following that of its publication in the *Official Journal of the European Union*.
2. It shall apply from ... [date of the date of entry into force of this Regulation].
3. Until ... [2 years from the date of entry into force of this Regulation], Article 25 (1) shall apply only to contracts concluded by central purchasing bodies as defined in Article 2 (1), point (16), of Directive 2014/24/EU and Article 2 (1), point (12), of Directive 2014/25/EU and for contracts of a value equal to or higher than EUR 25 million.
4. Articles 26 and 28 shall apply from ... [18 months from the date of entry into force of this Regulation].

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at ...,

For the European Parliament

The President

For the Council

The President

ANNEX

List of final products and specific components
considered to be primarily used for the production of net-zero technologies

	Sub-categories within net-zero technologies	Components that are primarily used for net-zero technologies
Solar technologies	PV technologies	
	Solar thermal electric technologies	
	Solar thermal technologies	
	Other solar technologies	
Onshore wind and offshore renewable technologies	Onshore wind technologies	
	Offshore renewable technologies	
Battery and energy storage technologies	Battery technologies	
	Energy storage technologies	
Heat pumps and geothermal energy technologies	Heat pump technologies	
	Geothermal energy technologies	
Hydrogen technologies	Electrolysers	
	Hydrogen fuel cells	
	Other hydrogen technologies	
Sustainable biogas and biomethane technologies	Sustainable biogas technologies	
	Sustainable bio-methane technologies	
CCS technologies	Carbon capture technologies	
	Carbon storage technologies	

	Sub-categories within net-zero technologies	Components that are primarily used for net-zero technologies
Electricity grid technologies	Electricity grid technologies	
	Electric charging technologies for transport	
	Technologies to digitalise the grid	
	Other electricity grid technologies	
Nuclear fission energy technologies	Nuclear fission energy technologies	
	Nuclear fuel cycle technologies	
Sustainable alternative fuels technologies	Sustainable alternative fuels technologies	
Hydropower technologies	Hydropower technologies	
Other renewable energy technologies	Osmotic energy technologies	
	Ambient energy technologies, other than heat pumps	
	Biomass technologies	
	Landfill gas technologies	
	Sewage treatment plant gas technologies	
	Other renewable energy technologies	
Energy system-related energy efficiency technologies	Energy system-related energy efficiency technologies	
	Heat grid technologies	
	Other energy system-related energy efficiency technologies	

	Sub-categories within net-zero technologies	Components that are primarily used for net-zero technologies
Renewable fuels of non-biological origin	Renewable fuels of non-biological origin technologies	
Biotech climate and energy solutions	Biotech climate and energy solutions	
Transformative industrial technologies for decarbonisation	Transformative industrial technologies for decarbonisation	
CO ₂ transport and utilisation technologies	CO ₂ transport technologies	
	CO ₂ utilisation technologies	
Wind and electric propulsion technologies for transport	Wind propulsion technologies	
	Electric propulsion technologies	
Other nuclear technologies	Other nuclear technologies	
