# Net-zero industry act

## OVERVIEW

The required deployment of clean energy technologies to support the achievement of Europe's 2030 and 2050 climate targets is considerable. Europe already largely imports these technologies, and many third countries have stepped up their efforts to expand their clean energy manufacturing capacity. On 16 March 2023, the Commission put forward a proposal for a 'net-zero industry act' that aims to expand the manufacturing capacity of net-zero technologies in the EU and enhance the resilience of its energy system.

The proposed regulation would set up enabling conditions for the manufacturing of 10 net-zero technologies (through streamlined administrative processes and access to regulatory sandboxes and European net-zero industry academies). Eight 'strategic' net-zero technologies would gain additional benefits (even shorter administrative processes, facilitated access to markets, and administrative support to access finance). The proposed regulation would aim to ensure that, by 2030, the manufacturing capacity in the EU for these strategic net-zero technologies reaches an overall benchmark of at least 40% of the EU’s annual deployment needs. It would also set an EU-level target for annual CO₂ injection capacity by 2030 (50 million tonnes).

The proposal is now in the hands of the co-legislators. In the European Parliament, the Committee on Industry, Research and Energy (ITRE) is responsible for the file.


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Introduction

In January 2023, the International Energy Agency (IEA) warned that the current global energy crisis represented a pivotal moment for clean energy transitions worldwide. It pointed out that the world was at the beginning of a new ‘clean energy technology manufacturing industrial age’. Globally, if countries fully implement their energy and climate pledges, the annual market for key mass-manufactured clean energy technologies could reach US$650 billion by 2030 (more than three times its current value), and jobs in the sector could rise to 14 million (compared to 6 million today). The required deployment of clean energy technologies to meet the needs of the IEA’s net-zero emission scenario is dramatic: for instance, global production of electric vehicles is expected to increase 15-fold to 2050 compared to 2021; the deployment of renewables would quadruple and, for heat pumps, increase six times. Production of hydrogen from electrolysis or natural gas-based hydrogen with carbon capture and storage would increase from 0.5 Mt in 2021 to 450 Mt in 2050.

The IEA recommended that the industrial strategies supporting clean energy technology manufacturing should: be holistic, reconciling climate, energy and economic considerations, and foster domestic competitive advantages; be based on comprehensive risk assessments of supply chains; reduce permitting times; mobilise investment and financing for key supply chain stages; develop workforce skills; and speed up innovation in early-stage technologies.

Context

The EU framework for the transformation of the EU’s industry for the net-zero age builds on the European Green Deal (2019), the EU’s transformational growth strategy. In particular, it would require the full mobilisation of industry to make the EU economy climate-neutral and circular. The European Climate Law of 2021 includes the legally binding objective for the EU to reach climate-neutrality by 2050. It also sets an EU target of a net domestic reduction in greenhouse-gas emissions of at least 55% by 2030, compared to 1990 levels. The ‘Fit for 55 package’ of 2021 included a wide range of legislative proposals reforming the EU’s policies to reach the targets of the climate law. Key initiatives impacting EU industry include the updated emissions trading system (ETS) and new carbon border adjustment mechanism, both signed into law on 10 May 2023. The REPowerEU plan of 2022 aimed to eliminate the EU’s dependence on Russian fossil fuels by, for example, deploying photovoltaic, wind and heat pump capacities or decarbonising industry. The Council and Parliament recently agreed on amendments to EU energy legislation, proposed under this plan, accelerating the take-up of renewable energy sources and promoting further increased energy efficiency and savings. Member States were also allowed to introduce REPowerEU chapters in their recovery and resilience plans. The Commission encouraged Member States to include in these chapters measures increasing the manufacturing of net-zero technologies.

Over the past few years, the need to speed up the green and digital transitions, and to reduce strategic dependencies for key products, has led to widespread calls for greater government involvement in the economy and to the ‘rebirth’ of industrial policies. Today, nearly all countries engage in forms of industrial policy and the EU in particular has recently embraced a more active industrial policy agenda. The Commission adopted a new industrial strategy for Europe in 2020, seeking to make EU industry greener, more digital and more competitive globally and to reinforce Europe’s industrial and strategic autonomy. It introduced an ‘ecosystem approach’, based on the close monitoring of strategic dependencies in 14 key industrial ecosystems, representing 70% of the EU economy (including energy-intensive industries and renewable energies). The 2021 update of the industrial strategy focused on addressing the impacts of the pandemic, the evolving global competitive context, and the acceleration of the twin transitions. It also put forward a range of additional actions to address strategic dependencies. The Commission identified strategic dependencies that could lead to EU vulnerabilities for photovoltaic panels, due to a strong concentration of global production in China, with limited options for supply diversification. The Commission is supporting industrial alliances (in the areas of clean hydrogen, batteries and photovoltaic energy) to develop Europe’s strategic capacities in key areas, and to facilitate the
identification of investment projects. Important projects of common European interest (IPCEIs) have also gained in importance as a way to support strategic industrial projects. IPCEIs are a state aid tool designed to overcome serious market failures concerning breakthrough innovation and key infrastructure. Initiated by Member States, they bring together key European players. The Commission has, for example, approved two IPCEIs concerning the battery value chain (in 2019 and 2021) and hydrogen. The Commission has also put forward a number of regulatory frameworks targeting key industries. The Council and Parliament recently struck deals on new EU rules concerning semiconductors ('chips act') and batteries, both key in the net-zero industrial age.

As recently highlighted by the IEA, around 90% of mass-manufacturing capacity for several key clean energy technologies is located in China and the Asia-Pacific region (Figure 1).

Figure 1 – Regional shares of manufacturing capacity for selected mass-manufactured, clean energy technologies and components (2021)

China is the leading global supplier and a net exporter for many clean energy technologies. It represents at least 60% of the world’s manufacturing capacity for most mass-manufactured technologies (e.g. solar photovoltaic, wind energy and batteries), and 40% of electrolyser manufacturing. Europe is a large importer of clean energy technologies such as electric vehicles, batteries, fuel cells and solar photovoltaic, importing almost all its solar panels. It is, however, a net exporter of wind turbine components. China accounts for most of the current announced manufacturing capacity expansion plans to 2030 for solar photovoltaic components, onshore wind and electric vehicle battery. Hydrogen electrolyser are the main exception, with around a quarter of manufacturing capacity announcements for 2030 being in China and the EU.

Current barriers to the increase of net-zero technologies production are linked to the situation of global supply chains (volatility in materials prices, increasing transport and financing costs, supply shortages), long lead times to set up new manufacturing capacities (e.g. due to lengthy permitting procedures), or a lack of skilled workers.
Comparative elements

Many third countries are stepping up efforts to expand their clean energy manufacturing capacity, to advance net zero transitions, strengthen energy security and compete in the new global energy economy. In the **United States**, the *Inflation Reduction Act* (IRA), signed into law in August 2022, is considered one of the most consequential bills in recent US history, and is the subject of fierce debate in the EU. It provides for US$369 billion of investment in energy security and combating climate change, including, for instance, US$5.8 billion in grant support to energy-intensive industry for the reduction of their greenhouse gas emissions, a US$2 billion grant programme for domestic production of clean vehicles, and a 'technology neutral' tax credit for production of clean electricity, as well as investment in facilities that generate clean electricity. In the **United Kingdom**, the government published the *Powering up Britain* plan in March 2023, to 'consolidate Britain's position as a global leader in green energy'. The IEA stressed that, in **China**, the 14th Five-Year Plan includes measures for technology development aimed at reaching a peak in CO2 emissions by 2030. **Japan** has set up a roadmap to reach net zero by 2050; the development of emerging technologies will be supported through a JP ¥2 trillion Green Innovation Fund. **India** is boosting supply chain investments in domestic manufacturing of batteries (over US$2 billion), cars (over US$3 billion), solar photovoltaic (nearly US$600 million) and steel (US$800 million) over the 2022-2027 period.

Parliament's starting position

In its resolution of 5 October 2022 on the EU's response to the increase in energy prices in Europe, Parliament called on the Commission and Member States to speed up the deployment of renewable energies, particularly by removing administrative barriers and simplifying permitting procedures. It highlighted that investments in renewable energy, energy efficiency and infrastructure would help the EU to achieve energy sovereignty, open strategic autonomy and energy security. It asked the Commission and the Member States to accelerate key infrastructure projects based on renewable energy and clean hydrogen by facilitating permitting process, while paying attention to public participation and environmental impact assessment procedures.

In its resolution of 16 February 2023 on an EU strategy to boost industrial competitiveness, trade and quality jobs, Parliament asked the Commission to set up a strategy to redeploy, relocate and reshore industries in Europe, diversifying supply chains and reducing greenhouse gas emissions. It stressed the need to ensure fast permitting procedures and predictability for new projects concerning clean and renewable energy sources. Parliament also recalled the importance of promoting the EU’s open strategic autonomy by improving its capabilities in the key strategic technologies mentioned in the green deal industrial plan for the net-zero age.

Council and European Council starting position

In its conclusions of 16 November 2020 on a recovery advancing the transition towards a more dynamic, resilient and competitive European industry, the Council pointed to the importance of preparing the EU’s future competitiveness and resilience by investing in industrial ecosystems, value chains, raw materials and technologies that are key to the green and digital transitions and contributing to the EU’s objective of strategic autonomy.

In its Versailles Declaration of March 2022, the European Council stressed that further action to strengthen European sovereignty and reduce the EU’s dependencies was needed. To this end, the EU should reduce its energy dependencies and build a more robust economic base, particularly by speeding up the development of renewables and the production of their key components, and streamlining authorisation procedures to accelerate energy projects. In its conclusions of 15 December 2022, the European Council emphasised the importance of safeguarding Europe’s economic, industrial and technological base and of preserving the global level playing field. It stressed the importance of an ambitious EU industrial policy to make Europe’s economy fit for the green and digital transitions and reduce strategic dependencies. In its conclusions of 23 March 2023,
the European Council called for promoting a growth-enhancing regulatory environment, by simplifying the regulatory environment and reducing the administrative burden, including by accelerating permitting procedures. It also called for work to be taken forward on the proposal for a net-zero industry act.

Preparation of the proposal

Commission President Ursula von der Leyen announced a net-zero industry act at the World Economic Forum in Davos on 17 January 2023, which would be part of a green deal industrial plan for the net-zero age (presented by the Commission on 1 February). The plan set out a European approach to boost the EU’s net-zero industry, based on four pillars:

(i) measures to improve the competitiveness of the EU’s net-zero industry: under this pillar, the Commission proposed a net-zero industry act, a critical raw materials act and reform of the electricity market design;
(ii) measures to increase and speed up access to national and EU public funding, and private funding: the temporary crisis framework adopted in March 2022 to enable Member States to support the economy in the context of Russia’s war against Ukraine was transformed into a temporary crisis and transition framework on 9 March 2023. The new framework gives Member States more flexibility under EU competition policy to grant state aid for certain sectors, on a temporary basis (until the end of 2025). For instance, it simplifies the granting of state aid for renewable energy deployment and decarbonisation of industrial processes, and gives Member States the possibility of granting higher aid for production of strategic net-zero technologies to match the aid received by competitors located in third countries. On 9 March, the Commission also endorsed an amendment to the general block exemption rules, giving Member States more flexibility to design and implement support measures in key sectors for the net-zero industry, without the Commission’s former approval;
(iii) measures to develop a suitably skilled workforce for the net-zero industry;
(iv) measures on global cooperation and international trade to improve the resilience of supply chains.

The proposal was put forward by the Commission on 16 March 2023. No impact assessment and no online public consultation were carried out by the Commission, which invoked reasons of urgency. It explained that the analysis and all supporting evidence would be presented in a staff working document published at the latest within three months of the proposal’s publication.

The proposal was accompanied by a Commission staff working document assessing investment needs to strengthen the EU’s net-zero technology manufacturing capacity and presenting funding availabilities. The total investment needed to reach the indicative technology-specific benchmarks included in the proposed regulation (taking into account only five key net-zero technologies (wind, solar, batteries, heat pumps, and electrolysers)) is estimated at €92 billion over the period 2023-2030; public funding requirements would be between €16 billion and €18 billion. The Commission stressed that ‘the current EU budget has insufficient possibilities for supporting the objectives of the net-zero industry act and for ensuring a level-playing field between Member States, relative to the identified public investment needs’.

The changes the proposal would bring

The general objective of the proposed regulation would be to establish a framework of measures for innovating and expanding the manufacturing capacity of net-zero technologies in the EU, to support the 2030 and 2050 climate targets, and to enhance the resilience of the EU’s energy system by securing the supply of net-zero technologies, also contributing to the creation of quality jobs (Article 1). To this end, the proposed regulation provides for measures aiming to ensure that, by 2030, manufacturing capacity in the EU for eight strategic net-zero technologies (listed in the annex) reaches an overall benchmark of at least 40% of the EU’s annual deployment needs to
achieve the EU's 2030 climate and energy targets. These eight strategic net-zero technologies would be:

1. Solar photovoltaic and solar thermal technologies.
2. Onshore wind and offshore renewable technologies.
4. Heat pumps and geothermal energy technologies.
5. Electrolysers and fuel cells.
7. Carbon capture and storage technologies.
8. Grid technologies.

The Commission explained that the choice of these eight strategic net-zero technologies relies on three criteria: their technology readiness level (the proposed regulation generally refers to mature net-zero technologies); their contribution to decarbonisation and competitiveness; and the existence of a security of supply risk.

Recital 17 includes a range of indicative benchmarks by 2030 for the EU's manufacturing capacities for these technologies: 30 gigawatts (GW) across the full value chain for solar photovoltaic technologies; 36 GW for wind technologies; 31 GW for heat pump technologies; 550 gigawatt hours (GWh) for batteries (almost 90% of the EU's annual demand for batteries); and 100 GW of overall installed capacity being deployed for electrolysers.

Raw materials, processed materials, or components under the scope of the proposed critical raw materials act would be excluded from the scope of the proposed regulation (Article 2). The concept of 'net-zero technologies' would cover (Article 3):

1. Renewable energy technologies ('renewable energy' as defined in Directive (EU) 2018/2001, i.e. energy from renewable non-fossil sources, namely wind, solar (thermal and photovoltaic) and geothermal energy, ambient energy, tide, wave and other ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas, and biogas).
2. Electricity and heat storage technologies.
3. Heat pumps.
4. Grid technologies.
5. Renewable fuels of non-biological origin technologies.
6. Sustainable alternative fuel technologies (sustainable alternative fuels are those covered by the proposals for a regulation on ensuring a level playing field for sustainable air transport, and for a regulation on the use of renewable and low-carbon fuels in maritime transport).
7. Electrolysers and fuel cells.
8. Advanced technologies to produce energy from nuclear processes with minimal waste from the fuel cycle, small modular reactors, and related best-in-class fuels.
9. Carbon capture, utilisation, and storage technologies.
10. Energy system-related energy efficiency technologies.

The concept refers to the final products, specific components and specific machinery 'primarily used for the production of those products'. The technologies would have to have reached a technology readiness level of at least eight (first-of-a-kind commercial – commercial demonstration, full-scale deployment in final form).

Enabling conditions for net-zero technology manufacturing

Streamlining administrative and permit-granting processes

Member States would have to appoint a national competent authority, responsible for facilitating the permit-granting process for net-zero technology manufacturing projects, including for 'net-zero strategic projects' (see below), and to provide advice on reducing administrative burdens (Article 4).
This authority would be the sole point of contact for the project promoter in the permit-granting process (‘one stop shop’).

Member States would have to ensure the online availability of information on administrative processes relevant to net-zero technology manufacturing projects, including net-zero strategic projects (information on the permit-granting process; financing and investment services; funding possibilities; and business support services) (Article 5).

The proposed regulation would also set time limits for the permit-granting process (Article 6): 12 months for the construction of net-zero technology manufacturing projects with a yearly manufacturing capacity of less than 1 GW (18 months for projects with a yearly manufacturing capacity of more than 1 GW (with some exceptions)). If a yearly manufacturing capacity is not measured in GW, the time limit would be 18 months. For the expansion of manufacturing capacity in existing manufacturing facilities, time limits would be halved.

If an environmental impact assessment has to be carried out for a strategic project under Directive 2011/92/EU, the national competent authority would have to ensure that the opinion on the scope and level of detail of the information to be included in the environmental impact assessment would be delivered to the applicant within a period of time not exceeding 30 days. For projects for which assessments of the effects on the environment arise simultaneously from Directive 2011/42/EC, Directive 92/43/EEC, Directive 2000/60/EC, Directive 2008/98/EC, Directive 2009/147/EC, Directive 2010/75/EU, Directive 2011/92/EU or Directive 2012/18/EU, the national competent authority would have to ensure that a coordinated or joint procedure fulfilling the requirements of EU legislation is applied. Member States would have to ensure that national, regional and local planning authorities made plans for the development of net-zero technology manufacturing projects, including net-zero strategic projects, giving priority to artificial and built surfaces, industrial sites, brownfield sites, and greenfield sites not usable for agriculture and forestry (Article 8). Assessments of such plans under Directive 2001/42/EC and Directive 92/43/EEC could be combined (these combined assessments could also assess the impact on water bodies or the marine environment).

**Net-zero strategic projects**

Member States would have to recognise as ‘net-zero strategic projects’ (Article 10) manufacturing projects concerning one of the eight net-zero technologies listed in the annex, located in the EU, contributing to reaching the 2030 and 2050 EU climate targets and to ensuring the EU’s access to a secure and sustainable supply of net-zero technologies. Strategic projects would also have to meet at least one of the following criteria:

- The project would contribute to the technological and industrial resilience of the EU’s energy system by increasing the manufacturing capacity of a component or part in the value chain for which the EU heavily depends on imports coming from a single third country.
- The project would have a positive impact on the EU’s net-zero industry supply chain or downstream sectors, beyond the project promoter and the Member States concerned, contributing to the competitiveness of and creation of quality jobs in the EU’s net-zero industry supply chain, according to at least three of the following four criteria: (i) it would add significant manufacturing capacity in the EU for net-zero technologies; (ii) it would concern technologies with improved sustainability and performance; (iii) it would put in place measures to attract, upskill or reskill the workforce; (iv) it would adopt low-carbon and circular manufacturing practices, including waste heat recovery.

Furthermore, Member States would have to recognise as net-zero strategic projects CO₂ storage projects that meet a set of cumulative criteria: the storage site would be located in the EU, its exclusive economic zones or on its continental shelf; the project would contribute to reaching the objective on CO₂ injection capacity (see below); and the project would have applied for a permit for the safe and permanent geological storage of CO₂ in accordance with Directive 2009/31/EC.
Member States would also have to recognise as net-zero strategic projects, upon request by the project promoter, and without the project promoter having to submit a formal application, net-zero technology manufacturing projects:

- located in ‘less developed and transition regions’ and Just Transition Fund territories, and eligible for funding under cohesion policy rules;
- located in the EU, contributing to the achievement of the objectives of the proposed regulation, and that either benefit from the ETS Innovation Fund, or are part of important projects of common European interest, European hydrogen valleys, or of the Hydrogen Bank, when the funds support investment in manufacturing capacities corresponding to a net-zero strategic technology.

Applications for recognition of net-zero technology projects as net-zero strategic projects would have to be submitted by the project promoter to the relevant Member State (Article 11). Member States would have to assess the application within one month. The absence of a decision within that time limit would be considered as an approval of the project. If a Member State rejected the application, the applicant could submit it to the Commission, which would assess the application within 20 working days. The Commission would set up and maintain an openly available registry of net-zero strategic projects.

Net-zero strategic projects would be granted priority status (Article 12): authorities would have to ensure that such projects are treated in the most rapid way possible. Member States would have to grant net-zero strategic projects the status of the highest national significance possible, and they must be treated accordingly in the permit-granting processes. Net-zero strategic projects would have to be considered to contribute to the security of supply of strategic net-zero technologies in the EU and therefore to be in the public interest. Regarding the environmental impacts addressed in Directive 92/43/EEC, Directive 2000/60/EC and Directive 2009/147/EC, net-zero strategic projects in the EU would be considered as being of public interest and could be considered as having an overriding public interest if all the conditions set out in these directives are fulfilled. All dispute resolution procedures, litigation, appeals and judicial remedies would have to be treated as urgent.

The permit-granting process for net-zero strategic projects would not exceed nine months for the construction of net-zero strategic projects with a yearly manufacturing capacity of less than 1 GW, 12 months for the construction of net-zero strategic projects with a yearly manufacturing capacity of more than 1 GW, and 18 months for all necessary permits to operate a storage site (Article 13). For net-zero strategic technologies for which a yearly manufacturing capacity is not measured in GW, the permit-granting process would not exceed 12 months. For the expansion of manufacturing capacity in existing manufacturing facilities, these time limits would be halved. The absence of a reply from the administrative bodies within these time limits would result in the specific intermediary steps being considered as approved, with some exceptions; this provision would not apply to final decisions on the outcome of the process, which are to be explicit. Furthermore, all decisions would have to be made public.

The Commission and the Member States would have to undertake activities to accelerate and crowd-in private investments in net-zero strategic projects. They could include providing and coordinating support to net-zero strategic projects facing difficulties in accessing finance. Member States could also provide administrative support to net-zero strategic projects to facilitate their implementation, including by providing assistance to ensure compliance with applicable administrative and reporting obligations and assistance to project promoters to increase the public acceptance of the project (Article 14).

A new ‘net-zero Europe platform’ (see below) would discuss financial needs and bottlenecks of net-zero strategic projects, as well as best practices, and regularly interact with industrial alliances (Article 15). This platform would, at the request of the net-zero strategic project promoter, discuss and advise on how the financing of its project can be completed, considering the following elements in particular: additional private sources of financing; support through resources from the
European Investment Bank Group or other international financial institutions, including the European Bank for Reconstruction and Development; Member State instruments and programmes, including from national promotional banks and institutions; and EU funding and financing programmes.

**CO₂ injection capacity**

The proposed regulation would set up an *EU-level target for CO₂ injection capacity*: the EU would have to reach an *annual injection capacity of at least 50 million tonnes of CO₂ by 2030*, not combined with enhanced hydrocarbon recovery (Article 16).

Member States would have to make publicly available data on areas where CO₂ storage sites can be permitted on their territory, and oblige entities authorised for the prospection, exploration and production of hydrocarbons under Directive 94/22/EC on their territory to publish all geological data relating to decommissioned production sites (Article 17). Each entity holding an authorisation under Directive 94/22/EC (authorised oil and gas producers) would be subject to an individual contribution to the EU-wide target for available CO₂ injection capacity. Those individual contributions would be calculated pro-rata on the basis of oil and natural gas production from 1 January 2020 to 31 December 2023 and would consist of CO₂ injection capacity in a storage site, available to the market by 2030 (Article 18).

**Access to markets**

Contracting authorities would have to base the award of contracts for net-zero strategic technologies in a public procurement procedure on the most economically advantageous tender, which shall include the best price-quality ratio, comprising at least the sustainability and resilience contribution of the tender (Article 19). The tender's sustainability and resilience contribution would have to be based on the following cumulative criteria:

- Environmental sustainability going beyond the minimum legal requirements.
- For innovative solutions, quality of the implementation plan.
- Contribution to the energy system integration.
- Contribution to resilience, taking into account the proportion of the products originating from a single source of supply (i.e. more than 65 % of the supply originates from this source).

Contracting authorities would have to give the tender's sustainability and resilience contribution a weight between 15 % and 30 % of the award criteria. The contracting authority would not be obliged to apply the considerations relating to the sustainability and resilience contribution of net-zero technologies where their application would oblige that authority to acquire equipment having disproportionate costs, or technical characteristics different from those of existing equipment, resulting in incompatibility or technical difficulties in operation and maintenance.

Member States, or regional or local authorities, would have to assess the sustainability and resilience contribution when designing the criteria used for ranking bids in the framework of auctions supporting the production or consumption of energy from renewable sources (Article 20). The sustainability and resilience contribution would have to be given a weight between 15 % and 30 % of the award criteria. The Member States, or regional or local authorities, would not be obliged to apply the considerations relating to the sustainability and resilience contribution of net-zero technologies where their application would oblige those entities to acquire equipment having disproportionate costs, or technical characteristics different from those of existing equipment, resulting in incompatibility or technical difficulties in operation and maintenance.

When setting up schemes benefitting households or consumers and promoting the purchase of net-zero strategic technologies' final products, Member States, or regional or local authorities, would have to design them to promote the purchase by beneficiaries of net-zero technology final products with a high sustainability and resilience contribution, by providing additional proportionate financial compensation (Article 21). The additional financial compensation would
not exceed 5% of the cost of the final product for the consumer. Member States would have to publish on a website all information relating to these schemes.

The Commission would provide guidance on the criteria to assess the resilience and sustainability contribution of available products covered by public intervention. The Commission would also regularly publish and update a list of each of the net-zero strategic technologies’ final products, broken down by the share of EU supply originating in different third countries. The net-zero Europe platform would discuss Member States’ measures and exchange best practices (Article 22).

Enhancing skills for quality job creation

The Commission would have to support the establishment of European net-zero industry academies (Article 23). Their objectives would be to develop training and education on net-zero technologies, and on raw materials; promote the use of the learning programmes, content and materials; deploy credentials to facilitate the transparency of skills acquired, and improve transferability between jobs and the cross-border mobility of the workforce.

Member States would have to identify whether the learning programmes developed by the European net-zero industry 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 (Article 24). If a Member State concludes there is equivalence, it would have to facilitate the recognition of credentials issued by education and training providers on the basis of the learning programmes developed by the academies, whenever a holder of such a credential requests access to a regulated profession. Where access to a profession of particular importance for the net-zero industry is regulated under Directive 2005/36/EC, Member States would have to develop a common set of minimum knowledge, skills and competences necessary for the pursuit of this specific profession, with the purpose of establishing a common training framework to enable automatic recognition of qualifications. The net-zero Europe platform would support the availability and deployment of skills in net-zero technologies (Article 26).

Innovation

Member States could establish net-zero regulatory sandboxes (Article 27), allowing for the development, testing and validation of innovative net-zero technologies, in a controlled real-world environment for a limited time before they are placed on the market or put into service, thus enhancing regulatory learning and potential scaling up and wider deployment. Member States would establish net-zero regulatory sandboxes at the request of any company developing innovative net-zero technologies, which fulfils a number of eligibility and selection criteria and which has been selected by the competent authorities following a selection procedure. The Commission would define the modalities and the conditions for the establishment and operation of the net-zero regulatory sandboxes through implementing acts.

Member States would have to provide small and medium-sized enterprises (SMEs) with priority access to the regulatory sandboxes, organise awareness raising activities about participation in the regulatory sandboxes by SMEs, and help them implement the regulatory sandboxes. Member States would have to take into account the specific needs of SMEs, and provide administrative support to take part in the regulatory sandboxes. Member States would also inform SMEs of available financial support for their activities in the regulatory sandboxes.

Governance

The regulation would establish a net-zero Europe platform (Article 29). The platform, chaired by the Commission, would be composed of representatives of Member States and of the Commission, and would have to invite representatives of the European Parliament to attend its meetings as observers. It would carry out a number of tasks (mentioned above) and advise and assist the Commission and Member States. The platform could periodically discuss a range of topics, such as...
cooperation along the net-zero value chain between the EU and third countries. It would also coordinate and cooperate with industrial alliances; **net-zero industrial partnerships** would aim to facilitate trade among participants, including by favouring investments within the EU and in third countries, and enhance resilience and sustainability of the value chains.

The proposed regulation would amend Regulation (EU) 2018/1724, adding references concerning net-zero technology manufacturing projects, so that promoters of strategic projects can complete any procedure related to the permit-granting process fully online.

**Advisory committees**

The **opinion** of the European Economic and Social Committee (EESC) (rapporteur: Sandra Parthie, Employers – Group I, Germany) is scheduled for adoption at the plenary session of 12-13 July 2023. The opinion of the European Committee of the Regions (CoR) (rapporteur: Mark Speich, EPP, Germany) is scheduled for adoption during the plenary session of 29-30 November 2023.

**National parliaments**

The **deadline** for the submission of reasoned opinions on grounds of subsidiarity is 28 June 2023.

**Stakeholder views**

The **feedback period** on the proposed regulation is open until 27 June 2023.

**BusinessEurope** pointed out that the limited scope of the proposed regulation could become a handicap for Europe’s net-zero transformation. The EU’s resilience should be built on closer cooperation with our major suppliers; the proposed regulation should keep markets open and protectionist elements should be avoided.

**Orgalim** believes that the shift away from fossil fuels must be complemented by greater emphasis on reducing energy demand. Beyond improvements to clean tech permitting procedures, the cumulative regulatory burden should be addressed.

**WindEurope** regrets that the proposed regulation does not set up new EU funding mechanisms. For WindEurope, the Innovation Fund is overly focused on technological breakthroughs, while it is rather the scaling up of existing supply chains that is needed. **SolarPower Europe** thinks that more funding for solar plants in Europe is needed, in the form of a ‘solar manufacturing fund’ or a dedicated EU equity instrument, covering both CAPEX and OPEX.

The **European Heat Pump Association** (EHPA) stressed that the proposal lacked ambition for heat pump deployment, proposing an indicative target of 47 GW by 2030 for installed capacities instead of 31 GW. The EHPA also considers that the 40% benchmark is too low for the heat pump sector, as 60% of heat pumps sold in Europe are currently manufactured in Europe.

**CurrENT** pointed out that the proposal overlooked an entire range of commercially available grid technologies that can optimise the use of the existing electricity grid and increase its capacity to integrate renewables.

The **European Biogas Association** welcomed the inclusion of biomethane among the proposed strategic net-zero technologies, which will facilitate the roll-out of industrial capacity in the sector. For **Hydrogen Europe**, the proposed regulation would be a major step forward for the growth of the hydrogen manufacturing sector in Europe. **Nuclear Europe** called for the inclusion of nuclear as a strategic technology under the proposed regulation.

The **European Environmental Bureau** expressed concerns about the inclusion of carbon capture and storage as a strategic net-zero technology, as it believes that this technology would not encourage the switch away from combustion-based processes. The EEB also considers that hydrogen should be carefully deployed, due to its high impact on water resources. Furthermore, the EEB thinks that the proposal, while addressing the speed of the permitting process, does not address the quality of
this process: financial resources should be dedicated to Member States so that they may digitalise processes and increase capacity to handle permitting procedures.

For WWF, fast and efficient permitting is desirable but should be achieved through adequate planning and environmental impact assessments. WWF thinks that the proposal would undermine key provisions on nature protection and public participation – for instance, by presuming that net-zero priority projects are in the overriding public interest. The proposed regulation should not place technologies such as producing solar panels, wind turbines and renewable hydrogen on the same footing as carbon capture and storage; this situation could lock the EU into fossil fuel dependency.

Legislative process

In the Council, the proposal is being examined in the Working Party on Competitiveness and Growth, where the Commission presented the proposal on 14 March 2023.

In the Parliament, the proposal has been referred to the Committee on Industry, Research and Energy (ITRE). Christian Ehler (EPP, Germany) was appointed rapporteur on 30 March 2023. On 28 March, Commissioner for the Internal Market Thierry Breton presented the proposal in ITRE, followed by a technical presentation of the file. A public hearing on the proposal was held in ITRE on 23 May. The publication of the draft report is expected in June.

EUROPEAN PARLIAMENT SUPPORTING ANALYSIS


OTHER SOURCES


ENDNOTE

1 This section aims to provide a flavour of the debate and is not intended to be an exhaustive account of all different views on the proposal. Additional information can be found in related publications listed under ‘European Parliament supporting analysis’.

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First edition. The ‘EU Legislation in Progress’ briefings are updated at key stages throughout the legislative procedure.