



Questions and Answers: The Net-Zero Industry Act and the European Hydrogen Bank

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1. What is the Net-Zero Industry Act and how does it relate to the EU's energy and climate goals?

The EU has committed to achieve climate neutrality, including net-zero greenhouse gas emissions, by 2050. This objective is at the heart of the [European Green Deal](#) and in line with the EU's commitment to global climate action under the Paris Agreement. The [Net-Zero Industry Act](#) (NZIA) aims to **scale up the manufacturing of technologies which are key to achieve climate-neutrality such as solar panels, batteries and electrolysers**, among others, or key components of such technologies, such as photovoltaic cells or the blades on wind turbines. The Act will simplify the regulatory framework for the manufacturing of these technologies and therefore help increase the competitiveness of the net-zero technology industry in Europe. It will also accelerate the capacity to store CO₂ emissions.

The objective is to approach or reach, in aggregate, at least 40% of the annual deployment needs for strategic net-zero technologies manufactured in the EU by 2030. The EU is currently a net importer of several net-zero technologies and components. However, it has the potential and assets required to become an industrial leader in this market.

Today's proposal for a Regulation represents one of the key initiatives announced in the [Green Deal Industrial Plan](#) to create a regulatory environment supporting the scale-up of the net-zero industry in the EU. It is accompanied by the [European Critical Raw Materials Act](#), a [Communication on the European Hydrogen Bank](#), and supported by the [reform of the EU's Electricity Market Design](#) proposed earlier this week.

2. What net-zero technologies does the Act address and how were they selected?

Net-zero technologies support the energy transition by guaranteeing extremely low, zero or negative greenhouse gas emissions while they operate. The Net-Zero Industry Act addresses the net zero technologies essential to our decarbonisation and competitiveness objectives. These technologies will have a significant contribution towards the path to net zero by 2050 and also play a key role in the Union's open strategic autonomy, ensuring that citizens have access to clean, affordable, secure energy.

The Act supports in particular **8 strategic net zero technologies**. These are: i) solar photovoltaic and solar thermal technologies; ii) onshore wind and offshore renewable energy; iii) batteries and storage; iv) heat pumps and geothermal energy; v) electrolysers and fuel cells; vi) biogas/biomethane; vii) carbon capture and storage (CCS); and viii) grid technologies.

Other net zero technologies are also supported by the measures in the act, to a different degree, including sustainable alternative fuels technologies, advanced technologies to produce energy from nuclear processes with minimal waste from the fuel cycle, small modular reactors, and related best-in-class fuels.

The **strategic net zero technologies** were selected based on the overall Net-Zero Industry Act objectives of scaling up the manufacturing capacity of net-zero technologies in the EU, particularly those that are commercially available and have a good potential for rapid scale-up.

The focus on these technologies is intended to target actions to today's most strategic clean energy products and components for ensuring Europe's clean energy transition. These technologies will have a significant contribution towards the path to net zero by 2050 and also play a key role in the Union's open strategic autonomy, ensuring that citizens have access to clean, affordable, secure energy. The selection of such technologies has drawn upon three main criteria: the level of technology readiness, the contribution to decarbonisation and competitiveness and the security of supply risks. Technological readiness considers those technologies that are commercially available and have a good potential for rapid scale-up, using a classification developed by the International Energy

Agency. The second criterion identifies those net-zero technologies that are projected to deliver a significant contribution to the EU's legal commitment to reduce net greenhouse gas emissions by at least 55% by 2030, relative to 1990 levels. Finally, the third criterion relates to the EU's heavy or growing dependence on imports as regards the manufacturing capacity of certain components or parts in the net-zero technology value chain, particularly in the case of dependencies on a single third country.

3. What are the main instruments proposed in the Net-Zero Industry Act?

The proposed regulation foresees a variety of actions and instruments to strengthen the competitiveness of Europe's net-zero technology manufacturing ecosystem, centred on:

- **Setting enabling conditions** The Act sets up streamlined permitting processes for net-zero technology manufacturing projects as well as single points of contact in the Member States. It also introduces "Net-Zero Strategic Projects", for the priority technologies listed in annex, which will benefit from even faster permitting procedures.
- **Accelerating CO₂ capture and storage:** The Act sets an EU objective of reaching 50 million tonnes of annual CO₂ storage capacity by 2030 and introduces requirements for the EU's oil and gas producers to contribute to this goal.
- **Facilitating access to markets:** The Act seeks to boost diversification for net zero technologies by introducing sustainability and resilience criteria in public procurement and auctions, as well as actions to support private demand.
- **Enhancing skills:** The Act will ensure the availability of skilled workforce for the clean energy transition by supporting the setting up of specialised European Academies. The Commission aims to work with Member States, industry, social partners and other stakeholders to design training courses to reskill and upskill workers.
- **Fostering innovation:** The Act proposes to set up regulatory sandboxes to test innovative net-zero technologies in a controlled way for a limited time period.
- **Building Industrial Partnerships:** To pave the way for the adoption of net-zero technologies globally, the Act foresees that the EU may collaborate with like-minded countries and engage in Net-Zero Industrial partnerships which will help to diversify trade and investments in net-zero technologies.

4. How will permitting of net-zero technologies be simplified?

Currently, the unpredictability, complexity and, in certain cases, excessive length of national permit-granting processes undermine the planning and investment security needed for an effective development of net-zero technology manufacturing projects in the EU. To increase efficiency and transparency, the Net-Zero Industry Act will thus require Member States to set up **one-stop shops that act as single points of contact for project promoters**. These will facilitate and coordinate the entire permit-granting process and issue a comprehensive decision within the applicable time-limits.

Crucially, the Net-Zero Industry Act introduces **time limits on the permit-granting processes for net-zero manufacturing projects** related to their size and status:

- 12 months for net-zero technology manufacturing projects with a yearly manufacturing capacity of less than 1 GW and 18 months for projects of more than 1 GW;
- 9 months for net net-zero strategic projects with a yearly manufacturing capacity of less than 1 GW and 12 months for projects of more than 1 GW.

To further reduce red tape, the Net-Zero Industry Act ensures that permitting procedures will be fully online and that the relevant evidence needed to complete these procedures could be exchanged directly between competent administrations through the technical system established in the context of the [Single Digital Gateway](#).

Under the proposal, the environmental assessments and authorisations required under EU law that are an essential safeguard against negative environmental impacts will remain an integral part of the permit-granting procedure for net-zero technology manufacturing projects. The Net-Zero Industry Act seeks to streamline procedures by requiring Member States to consider existing environmental studies and bundle assessments to prevent overlaps, as well as tasking project promoters and authorities with clarifying the scope of any environmental assessments to avoid unnecessary follow-up.

5. What are Net-Zero Strategic Projects and how will they be supported?

The Act introduces the notion of "Net-Zero Strategic Projects", which are projects essential for

improving/reinforcing the resilience and autonomy of the EU's net-zero industry. Such projects can be proposed by project promoters and will be selected by the Member State concerned based on their contribution to increasing the manufacturing capacity of (components of) net-zero technologies where the EU depends heavily on imports from a single third country, or based on their contribution to the competitiveness of the EU's net-zero industry supply chain.

These **Net-Zero Strategic Projects** should be given 'priority status' at national level to ensure rapid administrative treatment and should benefit from the fastest possible permitting processes, in line with national and EU laws. **Net-Zero Strategic Projects** may also be considered to be of overriding public interest. Promoters of net-zero strategic projects will also be able to benefit from financing advice stemming from the Net-Zero Europe Platform. In addition, these projects should also be given, if necessary, urgent treatment in all judicial and dispute resolution procedures.

6. What are Net-Zero regulatory sandboxes?

The proposal introduces Net-Zero regulatory sandboxes to test innovative net-zero technologies in a controlled environment for a limited amount of time. The Act provides for Member States to introduce such exceptional and temporary regulatory regimes allowing for the development, testing and validation of innovative, net-zero technologies before their placement on the market or putting into service. Such sandboxes can be established by the Member States at the request of any company developing innovative net-zero technologies, complying with a set of eligibility and selection criteria. When eligible, small- and medium-sized enterprises should have priority access to the sandboxes.

The net-zero regulatory sandboxes shall be designed and implemented in a way to facilitate cross-border cooperation between the national competent authorities, when relevant. Member States that have established net-zero regulatory sandboxes shall coordinate their activities and cooperate within the framework of the Net-Zero Europe Platform with the objectives of sharing relevant information. They shall also report annually to the Commission on the results of the implementation of regulatory sandboxes, including good practices, lessons learnt and recommendations on their setup.

The modalities and the conditions for the establishment and operation of the net-zero regulatory sandboxes will be clarified in secondary legislation, namely implementing acts, stemming from the proposed Regulation. In addition, the Commission will publish a Guidance for Sandboxes in 2023 as announced in the [New European Innovation Agenda](#) to support Member States in preparing the net zero technology sandboxes.

7. How is the Net-Zero Industry Act supporting the deployment of CO₂ storage sites?

Starting a CCUS value chain requires cross-sectoral coordination to de-risk private investments in capturing CO₂ emissions. The Net-Zero Industry Act establishes an EU-wide objective to achieve an annual CO₂ storage capacity of 50 million tonnes by 2030, to reassure industry investors that their captured emissions can be stored in the EU. Also, it introduces the concept of **Net-Zero Strategic Projects** for CO₂ storage to accelerate the development of a European net-zero CO₂ transport and storage value chain that industries can use to decarbonise their operations.

Transparency is created by bringing together the most relevant assets to establish a single market for CO₂ storage services. This will cover information from Member States about potential CO₂ storage capacity in terms of geological suitability and existing geological data, in particular from the exploration of hydrocarbon production sites. Storage site investors will benefit from information about planned CO₂ capture projects in the coming 5 years.

Furthermore, the **Net-Zero Industry Act** requires the EU's oil and gas producers to proportionally contribute to establishing the required CO₂ storage sites in the EU. Such sites can be recognised as Net-Zero Strategic Projects if they are located on EU territory, aim to provide operationally available CO₂ injection capacity by 2030 or earlier, and have applied for a permit for the safe and permanent geological storage of CO₂, in accordance with [Directive 2009/31/EU](#).

8. How does the Net-Zero Industry Act support skills development?

Strengthening the industrial production of key net-zero technology products in the EU will not be possible without a sizeable skilled workforce. The Net-Zero Industry Act introduces measures to boost the availability of the skills required to pursue the clean-energy transition in the EU. The objective is to mobilise all actors: Member States authorities (including at regional and local levels,) education and training providers, and industry to identify skills needs, and quickly develop and deploy education and training programmes at large scale.

The Commission will support the setting up of specialised European **Net-Zero Industry Academies**,

each focusing on a net-zero technology. They will provide up-skilling and re-skilling programmes. This proposal foresees to support the Net-Zero Industry Academies with seed funding in the form of €3 million from the budget for the Clean Hydrogen Joint Undertaking and €2.5 million from the budget of the Single Market Programme, SME pillar.

The Act also seeks to foster the recognition of professional qualifications and access to regulated professions with particular interest for the net-zero industry. By December 2024 and every two years, Member States will have to check if the Net-Zero Industry Academies' learning programmes are equivalent to regulated professions and, if so, facilitate recognition.

Overall, the **Net-Zero Europe Platform** will support the establishment of the academies, the mobility of skilled workers and the matching of skills and jobs. Member States and the Commission should ensure financial support including through the European Social Fund, the Just Transition Fund, the European Regional Development Fund and the Single Market Programme. The Act will also complement other existing Commission actions with a view to meet green transition skills needs, such as the [EU Pact for Skills](#), the [European Skills Agenda](#), the industrial transition pathways, and the 2023 EU Year of Skills.

9. How does the Commission propose to facilitate the financing of net-zero industry?

The proposed measures aim at coordinating existing financing mechanisms. In compliance with competition rules, the Regulation proposes to bring Member States and the Commission together with relevant financial institutions in the Net-Zero Europe Platform to discuss private sources of financing, investment needs and existing financial instruments and EU funds. To achieve this, one of the proposed actions is the Commission's work with the European Investment Bank and other InvestEU implementing partners to seek ways to scale up support to investment in the net-zero industry supply chain, including via the setting up of blending operations. Private investment by companies and financial investors will be essential.

However, where private financing alone may not be sufficient, the effective roll-out of net-zero industry projects may require public support, including in the form of State aid. As far as national resources are concerned, the State aid framework provides ample possibilities to crowd-in private investments and to effectively roll-out of net-zero industry projects. In addition, with the adoption of the Temporary Crisis and Transition Framework and the endorsement of the General Block Exemption Regulation, the Commission has recently adapted State aid rules to allow further flexibility for the Member States to grant aid to further speed up and simplify, with easier calculations, simpler procedures, and accelerated approval, while limiting distortions to the Single Market and preserving cohesion objectives.

Several Union funding programmes, such as the Recovery and Resilience Facility, InvestEU, cohesion policy programmes or the Innovation Fund are also available to fund investments in net-zero technology manufacturing projects. The Innovation Fund also provides a very promising and cost-efficient avenue to support the scaling up of manufacturing and deployment of renewable hydrogen and other strategic net-zero technologies in Europe, and thus reinforcing Europe's sovereignty in the key technologies for climate action and energy security.

A more structural answer to the investment needs will be provided by the European Sovereignty Fund. It will help preserving a European edge on critical and emerging technologies relevant to the green and digital transitions, including net-zero technologies. This structural instrument will build on the experience of coordinated multi-country projects under the Important Projects of Common European Interest and seek to enhance all Member States' access to such projects, thereby safeguarding cohesion and the Single Market against risks caused by unequal availability of State aid.

10. What is the Net-Zero Europe Platform?

The **Net-Zero Europe Platform** will bring together the Member States and the Commission to jointly assist and advise each other in relation to the actions and implementation of the Net-Zero Industry Act, as well as facilitate the exchange of information between stakeholders. Representatives of the net-zero industry, organisations, or established Industrial Alliances and partnerships can be invited to the Platform. The Platform will also help in coordinating the Net-Zero Academies and Net-Zero Industrial Partnerships.

11. What is the European Hydrogen Bank?

The European Hydrogen Bank will facilitate and support the production and uptake of renewable hydrogen within the EU as well as imports from international partners to European consumers. Announced by Commission President von der Leyen in her [State of the European Union address](#), it will contribute to the objectives of the Green Deal Industrial Plan, the Net Zero Industry Act, and the

EU's goal of reaching climate-neutrality by 2050. Under the [REPowerEU plan](#), the EU aims for a total of 20 million tonnes of renewable hydrogen by 2030: 10 million tonnes domestically in the EU and another 10 million tonnes of imports.

The main aim of the Bank is to unlock private investments in hydrogen value chains in the EU and in third countries by addressing the initial investment challenges and needs. It will cover and eventually also lower the cost gap between renewable hydrogen and fossil fuels for early projects. By doing so, it will support an emerging European hydrogen market and offer new growth opportunities and quality job creation.

The Bank will play a coordination role which will increase transparency on hydrogen flows, transactions and prices, gather demand and supply information, provide transparent price information and develop price benchmarks. It will also facilitate blending with the existing financial instruments to support hydrogen projects. It will support infrastructure planning and provide visibility on hydrogen infrastructure needs.

From an international perspective, it will support the coordination of cooperation and trade with third countries (e.g. on Renewable energy Memoranda of Understanding, renewable energy chapters in trade agreements etc.), and develop Team Europe Initiatives.

12. How will the Bank boost the uptake and production of hydrogen?

The European Hydrogen Bank is based on four pillars – intended to be operational by the end of the year:

1. EU domestic market creation;
2. International imports to the EU;
3. Transparency and coordination;
4. Streamline existing financing instruments.

The Commission is currently designing the first pilot auctions on renewable hydrogen production, which will be the first financial tool of the Hydrogen Bank. These auctions will be launched under the Innovation Fund in the autumn of 2023, with a dedicated budget of €800 million. The auction will award a subsidy to hydrogen producers in the form of a fixed premium per kg of hydrogen produced for a maximum of 10 years of operation. By bridging the cost gap in the EU between renewable and fossil hydrogen and increasing revenue stability, it will increase the bankability of projects and bring overall capital costs down.

The Commission also proposes to create an EU auction platform through the Hydrogen Bank, offering “auctions-as-a-service” for Member States, using both the Innovation Fund and Member State resources to fund potential renewable hydrogen projects, without prejudice to EU State aid rules.

The Commission would run a centralised auction platform, where successful bidders could compete to access the Innovation Fund. Participating Member States would avoid the duplication of auctions and make best use of financial and administrative resources. This system will prevent fragmentation at the early stage of the European hydrogen market and save administrative costs for upcoming national hydrogen support schemes.

On the international dimension of the Bank, the Commission is further exploring how it can be designed to promote EU support for renewable hydrogen imports. It proposes to offer a green premium for renewable hydrogen imports via a similar auction system as used for the domestic market. It will explore by the end of the year possible sources of funding within the EU budget or a Team Europe initiative. The practices from the [EU Energy Platform](#) and the joint purchasing platform will also be considered to study the possibility to include a mechanism for demand aggregation and joint auctioning of renewable hydrogen.

For More Information

[Press Release](#)

[Factsheet on Net-Zero Industry Act](#)

[Factsheet on the European Hydrogen Bank](#)

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