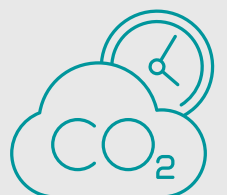
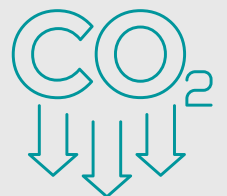
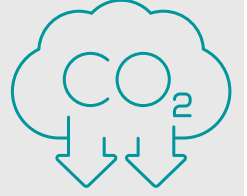


MONITORING OF DECARBONIZATION

I quarter of 2024





The document was prepared with the support of the International Renaissance Foundation within the framework of the project «Supporting the Decarbonization of Ukraine’s Economy through the Development of New Debt Financing Models. Stage 4».

The contents of this document are the sole responsibility of DIXI GROUP and can under no circumstances be taken to reflect the views of the International Renaissance Foundation.

© DIXI GROUP, 2024.

TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	4
1. RES AND ENERGY EFFICIENCY.....	8
1.1. Situation in Ukraine.....	8
1.1.1. Wind farms outside the GB's balancing group.....	10
1.1.2. Local energy plans.....	11
1.2. International experience.....	11
1.2.1. Mechanisms to support wind energy.....	11
1.2.2. Local energy plans.....	16
1.3. Recommendations.....	19
2. CLIMATE AND ENVIRONMENT.....	21
2.1. Situation in Ukraine.....	21
2.1.1. New principles of the state climate policy.....	27
2.2. International experience.....	35
2.2.1. The EU's Integrated Energy and Climate Policy.....	35
2.3. Recommendations.....	40
3. SUBSOIL USE.....	42
3.1. Situation in Ukraine.....	42
3.1.1. Extractive industry waste management.....	45
3.2. International experience.....	48
3.2.1. Extractive industry waste management.....	48
3.3. Recommendations.....	49

EXECUTIVE SUMMARY

With this monitoring, the DiXi Group think tank aims to record the main events and trends in three areas that are key to the decarbonization of Ukraine's economy. The Decarbonization Monitoring analyzes the current state and effectiveness of measures regulating the use of renewable energy sources (RES) and energy efficiency, climate change mitigation and environmental improvement, and the rational use of natural resources. In addition, the document contains an analysis of the best international practices that may be relevant and applicable in Ukraine in the relevant areas to provide a basis for the development and improvement of national strategies and legislation in the field of energy policy, environmental protection and sustainable development of Ukraine.

RES AND ENERGY EFFICIENCY

Ukraine has stepped up efforts to develop the RES sector on a competitive basis and in line with national goals. The Parliament passed a law on stabilizing payments in the electricity market, in particular aimed at supporting RES producers. The draft Hydrogen Energy Development Strategy until 2050 was presented, a resolution on the introduction of guarantees for the origin of electricity from RES was approved, and the auction model of support was improved, simplifying conditions for investors in RES projects.

Over the past few months, the government and parliament have adopted a number of important legislative and regulatory initiatives on energy efficiency, including the Strategy for Thermal Modernization of Buildings until 2050, the Concept of the Program to Support Thermal Modernization of Buildings until 2030, and the corresponding action plan. Substantive work on the development of local energy plans (LEPs) has begun.

Recommendations for strengthening policies and initiatives aimed at creating a favorable environment for the development of RES, improving energy efficiency and reducing greenhouse gas emissions:

- Implement support schemes for the wind energy sector that are responsive to market conditions and promote local community participation and ownership;
- Provide for financial support for research and innovation in the wind energy sector, which will help improve technologies and reduce production costs, and provide education and training for specialists;
- Consider creating a structure similar to the U.S. Department of Energy's Wind Energy Technologies Office, which would focus on promoting wind energy development;
- Develop state mechanisms and encourage investors to apply for international financial support programs;
- Provide mechanisms to provide technical and financial support to local governments for the development and implementation of LEPs, which may include on-site staff training, planning advice, and access to funding;
- Ensure effective vertical and horizontal coordination between communities, regions and other stakeholders to ensure effective implementation of the LEPs, e.g., through the activities of working groups (following the example of the Netherlands);
- Provide access to energy and other spatial data, create a system of data exchange between network operators, energy suppliers and communities (after the end of martial law, and for public access to such information at the local level).
- Develop mechanisms for monitoring and evaluating the implementation of LEPs to identify problems in time and adjust them to achieve the goals;
- Involve the public and other stakeholders more actively in the process of developing LEPs.

CLIMATE AND ENVIRONMENT

The development and improvement of the regulatory framework in the field of environmental protection concerned emissions monitoring, waste accounting, the activities of the State Environmental Inspectorate, etc. In particular, draft regulatory acts were developed that define: new standards for monitoring, quantification, and reporting of greenhouse gas emissions; requirements for labeling ozone-depleting substances and fluorinated greenhouse gases; the procedure for the functioning of the state environmental monitoring system and its subsystems; the procedure for developing waste management plans for enterprises, institutions, and organizations; identification and accounting of waste whose owner is not identified; the draft Strategy for Reforming the System of State Supervision (Control) in the Field of Environmental Protection.

Amendments to the Guidelines for Assessing Greenhouse Gas Emissions by Type of Facility, the Guidelines for Post-Project Monitoring, and the Guidelines for Developing Local Waste Management Plans were also approved. There were also new legislative initiatives: on the environmental tax for waste disposal and mining waste disposal, and on liability for non-compliance with the requirements of the Law on Strategic Environmental Assessment.

Significant progress has been made in the development of state climate policy, which has so far been fragmented and often seen as a component of environmental policy alone. The absence of a systematic approach to building a climate governance architecture complicates management decision-making to ensure climate change mitigation and adaptation across the economy.

In early 2024, the Ministry of Environmental Protection and Natural Resources and the Ministry of Economy finalized and published the draft law «On the Basic Principles of State Climate Policy» (climate framework law), the draft National Energy and Climate Plan (NECP), and the draft Strategy for the Formation and Implementation of State Policy in the Field of Climate Change for the Period up to 2035, which should form the basis for a systematic approach to the implementation of state climate policy.

The Government of Ukraine has also approved two strategic planning documents that include, among other things, climate reforms: an action plan to implement the recommendations of the European Commission presented in the report on Ukraine's progress under the 2023 Enlargement Package and the Ukraine Facility Plan.

The following recommendations have been prepared as a result of the analysis of projects aimed at introducing a new framework for state climate policy, as well as the EU experience in this area:

- Finalize the draft NECP taking into account LULUCF modeling and the European Commission's recommendations in the course of assessing the drafts of updated NECPs of EU countries, take into account successful cases of EU countries in certain aspects of state climate policy development;
- Ensure synchronization of the NECP's tasks with regional and local development strategies, emission reduction programs and LEPs;
- Include a number of strategic documents in the draft law «On the Basic Principles of State Climate Policy» (LEPs, the Strategy for the Formation and Implementation of State Policy in the Field of Climate Change for the Period up to 2035, and the action plan for the implementation of the Global Methane Pledge);
- Introduce an approach that would provide for interregional coordination of climate and energy goals so that the total of measures taken by all regions would have a sufficient effect to achieve national goals;
- Add a provision to the draft law «On the Basic Principles of State Climate Policy» that provides for the approval of the procedures for developing the Long-Term Strategy and the Nationally

Determined Contribution, and include a requirement that the development of procedures for the preparation of strategic documents should take into account the provisions of Regulation (EU) 2018/1999;

- Develop mechanisms for financial support of state aid and support for the implementation of measures for «green» development and climate change mitigation and/or adaptation, including the use of trust funds, certain types of taxes and state budget revenues, including revenues from greenhouse gas emissions trading;
- Harmonize the reporting indicators of the Strategy for the Formation and Implementation of the State Policy on Climate Change for the Period up to 2035 with the list of indicative indicators to be included in the integrated energy and climate reporting in accordance with the provisions of Regulation (EU) 2018/1999, define specific quantitative indicators or provide references to strategic documents that will determine their quantitative target value.
- Harmonize the list of strategic documents envisaged by the draft Law «On the Basic Principles of State Climate Policy» with the list of strategic documents specified in the draft Strategy (in particular, this applies to sectoral, regional and local emission reduction strategies and plans).
- add to the operational action plan of the Strategy the task of developing sectoral, regional and local strategies and plans for reducing greenhouse gas emissions and approving procedures for developing a number of strategic documents in the field of energy and climate;
- Agree on the main long-term climate goal of achieving climate neutrality, synchronizing it with the EU goal (2050);
- Organize a system for implementing NECP policies and measures, as well as biennial integrated reporting on energy and climate progress as required by Regulation (EU) 2018/1999, including the indicators set out in Articles 17-25 and Annex IX of that Regulation;
- At the stage of development of local greenhouse gas emission reduction plans and LEPs, provide for a mechanism for harmonizing targets with the goals and objectives of regional emission reduction plans and NECPs.

SUBSOIL USE

In the reporting period, a number of regulations were adopted and published for discussion, including those aimed at reducing and preventing the environmental impact of the extractive industry. In particular, the government amended the Regulation on the Procedure for Granting Mining Allotments, the Ministry of Environmental Protection and Natural Resources of Ukraine approved the procedure and terms of risk insurance for commercial development of oil and gas fields, and approved a number of model agreements on subsoil use.

The Verkhovna Rada adopted Law No. 3577-IX extending the moratorium on enforcement proceedings and measures to enforce decisions against state-owned coal mining enterprises and on the initiation of bankruptcy proceedings against state-owned coal mining enterprises until January 1, 2025. An important step was the adoption of a government resolution defining the procedure for the use (sale) of a part of the output (natural gas) that remains in state ownership under a production sharing agreement.

The State Service of Geology and Mineral Resources of Ukraine has published for discussion the draft law «On Amendments to Certain Legislative Acts on Improving Legislation in the Field of Geological Research and Rational Use of Subsoil» and the draft resolution «On Approval of the Procedure for Monitoring the Geological Environment». The Ministry of Energy and Multi-Stakeholder Group for the implementation of the Extractive Industries Transparency Initiative (EITI) in Ukraine presented the national EITI Report 2022.

Also, in February-March, the Ministry of Environmental Protection and Natural Resources of Ukraine held a public discussion of the draft law «On Management of Waste from Extractive Industries», which provides for a large-scale reform in the field of mining waste, creating the

basis for processing such waste, reusing it, assessing reserves and transferring it to the category of technogenic deposits.

Based on the results of the analysis of the draft law, the following recommendations were prepared:

- Add specific thresholds for determining the procedure for classifying mining waste facilities as Category A facilities, based on the provisions of Directives 91/689/EEC, 67/548/EEC and 1999/45/EC;
- Establish a system of accounting and inventory of accumulated waste from extractive industries in the regions, establish its ownership (special attention should be paid to industrial waste facilities whose operator is unknown);
- Start work on the creation of the Register of Extractive Industry Waste Operators, create an organized database of industrial waste with the definition of its volumes, chemical composition, toxicity and harmfulness, risks of accidents, etc., identify man-made facilities whose activities may provoke a man-made emergency;
- Formulate a state policy aimed at encouraging the use of waste from extractive industries as a secondary resource or its further disposal/recycling, removal through the use of appropriate technologies, including innovative ones;
- Ensure the translation and approval of BAT in the field of management of waste from extractive industries (MWEI BREF, 2018), remove from Article 5(6) of the draft law the wording on the recommendatory nature of BAT guidelines, since part 1(3) of Article 23 provides for the obligation of the operator to use BAT.
- Clarify in the draft law the rules on radioactive mining waste, in particular, the procedure for determining such waste as radioactive, subjects and methods of such determination;
- Develop a mechanism for transferring and using financial support funds to authorized state bodies in case of failure of the operator to implement post-operational measures (maintenance of the facility for mining waste after closure, land reclamation, control and monitoring) and to determine the procedure for the implementation of relevant measures by the state;
- Ensure that bylaws are developed in accordance with the EU acquis;
- When planning activities for the management of waste from extractive industries, take into account the BAT guidelines and the information in the best practices guidance document;
- Ensure the consideration and adoption of the draft law within 2024, ensure that the adopted law complies with the provisions of Directive 2006/21/EC.



1.1. Situation in Ukraine

Regulatory and legislative initiatives

- On December 29, 2023, the government [adopted](#) a resolution approving the list of energy facilities that are not subject to the minimum requirements for energy efficiency of buildings and are not subject to energy efficiency certification.
- On January 3, 2024, the government [approved](#) a technical regulation that sets European eco-design requirements for household dishwashers. The adopted regulation will come into force six months after the termination or lifting of martial law in Ukraine.
- On January 10, 2024, the Verkhovna Rada of Ukraine adopted as a basis the [Draft Law No. 5399](#) on amendments to the Tax Code to stabilize payments in the electricity market. As [reported](#), according to the explanatory memorandum, the relevant provision is aimed at temporarily reducing the tax burden on RES electricity producers who systematically do not receive payment from the Guaranteed Buyer State Enterprise for the goods actually delivered. In addition, the draft law provides for the extension until January 1, 2026, of the rules on the application of the cash method for VAT calculation for electricity market participants.
- On January 13, 2024, the Ministry of Energy [presented](#) the draft Hydrogen Strategy until 2050.
- On January 16, 2024, the government [approved](#) a resolution that improves the mechanism for implementing the eRecovery program to eliminate inconveniences and discrepancies and simplify the path from application to compensation, purchase or construction of housing as much as possible.
- On January 16, 2024, the government [approved](#) the procedure for certification of persons intending to carry out energy efficiency certification, energy audit of buildings and inspection of technical installations.
- On January 19, 2024, the government [granted](#) Ukrenergo permission to develop a land management project for the allocation of land plots for their further use in the construction of a transmission line from the Dniester PSPs to the Vinnytsia substation.
- On February 02, 2024, the government [adopted](#) a decision to transform the Guaranteed Buyer State Enterprise into a joint-stock company with 100% of its shares in the authorized capital owned by the state and not subject to privatisation.
- On February 14, 2024, the Ministry of Economy [released](#) the draft National Energy and Climate Plan (NECP) for public discussion.
- On February 16, 2024, the Ministry of Infrastructure [approved](#) the Methodology for Developing Local Energy Plans.
- On February 16, 2024, the government [approved](#) a priority action plan for 2024, which identifies recovery and energy independence as priorities. The key reform for energy independence is the implementation of European rules, as well as full integration with the EU (both market unification and increased physical capacities for electricity exports and imports).

- On February 27, 2024, the government [approved](#) the Resolution «On the Introduction of Guarantees of Origin of Electricity Produced from Renewable Energy Sources», which provides for the approval of the Procedure for Issuing, Circulating and Redeeming Guarantees of Origin of Electricity Produced from Renewable Energy Sources, as well as the approval of the Procedure for Determining the Environmental Value of this Electricity. A register of guarantees of origin will also be created and administered by the NEURC.
- On March 01, 2024, the government [approved](#) a resolution improving the auction model for the sale of “green” electricity. The conditions for participation in auctions are simplified for investors, in particular, the availability of a land plot and technical conditions for connection will not be a prerequisite for submitting applications. There is also a certain flexibility – the ability to hold auctions together with energy storage facilities, on certain land plots or structures. The term of the contract concluded by the successful bidder with the guaranteed buyer is reduced from 20 years to 12 years.
- On March 12, 2024, the government [approved](#) the procedure for the guaranteed buyer to export electricity. As noted, this will increase the efficiency of «green» electricity sales, reduce the volume of unloading of RES producers in conditions of surplus and improve the ability of Guaranteed Buyer to make settlements with investors.

News from the government, central executive bodies, and state-owned companies

- On January 26, Energy Minister Herman Halushchenko [announced](#) that over 660 MW of new renewable energy capacity had been commissioned in Ukraine in 2022-2023. In particular, about 312 MW of new capacity was built in 2022, and about 350 MW in 2023. These are solar and wind power plants, as well as biogas and small hydroelectric power plants.
- The Ukrainian Wind Energy Association (UWEA) [reported](#) that over the two years of full-scale war, Ukraine's wind power capacity increased by 228 MW, including 146.3 MW in 2023. The capacity of Ukrainian wind generation reaches 1900.8 MW.
- Energy Minister Herman Halushchenko [said](#) that about 312 MW of new renewable energy capacities was built in 2022, and about 350 MW was commissioned in 2023, including solar and wind power plants, as well as biogas and small hydroelectric power plants.
- On January 25, «MC» Wind Parks of Ukraine» LLC [completed](#) the installation of the first 4.8 MW wind turbine at Ostrovskyi Wind Farm, which is being built in the west of the country.
- In early January, Ukraine [joined](#) the European cogeneration community, the COGEN Europe association.
- Ukrhydroenergo and the European Investment Bank (EIB) have [signed](#) a memorandum of cooperation to support the hydropower sector in Ukraine. The EIB is considering allocating about EUR 100 million for these purposes.
- Oschadbank [plans](#) to participate in financing the construction of 100 wind farms with a total capacity of 520 MW in western Ukraine.
- In early February, the Swedish government [allocated](#) €26.4 million for energy efficiency projects in Ukraine. The funds will be allocated in the form of grant support to communities by the decision of the E5P Fund donors.
- The European Commission is [seeking](#) to include Ukrainian cities in the Smart Cities Challenge Initiative, which supports cities in their smart, green and socially responsible regeneration.
- The State Agency on Energy Efficiency and Energy Saving has opened decarbonization offices in [Zhytomyr](#), [Vinnitsia](#), [Rivne](#), and [Kharkiv](#).
- In 2024, the State Agency on Energy Efficiency and Energy Saving [plans](#) to accumulate about \$26 million for the State Fund for Decarbonization and Energy Efficient Transformation.

- Deputy Energy Minister Yaroslav Demchenkov [noted](#) that Ukraine has become an associate member of the Three Seas Initiative (3SI), which will contribute to the region's energy security.
- On January 27, Energy Minister Herman Halushchenko [signed](#) an order to create a working group on debt repayment in the electricity market. It is noted that the group should promptly develop an effective mechanism for balancing the financial condition of market participants, including the transmission system operator, producers of electricity from alternative sources that are set a feed-in tariff, and a guaranteed buyer.
- Under the USAID Energy Security Project (ESP), 91 cogeneration units were [purchased](#) for 32 Ukrainian cities and two universities. As of February 15, 57 of these units with capacities ranging from 50 kW to 1500 kW have already been delivered.

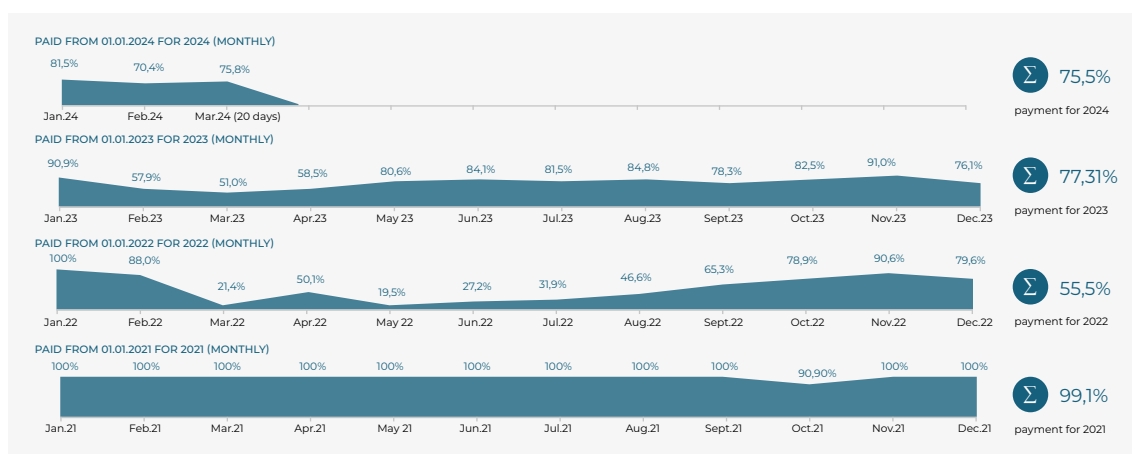
1.1.1. Wind farms outside the GB's balancing group

On April 25, 2023, the NEURC [determined](#) the procedure for the entry and exit of electricity facilities that are subject to the feed-in tariff (FIT) from the balancing group of the State Enterprise Guaranteed Buyer (GB). Thus, renewable energy producers were given the opportunity to enter the market and, if they wish, return to the support scheme with the feed-in tariff.

Since then, producers have begun to enter and trade electricity in different market segments on a common basis: since July 1, 4 members [have left](#) the GB's balancing group, and three more have left since September 1. This process affected wind power plant operators the most, as they have the lowest feed-in tariff, about 3700 UAH/MWh, which is lower than market prices in most billing periods. In addition, the level of payments to RES producers under the feed-in tariff remains low.

[According](#) to UWEA Chairman Andrii Konechenkov, since October 2023, all but one wind farm has fully launched electricity sales on the free market, abandoning the intermediary services of Guaranteed Buyer. According to him, the main reason for the refusal of wind farms to use Guaranteed Buyer's services was chronic arrears in paying compensation to renewable energy generation under the feed-in tariff.

Level of settlements with producers under the feed-in tariff, as of March 25, 2024.



Source: «GB»

However, despite the war and persistent problems with FIT payments, wind energy continues to develop. During the two years of full-scale war, Ukraine's wind power capacity [increased](#) by 228 MW, and by 146.3 MW in 2023. As of February 2024, the capacity of Ukrainian wind generation reached 1900.8 MW. At the same time, as of the end of 2023, only 583.8 MW of wind farms directly generated electricity, as 71% of wind capacity still remains in the temporarily occupied territories and does not supply «green» electricity to the integrated power system of Ukraine.

In such circumstances, Ukraine needs mechanisms to support the wind energy sector to ensure a steady increase in wind capacity in the future.

1.1.2. Local energy plans

According to [Article 6 of the Energy Efficiency Law](#), local energy plans (LEPs) must be developed by the end of October 2024, and they must be consistent with national energy efficiency targets and the National Energy Efficiency Action Plan. The LEPs should contribute to the achievement of national energy efficiency targets, the development of renewable energy sources, and the achievement of the maximum level of emission reductions, etc.

On December 21, 2023, the Ministry of Infrastructure [approved](#) the Methodology for the Development of Local Energy Plans, which defines the composition and content, as well as the procedure for developing, updating and monitoring of LEPs and programs for their implementation. According to the methodology, the LEP should describe:

- the state of energy development of the territorial community;
- goals of sustainable energy development of the territorial community;
- sustainable energy development projects for the local community;
- organization of implementation and financing;
- expected results of the implementation.

As of April 2024, only a few communities in Ukraine ([out of 1439](#)) have developed and approved LEPs, including the [Sumy](#) Territorial Community and the [Orzhytsia](#) Settlement Territorial Community. Civil society organizations and international technical assistance projects have just started working with communities to develop their LEPs, with DiXi Group [supporting](#) 10 communities and U-LEAD experts [helping](#) 48.

1.2. International experience

1.2.1. Mechanisms to support wind energy

EU (Wind Power Action Plan). Almost a year ago, the European Commission released the European Wind Power Action Plan to stimulate the transition to clean energy sources and [strengthen efforts](#) to achieve a 45% share of renewable energy in final energy consumption by 2030. The Action Plan defines a list of immediate measures to be taken jointly by the European Commission, EU Member States and the wind industry, [focusing](#) on six main areas. This set of initiatives will set the trend for the development of the industry not only in the EU but also beyond.

In addition, the European Commission expects offshore wind energy to make a significant contribution to the EU's climate and energy goals in the coming years. As [noted](#), an average of almost 12 GW of offshore wind farms are to be installed annually, which is 10 times more than the 1.2 GW installed in 2022.

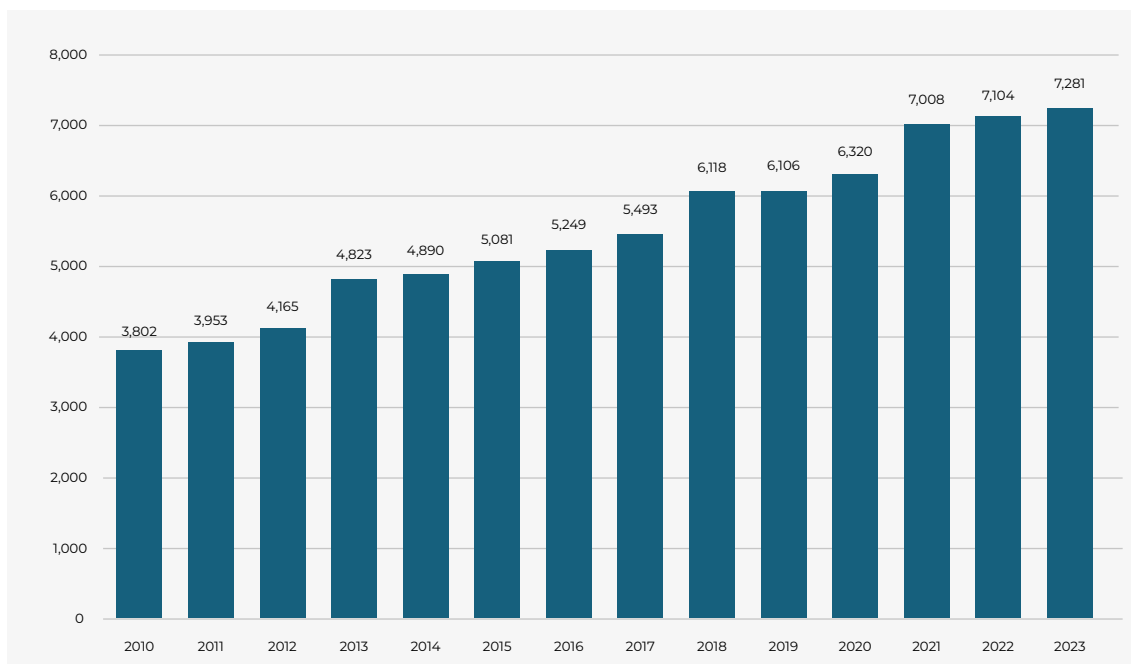
In order to [achieve these goals](#), the European Commission is redoubling its efforts to support the sector by initiating additional measures aimed at:

- strengthening network infrastructure and regional cooperation;
- speeding up the issuance of permits;
- ensuring comprehensive maritime spatial planning;
- strengthening the resilience of infrastructure;
- support for research and innovation;
- development of supply chains and related skills.

Denmark (support schemes for onshore wind farms). For more than 50 years, Denmark has been working on the development of the wind energy sector and continues to defend its position as a world leader in the integration of renewable energy into the grid. In the 1970s, the country [faced](#) rising oil prices and a large fuel shortage, which brought part of the economy to a standstill. Since then, Denmark has relied on renewable energy to achieve energy autonomy.

By 2000, 6,000 wind turbines had been built in the country. In the 1980s, 20 equipment manufacturers started operating. In 1991, the first offshore wind farm was established in shallow waters in southeastern Denmark (now dismantled). Since then, Danish wind turbines have been spreading in the North and Baltic Seas.

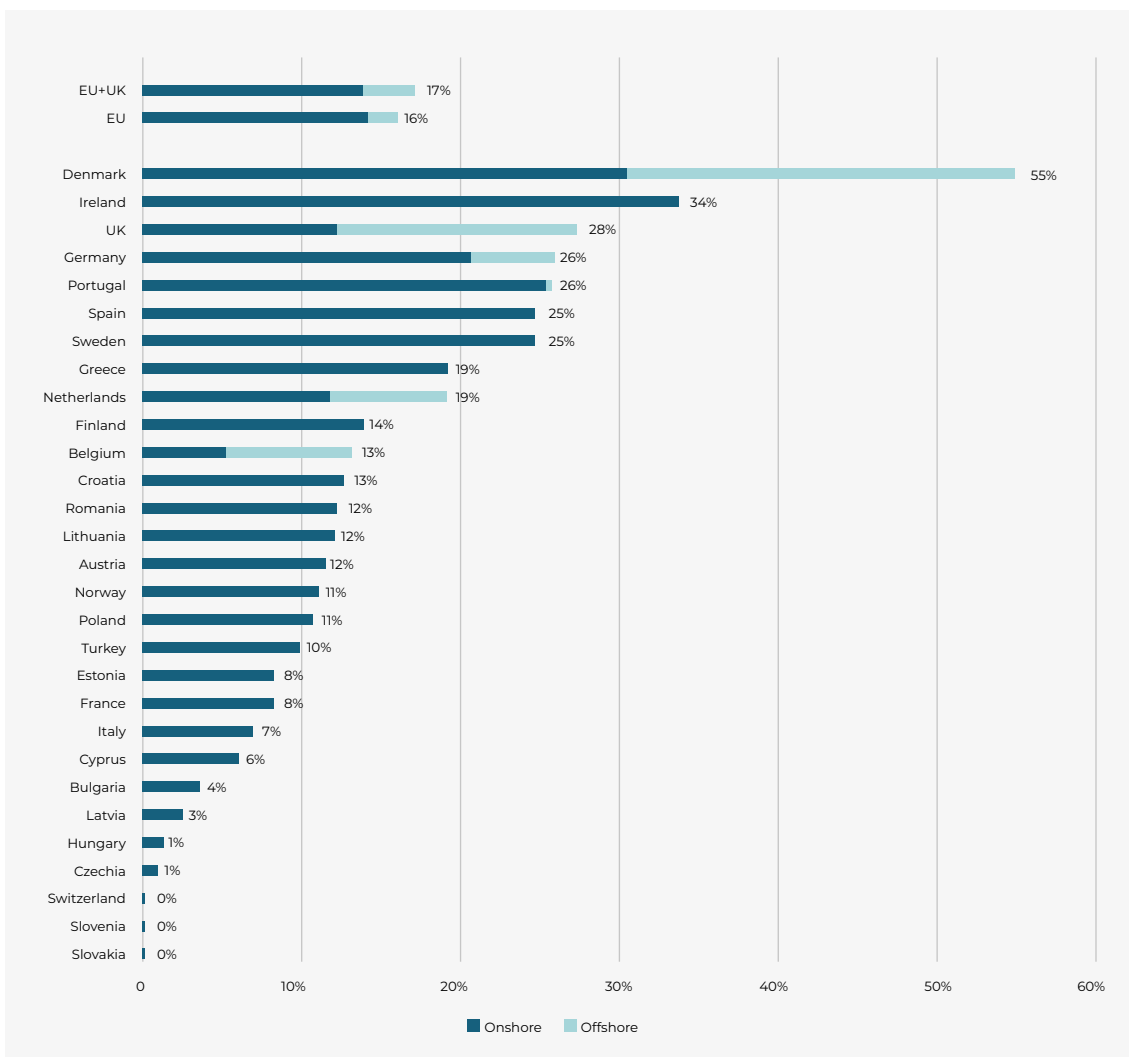
Installed capacity of wind farms in Denmark for 2010-2023, MW



Source: [Statista](#)

In 2015, Denmark [set](#) a world record – more than 42% of the country’s energy consumption was generated by wind farms. In 2022, the country further increased its capacity, [covering](#) 55% of its needs with wind energy. Thus, the share of wind generation in total electricity production increased from 43.8% in 2021 to 53.4% in 2022.

Coverage of electricity needs by wind farms in the EU (2022), %.



Source: [WindEurope](#)

This level of development has been achieved thanks to continued investment in wind energy R&D, which comes from both government programs, such as the Energy Technology Development and Demonstration Program (EUDP), managed by the Danish Energy Agency and the Danish Innovation Fund, and [private](#) funds and investors, including representatives of the wind energy sector.

In addition, the Danish Energy Agency is focused on promoting the production of onshore wind turbines through support schemes and subsidies.

In terms of renewable energy [support schemes](#), Denmark has been changing from a fixed feed-in tariff to tenders where renewable energy technologies (wind, solar, hydro, and wave energy) compete on price. Funding was provided to projects that could produce energy from RES at the lowest price. The last tender was held in 2021, and support for new onshore wind capacity is no longer [provided](#): developers operate on market conditions. However, investment assistance schemes are still available for experimental wind turbines.

However, Denmark has moved from traditional support schemes for wind farms to schemes aimed at local communities located near renewable energy installations. For example, [support mechanisms](#) aimed at encouraging the local population to install wind turbines and SPPs are [among the support mechanisms](#):

- The property value loss scheme allows neighbors and local residents to receive compensation from the RES owner for the loss of value of their property caused by the launch and operation of wind turbines and photovoltaic installations;
- The purchase scheme gives the owners of nearby houses the right to sell their residential property to the RES owner if the loss of property value exceeds 1%;
- The bonus scheme entitles households located near renewable energy installations to receive an annual payment (bonus) in accordance with the share of the plant's production paid by the owners of the installation;
- The green fund scheme obliges owners of renewable energy installations to pay a lump sum to a fund managed by the community where the installation is located.

In addition, Denmark responds quickly to market problems for system balancing needs. For example, in early 2024, a [new model](#) of electricity trade with Germany was introduced to reduce restrictions on wind generation and outages of Danish wind capacity – counter-trading was transferred from the balancing to the intraday market, which helped to increase consumption and balance the power system.

Thus, Denmark's experience in implementing support schemes that respond to market conditions would be valuable to Ukraine, which is already [looking](#) to Denmark to assess wind generation capacity and support the development of the offshore wind energy legislative framework.

The United States (opportunities for financial support for wind farms). Wind energy is an emerging energy source in the United States, [accounting for](#) more than 10% of electricity generation.

The U.S. Department of Energy's Wind Energy Technologies Office focuses on advancing the sector's development and competitiveness by supporting research and innovation that increases energy availability, reliability and resilience, and strengthens U.S. energy security, economic growth and sustainability.

The Office [funds](#) research and development activities through competitions and does not fund the purchase or installation of wind energy systems by individuals or companies. The [Office's](#) website, as well as the U.S. Department of Energy's [EERE Funding Opportunities](#) page, contains a list of current proposals for research and development funding, including:

- national and regional research and development of offshore wind technologies;
- innovative blade production in the United States;
- recycling of wind turbine materials, etc.

In addition, the U.S. has numerous [federal programs](#) available to support wind farm deployment from the Department of Energy, Department of the Interior, Department of Commerce, Department of Transportation, and other federal agencies. Resources include tax incentives, grants and financing opportunities, as well as other federal funding programs.

The federal government currently offers several tax incentives for wind projects. The Internal Revenue Service of the US Department of the Treasury is responsible for providing fiscal incentives. Businesses that begin construction of a wind farm before December 31, 2024, are eligible for a

federal [energy investment tax](#) credit tied to the total cost of the facility or a federal [renewable energy production tax](#) credit tied to the amount of energy produced over a ten-year period. Starting in 2025, these tax credits will be replaced by technology-neutral tax credits for zero- or near-zero-emission facilities. These tax incentives will be phased out in 2032, or when total greenhouse gas emissions in the energy sector are reduced to at least 75% below 2022 levels.

In addition, under [Section 17](#) of the Innovative Energy Loan Guarantee Program, the Department of Energy's Loan Programs Office finances large-scale renewable energy projects by providing loan guarantees totaling \$1.69 billion. So far, [four commercial wind energy projects](#) have been supported.

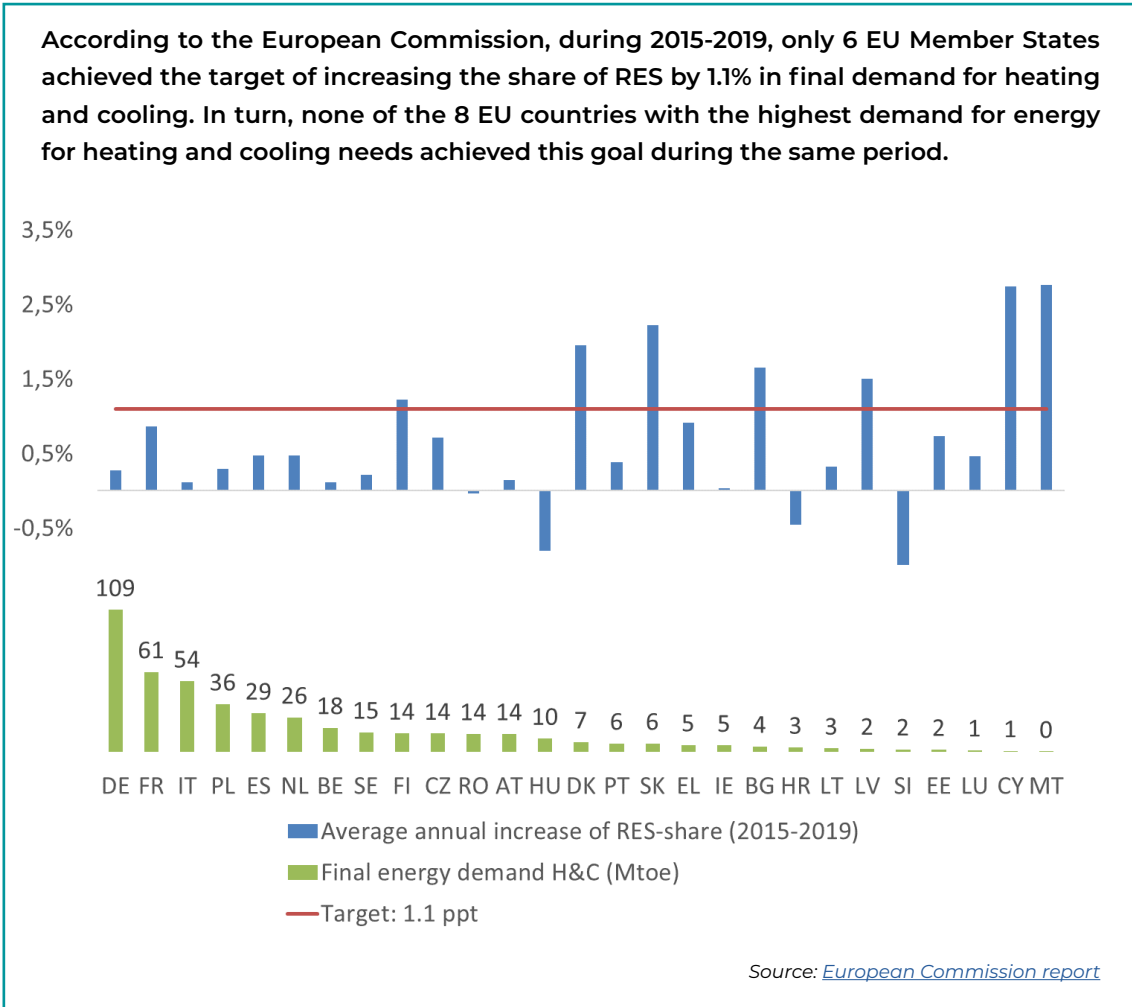
The U.S. Department of Energy provides funding to small businesses for renewable energy research and development projects through the [Small Business Innovation Research and Small Business Technology Transfer](#) programs.

In addition, in February 2024, the U.S. Department of Agriculture and the U.S. Department of Energy [launched](#) a new initiative to help farmers reduce costs and increase income with underutilized renewable energy technologies, including small wind projects. The [Rural Energy for America](#) program will provide funding to 400 farmers across the country to deploy small wind turbines. As [noted](#), such projects support energy independence, local grid reliability, and increase resilience by providing backup power, especially when combined with storage facilities. Such projects also create jobs and investment in the rural economy, with about a third of the cost of a renewable energy project typically invested in local communities through construction and maintenance.

Thus, the United States has a variety of financial opportunities to support wind energy, ranging from research, innovation and development in the sector to providing loans, including support for small businesses.

1.2.2. Local energy plans

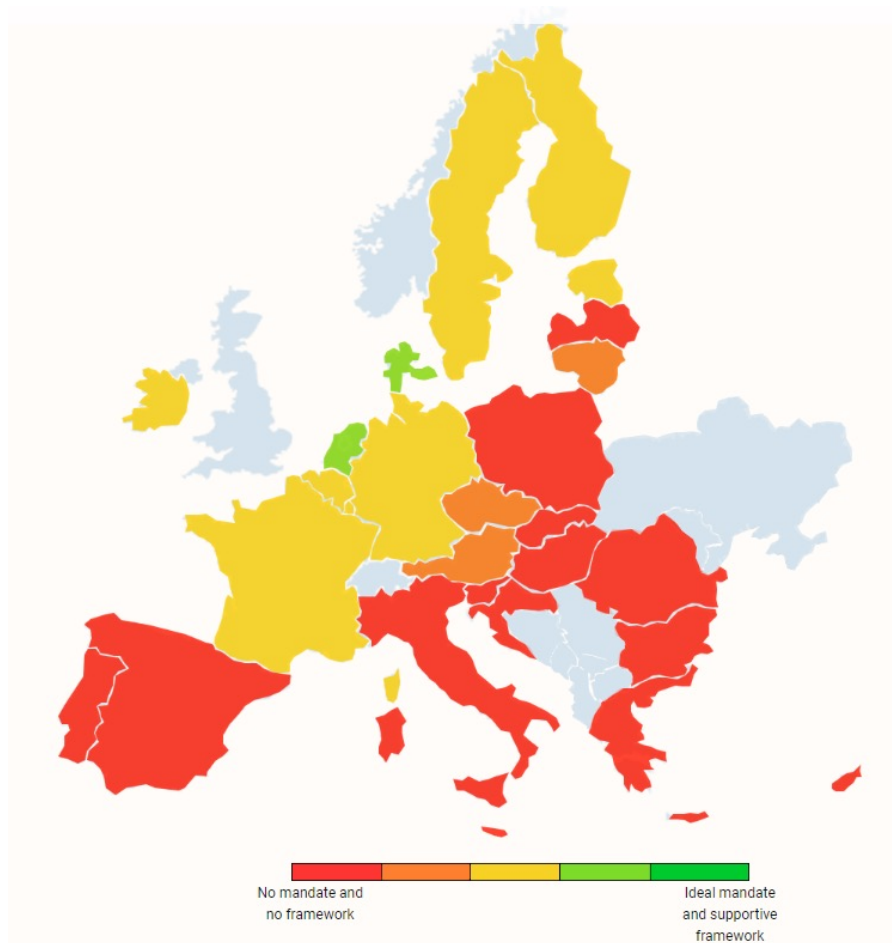
EU (local heating and cooling plans). The updated EU Energy Efficiency Directive, adopted in July 2023, [includes](#) a new obligation (Article 25, Part 6) requiring EU Member States to ensure that regional and local authorities, at least municipalities with more than 45,000 inhabitants, prepare local heating and cooling plans.



In addition, the Directive [states](#) that EU governments should support regional and local authorities to the maximum extent possible by any means, including financial and technical support. Additionally, EU countries should ensure that heating and cooling plans are aligned with other local climate, energy and environmental requirements to avoid administrative burdens on local and regional authorities and to encourage effective implementation of the plans.

However, [according](#) to the Energy Cities tracker, which monitors how well EU countries support local governments in preparing strategic spatial plans for decarbonizing heating and cooling, the level of readiness is very uneven across Europe.

Status of implementation of local heating/cooling plans



Source: [Energy Cities](#)

Half of the EU countries have no planning for local heating and cooling systems at all. Some countries, on the contrary, have been doing it well for decades: Denmark, Sweden, Finland and Estonia. However, in these countries, these plans have historically focused on security of supply rather than energy efficiency, and only recently have they begun to consider decarbonization goals. The Benelux countries, Ireland, and Germany are catching up in terms of progress, but there is still a lot of work to be done to translate the strategy into action.

The Energy Cities [report](#) emphasizes:

- Without a strong support system, there is a clear risk that local heating and cooling plans will not be implemented or will be ineffective. Countries that establish an obligation to plan local heating systems tend to also establish a good support structure (Netherlands);
- Local governments have insufficient resources (including personnel) in most countries;
- There are large gaps between legal obligations and their fulfillment (Slovenia, Poland);
- Most plans noticeably omit planning for cooling systems;
- Energy planning documents (including Sustainable Energy and Climate Action Plans - SECAPs) often lack detail, strategic and spatial dimensions, and are not sufficiently aligned with spatial planning documents and national goals.

Energy Cities recommendations for better local planning

1. Implement a good governance model

A good example is the multi-level coordination in the **Netherlands**. The country has strong coordination between national, regional and local decarbonization strategies through multi-level dialogue and established working groups. According to the Dutch climate policy, the municipal vision for the development of heat supply systems must be in line with the regional energy strategy.

2. Ensure that the plans are broad in scope and clear in content

In Baden-Württemberg (**Germany**), local heating plans include a climate-neutral heating scenario until 2040 with interim targets for 2030, including a spatial representation of the planned facilities.

In **Denmark**, district heating zones are defined in plans based on socio-economic considerations, which provides a long-term framework for the transformation of heating systems.

3. Provide the right legal mandate

In **Denmark**, city councils regulate both district heating and natural gas networks, which gives strong legal powers to municipalities. City councils can decide to make district heating connections mandatory for existing and new buildings in their respective districts and to exclude certain heating systems in existing or new buildings. This allows for a long-term vision of energy systems at the city level and ensures the economic viability of the sector.

4. Provide comprehensive technical support

In Flanders (**Belgium**), the Flemish Agency for Energy and Climate provides a package of technical guidelines, including:

- a manual that provides step-by-step instructions on how to prepare a local heating plan, an overview of potential partners and financing options, and a catalog of available technologies;
- a zoning map that provides the municipality with a view of the different heat supply zones and the potential for district heating and cooling networks in the community;
- a template of tender specifications for the production of heat supply plans;
- support programs where municipalities can exchange ideas and practices.

5. Provide sufficient financial support

In Baden-Württemberg (**Germany**), local authorities receive financial support of 45,000 euros to draw up heat supply plans.

In **France**, the national Heat Fund provides funding to municipalities to develop feasibility studies for renewable energy projects in heat supply and district heating schemes.

6. Develop local human resources

In the **Netherlands**, municipalities participating in the Out of Gas program receive funds from a national fund to finance staff involved in planning heat supply systems.

In **Scotland**, the authorities have assessed the additional staffing capacity required by local authorities to implement local heat and energy efficiency strategies and the obligations associated with the new heat network law.

In **Germany**, the energy agency DENA has established a municipal competence center for heat supply to provide training and advice to local authorities.

In **Sweden**, local authorities can hire staff through regional energy agencies.

7. Provide easy access to data

In **France**, grid operators and energy suppliers must publicly share their data at the street level (an aggregation of at least 10 metering points in the residential sector). Regions and the National Energy Agency finance regional air, energy, and climate «observatories» that provide already processed data to local authorities.

In **Denmark**, local governments have access to national databases to which building owners must provide information on the energy sector (heating systems, energy consumption).

1.3. 2.3. Recommendations

Government of Ukraine (Ministry of Energy):

- Following Denmark's experience, introduce support schemes for the wind energy sector, in particular for offshore installations; in addition, support schemes that promote the participation and interest of local communities in wind energy development, in particular through compensation or bonus programs, may be of interest;
- Conduct a systematic assessment of the effectiveness of the measures and support mechanisms being implemented, and adapt wind energy development strategies in accordance with the results obtained and changes in the market.

Government of Ukraine (Ministry of Energy, State Agency on Energy Efficiency and Energy Saving, Ministry of Education and Science, Ministry of Finance):

- Provide for financial support for research and innovation in the wind energy sector, which will help improve technologies and reduce production costs;
- Promote the development of the wind energy sector locally, provide education and training for the industry;
- Consider creating a structure similar to the U.S. Department of Energy's Wind Energy Technologies Office, which would focus on promoting wind energy development in Ukraine and provide support for research and innovation;
- Develop state mechanisms and encourage Ukrainian investors to apply for international financial support programs that would provide grants and other forms of support for the development of wind energy projects.

Government of Ukraine (Ministry of Infrastructure), local authorities:

- Establish mechanisms to provide technical and financial support to local governments, which may include on-site staff training, planning advice, and access to funding to implement plans;
- Ensure effective vertical and horizontal coordination between communities, regions and other stakeholders to ensure effective implementation of the plans, create a multi-level system of coordination between national, regional and local levels of government, and ensure ongoing dialogue and working groups to develop and implement the plans;
- Provide access to energy and other spatial data; create a system of data exchange between network operators, energy suppliers and communities (in the future, after the end or termination of martial law, for public access to information on the energy sector at the local level);
- Develop mechanisms for monitoring and evaluating the implementation of LEPs to identify problems in time and adjust them to achieve the goals;
- Involve the public and other stakeholders in the process of developing LEPs.



2.1. Situation in Ukraine

Regulatory and legislative initiatives

- **Starting from January 1, 2024**, the Procedure for Submission and Publication of the Annual Report of the Business Entity on Compliance with the Conditions of the Emission Permit (Resolution of the Cabinet of Ministers of Ukraine No. 58 dated January 20, 2023) will be [applied](#). Companies had to submit their 2023 reports by March 31 to the permit issuing authority. This body will post the information received on the EcoSystem Unified Environmental Platform, and later, business entities will be able to enter information into the EcoSystem on their own (the Ministry of Environmental Protection is working on this functionality).
- **On January 3, 2024**, the Ministry of Environmental Protection [published](#) the draft law «On Amendments to the Tax Code of Ukraine on Environmental Taxes Levied for Waste Disposal and Mining Waste Disposal».
- **On January 5, 2024**, the Ministry of Environmental Protection [published](#) a draft order «On Approval of the Procedure for Labeling Controlled Substances, Goods and Equipment». The Procedure defines the requirements for labeling ozone-depleting substances and fluorinated greenhouse gases, the lists of which are set out in Annexes 1 and 2 to the Law of Ukraine «On Regulation of Economic Activity with Ozone Depleting Substances and Fluorinated Greenhouse Gases». The following are subject to mandatory labeling: refrigeration equipment; air conditioning equipment; heat pumps; firefighting equipment; electrical switchgear; aerosol sprays containing controlled substances, except for metered dose inhalers for the delivery of pharmaceutical ingredients; all containers for controlled substances; solvents based on controlled substances; devices operating on the organic Rankine cycle; foams and pre-mixed polyols.
- **On January 11, 2024**, the Verkhovna Rada [registered](#) Draft Law No. 10410 «On Amendments to the Code of Ukraine on Administrative Offenses to Introduce Liability for Non-Compliance with the Law of Ukraine «On Strategic Environmental Assessment». The act proposes to establish administrative liability for failure to carry out SEA, violation of the SEA procedure established by law, failure to take into account the results of SEA when approving state planning documents in the form of a fine on officials (from UAH 5,100 to 10,200). It is proposed to give the State Environmental Inspectorate the authority to draw up a protocol on violation of the SEA legislation. The Verkhovna Rada Committee on Environmental Policy and Nature Management [recommended](#) adopting the draft law in the first reading as a basis.
- **On January 17, 2024**, the Ministry of Environmental Protection [published](#) drafts of new standards for monitoring, quantifying, and reporting greenhouse gas emissions, developed by the National Technical Committee for Standardization «Environmental Protection» with the support of the EU4Climate project. The current 2013 standards are outdated and do not comply with EU legislation. Updating them is key to implementing the EU Directive on the Greenhouse Gas Emissions Trading System in Ukraine. The following draft standards are presented:
 - Greenhouse gases. Part 1: Requirements and guidelines for the quantification and reporting of greenhouse gas emissions and removals at the organization level - [DSTU ISO 14064-1:20__ \(ISO 14064-1:2018, IDT\)](#);

- Greenhouse gases. Part 2. Requirements and guidelines for quantification, monitoring and reporting of greenhouse gas emission reductions or removals at the project level - [DSTU ISO 14064-2:202__ \(ISO 14064-2:2019, IDT\)](#);
 - Greenhouse gases. Part 3. Requirements and guidelines for validation and verification of greenhouse gas claims - [DSTU ISO 14064-3:20__ \(ISO 14064-3:2019, IDT\)](#);
 - General principles and requirements for environmental information validation and verification bodies - [DSTU ISO 14065:20__ \(ISO 14065:2020, IDT\)](#).
- On January 19, 2024, the Cabinet of Ministers of Ukraine [approved](#) a draft letter from the Government of Ukraine to the Organization for Economic Cooperation and Development (OECD) requesting accession to the Declaration on Green Growth.
- On January 22, 2024, the Ministry of Environmental Protection [published](#) a draft resolution of the Cabinet of Ministers «On Approval of the Procedure for the Functioning of the State Environmental Monitoring System and its Subsystems».
- On January 23, 2024, the Cabinet of Ministers of Ukraine [approved](#) the Resolution «On Amendments to the Technical Regulations on Requirements for Motor Gasoline, Diesel, Marine and Boiler Fuels», which removed the temporary provision on the possibility of circulation of fuels of Euro-3 and Euro-4 environmental class. It also restored the requirements of the EU directives prohibiting the sale of leaded gasoline and established requirements for fuels used in road vehicles and non-road mobile equipment (including inland waterway vessels), agricultural and forestry tractors and recreational vessels.
- On January 26, 2024, the Ministry of Environmental Protection [published a draft](#) Strategy for the Formulation and Implementation of State Policy in the Field of Climate Change for the period up to 2035 and has already [held](#) a public discussion procedure. The document defines the main strategic goals of a systemic approach to climate change and ensures the formation of a holistic and consistent state policy of low-carbon development.
- On January 26, 2024, the Ministry of Environmental Protection [published](#) a draft resolution of the Cabinet of Ministers of Ukraine «On Amendments to Certain Resolutions of the Cabinet of Ministers of Ukraine on Atmospheric Air Monitoring» (the comments and suggestions of the public are presented in the [table](#)).
- On January 30, 2024, the Ministry of Environmental Protection issued Order No. 108 [amending](#) the Guidelines for Assessing Greenhouse Gas Emissions by Type of Activity of Installations. This methodology can be used to calculate CO₂ emissions from fuel combustion. Monitoring of CO₂ emissions from combustion processes includes emissions from the combustion of all types of fossil fuels, alternative fuels, as well as CO₂ emissions from waste gas treatment processes. The guidelines are intended for operators of installations that carry out activities established by the [List](#) of activities, greenhouse gas emissions from which are subject to monitoring, reporting and verification, approved by the Resolution of the Cabinet of Ministers of Ukraine No. 880 of September 23, 2020.
- On February 5, 2024, the Ministry of Environmental Protection [published](#) the draft law «On the Basic Principles of State Climate Policy».
- On February 6, 2024, the Ministry of Environmental Protection [issued](#) Order No. 142 «On Approval of the Procedure for Conducting Consultations with Executive Authorities and Local Self-Government Bodies on Environmental Impact Assessment and Taking into Account the Results of Such Consultations When Deciding on the Possibility of Carrying Out Planned Activities».
- On February 9, 2024, the Ministry of Environmental Protection approved [Order](#) No. 153 of February 8, 2024 on the establishment of a Working Group to prepare proposals for the conclusions on the Best Available Techniques (BAT) for surface treatment with organic solvents, including chemical protection of wood and wood products.

- **On February 16, 2024**, the Cabinet of Ministers approved the Government's Priority Action Plan for 2024 by [Resolution](#) No. 137-p, which includes a number of tasks in the field of climate change and environmental pollution prevention, in particular: approval of the Procedure for the functioning of the state environmental monitoring system and its subsystems; development and submission of a number of draft laws - on the basic principles of state policy in the field of climate change; on waste from the extractive industry; on waste electrical and electronic equipment; on restrictions on the production and circulation of single-use plastic products in Ukraine; the draft law on amendments to certain legislative acts of Ukraine regarding the implementation of the provisions of the EU acquis in the field of environmental protection; the draft law on batteries, accumulators and battery and accumulator waste the draft law on waste tires, waste oil and vehicles taken out of operation; amendments to the Procedure for State Monitoring in the Field of Atmospheric Air Protection; approval of the action plan for the establishment of a national system of greenhouse gas emission allowance trading; approval of the National Waste Management Plan until 2033 and the National Waste Prevention Program; implementation of the environmental initiative "Large-scale Reforestation of Ukraine" and construction of new forestry seed centers; amendments to the Codes of Ukraine on Criminal and Administrative Offenses regarding liability in the field of waste management.
- **On February 19, 2024**, the Ministry of Environmental Protection [published](#) a draft order approving the Procedure for Developing Waste Management Plans for Enterprises, Institutions and Organizations, which aims to determine a single mechanism for developing and amending waste management plans for enterprises, institutions and organizations, and filling them with the specifics of their activities. Companies will develop their plans for 5 years, and they will be mandatory for business entities that generate hazardous waste and non-hazardous waste with a volume of more than 50 tons.
- **On February 21, 2024**, Order of the Ministry of Environmental Protection No. 875 dated December 1, 2023 «On Approval of the Procedure for Maintaining and Submitting Reports by Operators of Controlled Substances Moved Across the Customs Border of Ukraine, Placed on the Market, Used and Handled by Controlled Substances and Goods» came into force. From now on, companies dealing with fluorinated greenhouse gases and ozone-depleting substances must keep records of information that should cover all stages of the life cycle of such substances – from the initial movement across the border to the final disposal or recycling. The form of the report was [approved](#) by the Resolution of the Cabinet of Ministers of Ukraine No. 992 dated September 23, 2020.
- **On February 26, 2024**, the Ministry of Environmental Protection [published](#) a draft resolution of the Cabinet of Ministers «Some Issues of Identification and Accounting of Waste Whose Owner is Not Established», developed to fulfill the requirements of Article 12(6) and Article 19(1)(14) of the Law of Ukraine «On Waste Management». The Resolution is intended to ensure effective management of unidentified waste, elimination of unauthorized landfills and reduction of their negative impact on the environment and human health.
- **On February 29, 2024**, the Ministry of Environmental Protection issued [Order](#) No. 224 «On Approval of Information and Technological Cards of Administrative Services Provided by the Ministry of Environmental Protection in the Implementation of State Policy in the Fields of Air Protection; Monitoring, Reporting and Verification of Greenhouse Gas Emissions; Regulation of Ozone Depleting Substances and Fluorinated Greenhouse Gases».
- **On March 4, 2024**, the Ministry of Environmental Protection [published](#) a draft resolution of the Cabinet of Ministers «On the Implementation of a Pilot Project on State Registration of Installations in the Unified Register for Monitoring, Reporting and Verification of Greenhouse Gas Emissions in Automatic Mode». The act proposes to introduce automatic registration of installations in the Unified Register for legal entities and individual entrepreneurs in electronic form through the electronic cabinet of the business entity of the EcoSystem Unified Environmental Platform.

- On March 6, 2024, by its [Order](#) No. 247, the Ministry of Environmental Protection approved the Guidelines on the Procedure for Preparing and Submitting an Operator's Report in accordance with the Law of Ukraine «On the National Register of Pollutant Emissions and Transfers» and the Guidelines on the Procedure for Preparing a Report of the Authorized Body. The guidelines are based on the rules of the European register (Guidance Document for the implementation of the European PRTR), but also take into account Ukrainian legislation.
- On March 6, 2024, the State Environmental Inspectorate of Ukraine [published](#) a draft order of the Cabinet of Ministers «On Approval of the Strategy for Reforming the System of State Supervision (Control) in the Field of Environmental Protection, Rational Use, Reproduction and Protection of Natural Resources in Ukraine and Approval of the Operational Plan for its Implementation in 2024-2026». The law provides for continuous monitoring of natural ecosystems by an inspector, which operates on the principle of preventing environmental damage. The amount of territory assigned to one inspector is planned to be reduced from 447 km² to 75.5 km². Transparency of control measures and openness of information will be ensured through the EcoThreat app. It will be the main tool for each environmental inspector to take photos and videos of offenses and collect evidence.
- On March 12, 2024, the Cabinet of Ministers [approved](#) Resolution No. 312 «On Approval of the Procedure and Methodology for Evaluating an Investment Project with Significant Investments», which, among other things, provides for the approval of the Ministry of Environmental Protection to analyze the environmental impacts and risks of an investment project, a draft special investment agreement, and submit relevant proposals.
- On March 12, 2024, the Ministry of Environmental Protection [published](#) a draft resolution of the Cabinet of Ministers «On Approval of the Procedure for Providing Written Consent (Notification) for the Transboundary Transportation of Hazardous Waste and a Conclusion on Transboundary Waste Transportation».
- On March 15, 2024, the Ministry of Environmental Protection approved the Guidelines for Post-Project Monitoring by Order No. 291 and the Guidelines for the Development of Local Waste Management Plans by its [Order](#) No. 288.
- In terms of waste, the guidelines have been prepared taking into account the requirements of the framework Law «On Waste Management», the Procedure for the Development, Coordination and Approval of Local Waste Management Plans, and the provisions of Directive 2008/98/EC. The territory of the region is divided into clusters (within the framework of the regional waste management plan). A single waste management system is created for each cluster, covering a certain number of communities. Requirements for accepting waste from different facilities are established (separate collection, containerized collection). Communities determine the logistics for each type of waste collected on their territory.
- On March 18, 2024, by its [Resolution](#) No. 244-r, the Cabinet of Ministers approved the Plan of Ukraine for the implementation of the EU initiative «Ukraine Facility» introduced by Regulation (EU) No. 2024/792 of the European Parliament and of the Council of 29 February 2024.
- On March 18, 2024, the Ministry of Environmental Protection [published](#) a draft order «On Approval of the Procedure for Developing Waste Management Plans for Enterprises, Institutions and Organizations».
- On March 18, 2024, the Ministry of Environmental Protection [published](#) a draft order «On Approval of the Procedure for Establishing and Model Regulations on Regional Environmental Monitoring Centers» pursuant to subparagraph 10 of paragraph 4 of Law of Ukraine No. 2973-IX «On Amendments to Certain Legislative Acts of Ukraine on the State System of Environmental Monitoring, Information on the State of the Environment (Environmental Information) and Information Support for Environmental Management».

- On March 19, 2024, the Ministry of Environmental Protection [published](#) a draft order «On Amendments to the Regulation on Certification of Environmental Auditors».
- On March 21, 2024, the Ministry of Environmental Protection [issued](#) Order No. 306 on state registration of pesticides and agrochemicals
- On March 22, 2024, the Cabinet of Ministers [adopted](#) Resolution No. 379 amending paragraph 4 of the Regulation on the State Environmental Inspectorate of Ukraine.
- On March 26, 2024, the Ministry of Environmental Protection [published](#) a draft order «On Amendments to the Order of the Ministry of Ecology and Natural Resources of Ukraine dated May 10, 2002 No. 177», which provides for amendments to the Instruction on the Procedure and Criteria for State Registration of Facilities that Have or May Have a Harmful Effect on Human Health and the State of the Atmospheric Air, Types and Volumes of Pollutants Emitted into the Atmospheric Air. According to these amendments, state registration services must be provided electronically through the EcoSystem Unified Environmental Platform without the participation of an official.
- On March 29, 2024, the Cabinet of Ministers [adopted](#) Resolution No. 364 «On Approval of the Procedure for Developing the Maximum Permissible Discharge of Pollutants into Centralized Sewage Systems and the List of Pollutants whose Discharge into Centralized Sewage Systems is Regulated».

News from the government, central executive bodies, and companies

- On January 03, 2024, a new Environmental Impact Assessment Register was launched on the EcoSystem platform. Currently, to enter the EcoSystem, you need to pre-authorize and follow the following links to the EIA register: for [the authorized body that carries out the EIA](#), for the [customer of the planned activity](#), for the [public](#).
- On January 19, 2024, the Ministry of Environmental Protection [published](#) a Report on the results of the implementation of a pilot project to obtain a certificate for determining the values of background concentrations of pollutants in the air by the calculation method in electronic form.
- On January 24, 2024, the Ministry of Environmental Protection and the Government of Sweden [held](#) a workshop on waste management reform in Ukraine. The Swedish side has expressed its readiness to become a consultant and contribute to building an optimal waste management system in Ukraine. Sweden is a recognized world leader in waste management: only 1% of waste is sent to landfills, the rest is recycled or utilized to generate heat and electricity.
- On February 1-2, 2024, the International Forum “United for Nature. Agenda for Ukraine” [discussed](#) waste management reform as a basis for the introduction of a circular economy, the environmental component of the negotiation process on Ukraine’s accession to the EU; Ukraine’s climate policy and sources of financing for the green transition; next steps in reforming water management and waste management systems, launching state environmental control reform; the importance of starting a national dialogue on decarbonization of the extractive industry; development and preservation of the nature reserve fund.
- On February 9, 2024, the Ministry of Environmental Protection [presented](#) the Environmental Compact for Ukraine as a new mechanism for environmental protection. The document was developed by the International Working Group on the Environmental Consequences of War. The Environmental Compact is part of the umbrella of Volodymyr Zelenskyy’s Peace Formula. It includes 50 recommendations for Ukraine and the international community that embody a unified approach to assessing the environmental impact of the Russian war in Ukraine, define approaches to compensation for damage, and suggestions for green recovery.

- The Environmental Compact serves as a roadmap for assessing environmental damage from war, bringing the aggressor to justice, and creating the best algorithms for environmental restoration. This document is also the basis for the implementation of projects such as the Environmental Declaration. [Order](#) of the Ministry of Environmental Protection No. 278 of 14.03.2024 established an Interagency Working Group to prepare a joint action plan for the implementation of the Green Future Recommendations on Accountability and Restoration set out in the Environmental Compact.
- **On February 19, 2024**, the Ministry of Environmental Protection announced that Minister Ruslan Strilets signed a Memorandum of Cooperation under Article 6 of the Paris Agreement with his Japanese counterpart Ito Shintaro during the Japan-Ukraine Conference on Economic Development and Reconstruction in Tokyo. Subsequently, a step-by-step action plan for its practical implementation was [discussed](#). Thus, Ukraine joined Japan's Joint Crediting Mechanism. The mechanism provides access to Japanese advanced technologies for green recovery, joint implementation of projects (part of the reduced emissions in Ukraine is transferred to Japan, and part remains in Ukraine to achieve the NDC).

[According](#) to Minister Ruslan Strilets, this year Ukraine plans to finalize the process of consolidating cooperation with Switzerland and Japan under Article 6 of the Paris Agreement. The purchase of Ukrainian excess emission allowances by these countries should become an additional source of green investment for Ukraine's reconstruction.

- The Ministry of Environmental Protection has [begun](#) work on a methodology for calculating greenhouse gas emissions from military operations. It is noted that the government expects the document to be recognized internationally in order to draw the world's attention to the current problems and consequences of the war for the climate and the environment.
- The Ministry of Environmental Protection has [announced](#) the launch of cases of design and construction of waste treatment plants in Kyiv, Ivano-Frankivsk, Poltava, and Odesa regions. The issue of locating 8 new plants in Kharkiv region is also being [considered](#). Two of them, the main ones, are planned to carry out the entire range of waste management activities: from sorting to processing and production of RDF fuel, «energy utilization» of waste with the production of electricity and heat.

The impact of war on climate and environment, damage assessment and recovery

- As of the end of March 2024, according to the [EcoThreat](#) resource, 136,703 hectares of forests and other plantations burned down as a result of the full-scale war, causing 54,736,979 tons of air emissions. The combustion of oil products generated 56,559,921 tons of air emissions, and the amount of oil, oil products and gas burned is estimated at 3,039,842 tons. The destruction of military equipment generated 90,935 tons of air emissions. The fire at other facilities generated another 255,509 tons of emissions (the area of the burned facilities is 2,423,501 m²). In addition, toxic emissions amounted to 1,540,338 tons. The Ministry of Environmental Protection estimates the damage caused by the war to the atmosphere at UAH 1.2 billion. CO₂ emissions for the 2 years of the war are [estimated](#) at 150 million tons.
- According to the [Ministry of Environmental Protection](#), over the two years of the full-scale invasion, Russia has committed more than 2,700 crimes against the environment in Ukraine. They can already be estimated at more than UAH 2.1 trillion.
- As of the end of March 2024, more than 55 million seedlings [were planted](#) in Ukraine as part of the spring silvicultural campaign. The largest number of woody plants was planted in Zhytomyr Oblast – 11,356,000, Kyiv Oblast – 7,732,000, Volyn Oblast – 5,332,000, Chernihiv Oblast – 3,765,000, and Mykolaiv Oblast – 3,250,000. As part of the President's Green Country Program, a mixed forest was planted on an area of 1.6 hectares in Dymmer Forestry in Kyiv Oblast (46% of the program is [completed](#)). Two forest seed centers are planned to be built in 2024. In 2023, three such centers were opened in Volyn, Ivano-Frankivsk, and Sumy oblasts, bringing the total number of such centers to six.

- The Ministry of Environmental Protection, together with its Finnish partners, is [finalizing](#) the details of a project to support Ukraine in assessing environmental damage, improving water quality, and monitoring terrestrial biodiversity, with funding of €2 million provided by the Finnish Ministry of Foreign Affairs.
- The international technical assistance project, implemented by the United Nations Development Program in Ukraine with the support of the Global Environment Facility, [will develop](#) comprehensive plans for the conservation and restoration of natural habitats, as well as a measurement, verification and reporting system to assess and reduce greenhouse gas flows to peatlands by 2026, and create a model of a sustainable food system for 7 regions of Ukraine that will help reduce greenhouse gas emissions.

2.1.1. New principles of the state climate policy

In its [report](#) on the «enlargement package» published in early November 2023, the European Commission noted Ukraine's significant progress in the implementation of the EU acquis. In particular, it noted the good level of preparation in the energy sector and the achievement of certain progress, despite the fact that the energy sector operated in emergency conditions due to Russian attacks on Ukraine's energy infrastructure. In the areas of environmental protection and climate policy, Ukraine has a certain level of preparation and has seen success in adopting legislation aimed at further harmonization in horizontal issues, water quality, waste management, chemicals and noise. However, progress has been limited in terms of climate policy.

At the beginning of 2024, the Ukrainian government stepped up its efforts to formulate a state climate policy, including the publication of the

- [draft](#) law «On the Basic Principles of State Climate Policy» - the framework climate law of Ukraine;
- [draft](#) National Energy and Climate Plan (NECP);
- [draft](#) Strategy for the Formulation and Implementation of State Policy in the Field of Climate Change for the period up to 2035 and the Operational Action Plan for its implementation in 2024-2026.

[Order](#) of the Ministry of Environmental Protection No. 136 of 05.02.2024 established a Working Group on the organization of the implementation of Ukraine's European integration commitments in the field of environment and climate change.

The Government of Ukraine also approved two documents for planning and implementing reforms that also address climate issues: [an action plan](#) to implement the recommendations of the European Commission presented in the Ukraine Progress Report under the EU's 2023 Enlargement Package and Ukraine's [Plan](#) for the implementation of the Ukraine Facility program. They envisage the development and adoption of a framework climate law, an integrated NECP, the second Nationally Determined Contribution, a long-term low-carbon development strategy, an action plan to create a national greenhouse gas emissions trading system, and the restoration of a mandatory system for monitoring, reporting, and verification of greenhouse gas emissions.

Draft Law «On the Basic Principles of State Climate Policy»

The development and adoption of a framework climate law in Ukraine is driven by the need to regulate the principles of state climate policy management at the legislative level, define the architecture of climate governance, systematize and streamline regulatory and planning in this area to fulfill the international obligations assumed by Ukraine by joining the [UN Framework Convention on Climate Change](#), the [Kyoto Protocol](#) and the [Paris Agreement](#).

Back in 2016, the government approved the Concept for the Implementation of the State Policy on Climate Change for the period up to 2030 by [Resolution No. 932-p](#), and in 2017, by [Resolution No. 878-p](#), it approved an action plan for the implementation of this Concept. These documents provided for the adoption of laws to introduce a system of emissions trading, approval of the procedure for monitoring, reporting and verification of greenhouse gas emissions, approval of the Low Carbon Development Strategy of Ukraine until 2030, the nationally determined contribution of Ukraine to the [Paris Agreement](#), the State Scientific and Technical Program in the field of climate change, the comprehensive National Energy and Climate Change Plan for 2021-2030, approval of the Strategy and Action Plan for Adaptation to Climate Change of Ukraine until 2030.

With the adoption in 2021 of Regulation (EU) [2021/1119](#) establishing a framework for achieving climate neutrality, which also amended Regulation (EU) [2018/1999](#) on Energy Union Governance and Climate Action, Ukraine, which is on the path of European integration and has supported the European Green Deal, faced the issue of implementing new norms in legislation and setting more ambitious goals for achieving climate neutrality by 2050.

Thus, the draft law «On the Basic Principles of the State Climate Policy» is aimed at implementing the EU *acquis communautaire* in the field of climate change and [aims](#) to define the legal and organizational framework of the state climate policy aimed at ensuring low-carbon development of Ukraine, achieving climate neutrality, adaptation to climate change, fulfilling Ukraine's international obligations in this area, as well as the principles for creating a national system of inventory of anthropogenic emissions from sources and absorption by sinks of greenhouse gases.

The draft law primarily defines the long-term goals of Ukraine's state climate policy:

1. Achieving climate neutrality of Ukraine by 2050 through a socially just and economically efficient transition to help keep the global average temperature below 2°C above pre-industrial levels by reducing greenhouse gas emissions and increasing absorption by sinks;
2. Increasing resilience and reducing risks associated with climate change by implementing climate change adaptation measures.

To achieve the long-term goals, the government must approve the Long-Term Low-Carbon Development Strategy, which in turn must set medium-term goals. At the same time, the draft law stipulates that the first Nationally Determined Contribution (NDC) to the Paris Agreement approved by the Cabinet of Ministers is considered the first medium-term goals. Any subsequent (updated) goals should be more ambitious than those set in the first NDC.

In 2021, the government approved the [Strategy](#) for Low Carbon Development of Ukraine up to 2050, but it includes an indicative target of 31-34% of GHG emissions in 2050 compared to 1990 and needs to be updated to reflect more ambitious goals. Ministry of Environmental Protection [plans](#) to prepare a new Long-Term Low-Carbon Development Strategy for Ukraine in 2024. The document will be based on the National Energy and Climate Plan (NECP).

The draft law also stipulates that the Climate Change Adaptation Strategy, NECP, and NDC should be developed and updated at a certain frequency at the national level as part of medium-term planning. Central executive authorities within their sphere of responsibility develop sectoral emission reduction strategies, sectoral climate change adaptation strategies and action plans, as well as create mechanisms to support their implementation, and are involved in the development of national action plans. Regional administrations, in turn, develop regional programs, and local governments develop local targeted climate change mitigation and adaptation programs and ensure their implementation.

The draft law provides for the inclusion of the goals of the state climate policy in comprehensive recovery programs to overcome the consequences of emergencies and armed aggression against Ukraine.

The published draft law is only the first version that has been subject to public discussion and will be further developed. But at this stage, we note that the following aspects require more attention in the course of revision:

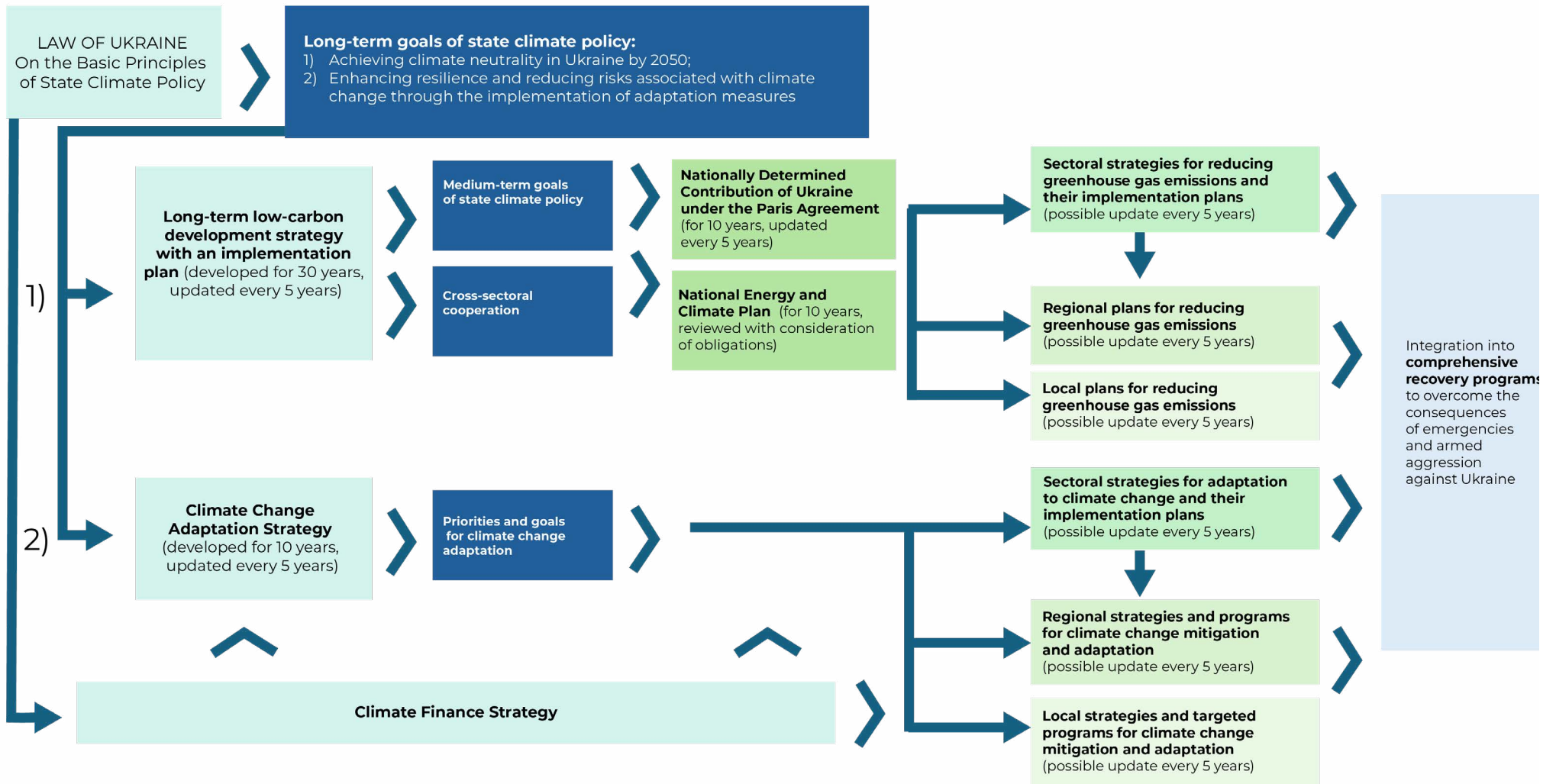
- A number of strategic documents directly related to climate policy and their place in the climate architecture, in particular, are not reflected:
 - Local Energy Plans (LEPs), the development of which is provided for by the Law of Ukraine «On Energy Efficiency»;
 - The Strategy for the Formulation and Implementation of State Policy in the Field of Climate Change for the Period up to 2035 (draft of which was published in January 2021);
 - Action plan for the implementation of Ukraine's climate policy as part of participation in the Global Methane Pledge, a global initiative to reduce methane emissions, approved by CMU [Resolution](#) No. 607-p of July 7, 2023.
- Although the project envisages a cross-sectoral approach to setting targets and implementing GHG emission reduction measures, it lacks an approach that would provide for interregional harmonization of targets so that the total of measures in all regions would have a sufficient effect to achieve the national targets. There is also no mechanism for responding to insufficiently ambitious targets and insufficient progress in achieving energy and climate goals at different levels.
- Unlike Regulation (EU) 2018/1999, which defines in detail the structure, content, procedure and timelines for the development of NECPs (Annex I), long-term strategies (Annex IV), nationally determined contributions (Annex V) and the specifics of reporting on their implementation, the draft climate law of Ukraine defines only the general content elements, the frequency of development of strategic documents and reporting and provides that all other aspects will be defined in separate bylaws. The draft law stipulates that the procedure for preparing the NECP is separately approved by the Cabinet of Ministers, while the development and approval of procedures for their preparation is not provided for in the Long-Term Strategy and the NDC, although it would be appropriate to provide for this. It would also be worthwhile to stipulate that the development of the relevant procedures should take into account the provisions of Regulation (EU) 2018/1999.
- The draft law lacks mechanisms for financial support for state aid and support for the implementation of measures for green development and climate change mitigation and/or adaptation, such as the introduction of the State Fund for Decarbonization and Energy Efficient Transformation, targeted allocation of funds from greenhouse gas emissions trading, etc.

NECP

As a Contracting Party to the Energy Community and as part of the EU membership process, Ukraine has committed itself to developing a NECP in accordance with the requirements of Regulation (EU) 2018/1999.

Given the need to build a full-fledged climate governance architecture, the issues of completeness (sufficiency), relevance and harmonization of policies and measures aimed at achieving the main strategic goals come to the fore. In fact, the NECP is aimed at harmonizing energy and climate policies, filling gaps and adjusting the content of individual measures to achieve certain goals.

State Climate Policy



Source: DiXi Group, based on the provisions of the draft law «On the Basic Principles of State Climate Policy»

In February 2024, the Ministry of Economy released the [draft](#) NECP for public discussion. This document combines the goals and objectives of all Ukraine's strategies, policies, and programs related to the five dimensions of the Energy Union and presents the results of modeling based on these goals and the long-term macroeconomic forecast. Thus, the preliminary modeling results allow us to see what results the country will be able to achieve by 2030 (and, for certain issues, by 2040 and 2050) under different scenarios.

The content of the draft NECP of Ukraine fully complies with the content requirements set out in Annex I of Regulation (EU) 2018/1999. It includes a detailed overview of current and planned energy and climate policies and measures, key issues of cross-border importance, information on consultations with various stakeholders at the stage of plan development and adoption, national goals and targets for existing and planned policies, a detailed description of policies and measures envisaged by them, and expected results, which are further taken into account in scenario modeling.

Under the WEM scenario, which is based on the current (limited) level of implementation of the current legislation, which implies a significant delay between policy formulation, adoption and implementation, GHG emissions in the Energy and Industrial Processes and Product Use sectors may decrease by almost 20% by 2030 compared to 2020, and then stabilize at the level of 25% of 1990 GHG emissions in these sectors without additional measures, after which, without additional measures, they may stabilize by 2050 at the level of about 25% of GHG emissions in these sectors in 1990.

Implementation of additional planned measures (WAM scenario) may lead to a greater reduction in GHG emissions by 2030 (-39% compared to 2020) and further significant reduction by 2050 (-71% compared to 2020). Moreover, under the WAM scenario, it is possible to achieve net-zero GHG emissions in the electricity and heat production sector earlier than 2050 with negative CO₂ emissions due to the combination of bioenergy and carbon capture and storage (CCS) technologies.

In general, the results of the modeling under the two scenarios demonstrated that current policies are inconsistent with the ambitious climate goal of achieving carbon neutrality of the economy by 2050. To achieve this goal, it is necessary to introduce all additional planned policies and measures and implement them to the fullest extent possible.

There is a need to agree on the main long-term climate goal of achieving climate neutrality. Currently, the goals of achieving climate neutrality are set out in two strategic documents of Ukraine. Thus, the [Energy Strategy of Ukraine](#) until 2050, approved by the Cabinet of Ministers of Ukraine on April 21, 2023, No. 373-p, provides for the achievement of climate neutrality of the energy sector of Ukraine by 2050. The [National Economic Strategy](#) for the period up to 2030 refers to the need to achieve climate neutrality (for the economy as a whole) by 2060.

In order to monitor the compliance of the actual situation with the indicators modeled in the NECP, which will ensure the achievement of the long-term climate goal, it is necessary to organize biennial reporting on energy and climate progress as required by Regulation (EU) 2018/1999, including the indicators set out in Articles 17-25 and Annex IX of this Regulation.

Implementation of the planned policies and measures requires not only proper public administration in the field of climate change, but also mandatory synchronization of the NECP's tasks with local development strategies, GHG emission reduction programs, and LEPs.

Climate Strategy

The draft Strategy for the Formulation and Implementation of the State Policy in the Field of Climate Change for the Period up to 2035 (hereinafter referred to as the Strategy) is aimed at fulfilling Ukraine's obligations in the field of European integration and the overall adaptation of the current Ukrainian legislation to the EU legislation in accordance with the EU-Ukraine Association Agreement and in line with the recommendations of the European Commission's report within the framework of the 2023 Enlargement Package.

The Strategy should promote the implementation of a systematic approach to climate change and ensure the formulation of a coherent and consistent state policy on climate change in line with the policies of international organizations, taking into account the world's leading technologies and practices, as well as the specifics of national conditions, capabilities, needs and priorities.

The Strategy will be implemented in four stages: 2024-2026, 2027-2029, 2030-2032, and 2033-2035. At each stage, it is envisaged to approve and implement operational plans that will define measures to fulfill the tasks for each strategic goal. It is expected that the achievement of the goals will be assessed based on the results of the implementation of the three-year operational plans during the preparation of annual reports on the implementation of the Strategy in the respective years. Based on the results of the assessment, proposals for further implementation of the state policy in the field of climate change will be formed.

The Strategy defines the importance of post-war reconstruction by adhering to the concepts of Build Back Better and Build Back Greener, which means lower emissions from the reconstruction process itself, as well as from the rebuilt facilities in the future – infrastructure, buildings, industry, and agriculture.

The Strategy defines one strategic goal – strengthening the legal and organizational framework of the state climate policy – and a list of indicators for its achievement:

- Number of adopted/approved legislative and other regulatory acts, state planning documents in the field of climate change;
- Percentage of EU climate change legislation implemented in Ukrainian legislation;
- Number of indicators that are not quantifiable (their assessment may be difficult), namely: ensuring coordination of the activities of the bodies responsible for climate change management within the Interagency Commission on Climate Change and Ozone Protection; ensuring the activities of the Ukrainian Climate Office, the Scientific and Expert Council on Climate Change and Ozone Protection; mitigating climate change and ensuring a socially just and economically efficient transition to low-carbon development of the state;
- List of measurable indicators that quantify GHG emission reductions and removals, the share of RES, energy intensity, energy consumption, investment, etc.;
- Indicators of adoption of strategic documents (number of approved sectoral climate change adaptation strategies and action plans for their implementation; regional and local climate change adaptation strategies or regional development strategies, territorial community development strategies and action plans for their implementation, as well as programs of economic and social development of regions, districts, cities that include climate change adaptation issues), number of sectoral studies conducted and availability of a national management system.

It should be noted that these indicators are not backed by specific targets that Ukraine should achieve, but serve as indicators for monitoring the implementation of the Strategy. The measured indicators overlap in their content with the reporting that should be prepared on the results of the NECP implementation, but do not fully comply with the list of benchmark indicators in accordance with the provisions of Regulation (EU) 2018/1999.

In general, the draft Strategy is a declarative document whose goals are duplicated by the norms and provisions of the draft law «On the Basic Principles of State Climate Policy.» At the same time, there is a certain inconsistency between the list of strategic documents envisaged by the draft law and the strategic documents specified in the draft Strategy. For example, sectoral, regional, and local strategies and plans for reducing greenhouse gas emissions, which are envisaged by the draft law and are not in the draft Strategy.

It should be noted that the operational action plan is largely in line with the requirements of the draft climate law, except for the absence of development activities:

- Sectoral, regional and local strategies and plans for reducing greenhouse gas emissions (there are only points on the development of sectoral, regional and local climate change adaptation strategies);
- The procedure for preparing the National Energy and Climate Plan
- The procedure for the establishment and operation of other market mechanisms and instruments provided for in Article 6 of the Paris Agreement
- The procedure for providing financial support to business entities interested in implementing measures aimed at mitigating climate change and/or adapting to it
- The procedure for information and analytical support for tracking and evaluating the achievement of the goals of the state climate policy with a list of relevant state planning documents and indicators, evaluating state policies for compliance with the goals and principles of the state climate policy and monitoring the progress of measures aimed at mitigating climate change and/or adaptation to it
- The procedure for conducting an inventory of anthropogenic emissions from sources and absorption by sinks of greenhouse gases, the list of greenhouse gases whose emissions are inventoried
- The procedure for preparing the development, annual updating and publication of the National Inventory of Anthropogenic Emissions by Sources and Removal by Sinks of Greenhouse Gases.

The important tasks set out in the draft Strategy are to improve approaches to environmental taxation in terms of GHG emissions, including the creation of a mechanism for targeted use of revenues and increased absorption in the LULUCF sector.

Ukraine Plan

In early 2024, the European Council [supported](#) the revision of the EU budget, which provided €50 billion for macro-financial support to Ukraine under the Ukraine Facility program for 2024-2027.

The Ukraine Facility program provides €39 billion to the state budget of Ukraine to strengthen macrofinancial stability, as well as €8 billion through a special investment instrument to cover investors' risks in priority sectors through the EBRD, EIB, and other international institutions. It is expected that the implementation of projects under the instrument will attract an additional €30 billion in investments. The Ukraine Facility also provides €3 billion for technical support, including funds to cover interest on loans.

Support will be provided on a quarterly basis, subject to the fulfillment of the reform criteria set out in the Ukraine Plan. The Ukraine Facility Plan envisages the implementation of structural reforms in the public sector, a number of economic reforms aimed at improving the business climate and entrepreneurship, and steps to develop priority sectors that can ensure rapid and sustainable economic growth.

On March 18, 2024, the CMU [approved](#) the Ukraine Facility Plan, which includes more than 150 indicators in 69 reform areas to be implemented by 2027. The reforms [cover](#) 15 sectors, among which energy is identified as having one of the greatest potentials for accelerating economic growth: reforms and investments in energy will lead to the transformation of the sector and contribute to Ukraine's decarbonized future, as well as ensure further integration into the EU energy market. The priority is energy security and transition to low-carbon and renewable energy sources with continuous development of energy resilience.

In turn, in 2024, the Ministry of Economy is to [fulfill](#) 7 indicators set out in the Plan. The priority task is to develop and approve the NECP. In addition, the strategy for the development of priority sectors includes the introduction of requirements for energy efficient procurement.

In the energy sector, the main investment priorities in 2024 are:

- protection and restoration of energy facilities,
- increase in generating capacity,
- ensuring the development of renewable energy sources and energy storage systems.

The main reforms and tasks in the energy sector include:

- Development and approval of the Integrated National Energy and Climate Plan (Q2 2024);
- Adoption of the Strategy for Thermal Modernization of Buildings for the period up to 2050 and the Action Plan for its implementation (Q2 2024);
- Implementation of the REMIT Law (Q3 2024);
- Ensuring the NEURC's independence (Q4 2024);
- Introduction of the market-based renewable energy concept (Q4 2024);
- Implementation of the Roadmap for the process of unbundling the renewable energy surcharge from the transmission tariff (Q2 2025);
- Supporting the development of efficient and more sustainable district heating (Q3 2025);
- Adoption of legislation for the electricity integration package (Q4 2025);
- Designation of the nominated electricity market operator (Q4 2025);
- Determination of the special status of the NEURC (Q4 2025);
- Lifting the moratorium on raising tariffs for heat and hot water (Q4 2025);
- Adoption of the State Target Economic Program for Energy Modernization of Heat Generating Enterprises for the period up to 2030 (Q4 2025);
- Adoption of the Roadmap for the gradual liberalization of the gas and electricity market, which should be implemented after the end of martial law (Q2 2026);
- Adoption of legislation to change the taxation conditions for electricity market participants (Q2 2026);
- Improving permitting procedures for investments in renewable energy (Q3 2026);
- Setting minimum requirements for the energy efficiency of buildings and products subject to EU eco-design legislation (Q3 2026);
- Investments to strengthen Ukraine's energy infrastructure (Q4 2027).

The main reforms and tasks in the green transition, environment and climate change sector include:

- Adoption of the Law of Ukraine on the Prevention, Reduction and Control of Industrial Pollution (Q3 2024);
- Development of a concept note defining the scope of deviations from the EIA and SEA rules (Q3 2024);

- Adoption of the Law of Ukraine «On the Basic Principles of State Climate Policy» (Q1 2025);
- Approval of the Action Plan for the establishment of a national greenhouse gas emissions trading system (Q1 2025);
- Restoration of the mandatory MRV system (Q2 2025);
- Approval of Ukraine's 2nd Nationally Determined Contribution to the Paris Agreement (Q3 2025);
- Approval of the Regulations on the Scientific and Expert Council on Climate Change and Ozone Layer Preservation (Q4 2025);
- Developing a strategy for implementing the principles of the circular economy and an action plan for its implementation (Q1 2026);
- Adoption of the National Waste Management Plan until 2033 (Q1 2026);
- Adoption of the Law of Ukraine that will regulate the issue of confirming the sustainability of wood and other goods that may lead to deforestation and forest degradation (Q2 2026).

On March 20, 2024, the European Commission [disbursed](#) the first €4.5 billion of support under the Ukraine Facility. With this funding, the EU is providing Ukraine with much-needed liquidity to help finance budget expenditures.

2.2. International experience

2.2.1. The EU's Integrated Energy and Climate Policy

As Ukraine moves toward EU membership, European climate policy serves as a benchmark for reforms in the area of climate change mitigation and adaptation.

EU countries have come a long way in developing an approach to integrated energy and climate policy, given the significant impact that energy has on the environment.

Back in 2010, the European Commission set goals for climate change mitigation and sustainable energy development aimed at reducing greenhouse gas emissions by 20% for all primary energy sources compared to 1990, meeting 20% of energy demand from renewable energy sources, and increasing energy efficiency by 20% (20-20-20). In 2015, the Energy Union was launched to provide EU consumers with safe, sustainable, competitive and affordable energy.

In 2018, [Regulation \(EU\) 2018/1999](#) on Governance of the Energy Union and Climate Action was adopted, setting out integrated rules to ensure planning, monitoring and reporting on progress towards achieving the 2030 climate and energy targets and international commitments under the Paris Agreement. It set the following EU targets for 2030: a 40% reduction in greenhouse gas emissions in all sectors of the economy compared to 1990 levels, a 32% share of renewable energy in final consumption, a 32.5% increase in energy efficiency, and a 15% integration of energy systems in 2030.

The climate and energy policy governance mechanism established by this Regulation is based on EU long-term strategies, national [long-term strategies](#) for the period up to 2050 and integrated NECPs covering ten-year periods, as well as integrated reporting, monitoring and data publication. The NECP and integrated reporting covers the 5 dimensions of the Energy Union: decarbonization; energy efficiency; energy security; internal energy market; research, innovation and competitiveness. Each EU Member State has to submit a progress report every two years in accordance with the structure, format, technical details and process set out in Regulation (EU) 2018/1999. The European Commission, in terms of the [Energy Union progress report](#), should monitor the progress of the EU as a whole.

EU Member States submitted their [draft NECPs](#) for the period 2021-2030 by December 31, 2018. They were analyzed by the European Commission with [an overall assessment](#) and recommendations for individual countries to increase the ambition of the targets. Taking these recommendations into account, EU Member States submitted their final NECPs by December 31, 2019. On September 17, 2020, the European Commission published a detailed [pan-European assessment of the final NECPs](#). It demonstrated that full implementation of the plans would lead the EU to exceed its current 2030 emissions reduction target, confirming that it is reasonable to increase ambitions.

On January 15, 2020, the European Parliament voted to support [the European Green Deal](#) (COM/2019/640), which set a goal of achieving climate neutrality on the European continent by 2050. In order to establish this goal in law, the [European Climate Law](#) (Regulation (EU) 2021/1119 of June 30, 2021) was adopted, amending Regulations (EC) No 401/2009 and (EC) 2018/1999. This act set a new, more ambitious target of reducing greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels. It contains measures to track progress and adjust actions accordingly through the updating of NECPs, taking into account regular reports by the European Environment Agency and the latest scientific evidence on climate change and its impacts. The first review process was envisaged 2 years after the launch of NECPs, and will take place every five years thereafter under the Paris Agreement.

On July 14, 2021, the European Commission presented a package of legislative initiatives «Fit for 55» to ensure the achievement of the goals and implementation of the European Green Deal. The package included 13 legislative proposals, 8 of which provided for the revision of the current legislation in the field of RES and alternative fuels, energy efficiency, transport, emissions trading schemes, greenhouse gas emission reductions and their sequestration in the LULUCF sector, and 5 new proposals, including the [CBAM](#) Carbon Border Adjustment Mechanism, the [ReFuelEU Aviation](#) initiative on sustainable aviation fuels, the [FuelEU Maritime](#) initiative on renewable and low-carbon fuels in maritime transport, the [Social Climate Fund](#) and the [Forest Strategy](#).

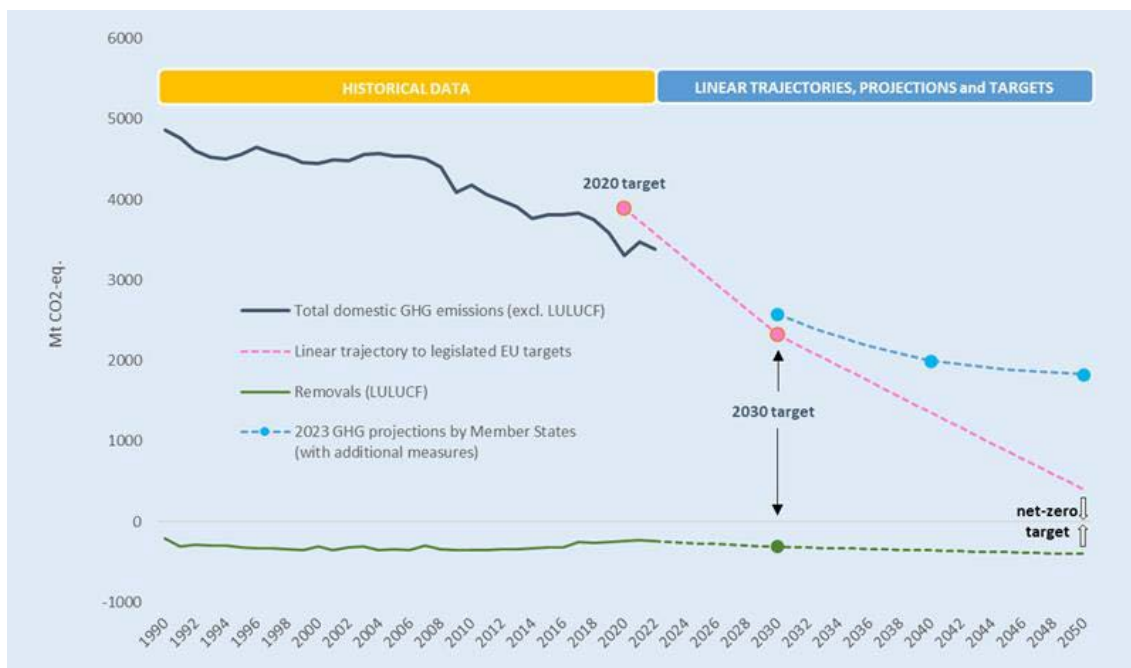
As the acts of the «Fit for 55» package were adopted, the following targets were eventually [set](#): by 2030, 40% of the energy produced should come from renewable energy sources (the previous target was 32%); reduction of the share of primary and final energy consumption to 39-41% and 36-37%, respectively; carbon emissions from new cars should be reduced by 55% compared to 2021, and from 2035, the sale of cars with internal combustion engines will stop in the EU; starting from 2023, the aviation and shipping sectors will be involved in the EU's expanded emissions trading scheme and a transitional three-year phase of CBAM implementation will begin, which will apply to imports of steel, fertilizers, aluminum, cement and electricity, with full implementation expected in 2026.

In October 2023, the European Commission published the first technical assessment of progress towards the climate neutrality and adaptation goals based on the results of biennial reporting. The conclusions of this assessment were published as part of the [2023 Climate Action Progress Report](#), in a separate [Working Document on national progress in implementing adaptation](#), and in a [Working Document on progress towards Energy Union goals](#) and climate action, which is part of the [2023 State of the Union report](#).

It is estimated that the EU has made significant progress in adapting to climate change as well as in implementing the clean energy transition. Renewables overtook fossil fuels as the main source of energy in the EU for the first time in 2020 (38% of electricity compared to 37% for fossil fuels), 9 EU Member States have phased out coal, 13 others have committed to setting a date for its phase-out, and 4 more are considering possible dates. Compared to 2019, greenhouse gas emissions in the EU27 fell by almost 10% in 2020. The unprecedented drop in emissions was due to the COVID-19 pandemic, which led to an overall reduction in emissions of up to 31% compared to 1990. Primary energy consumption decreased by 1.9% compared to 2019, and final energy

consumption by 0.6%. However, both figures exceed the trajectory required to meet the EU's 2020 and 2030 targets. In addition, progress has been uneven across countries and regions. The assessment of progress at the national level shows that EU Member States need to take more action to manage, finance, assess risks and apply natural solutions, as well as monitor, report and evaluate adaptation measures, in order to reduce social and economic vulnerability to growing climate threats. Given the progress made by the EU, the European Commission [noted](#) that although there are a number of encouraging trends, more efforts will be needed to achieve the goal of reducing greenhouse gas emissions by 55% by 2030 and climate neutrality by 2050.

Total GHG emissions in the EU (excluding international aviation) and removals (1990-2022), linear trajectories towards EU targets and emission projections put forward in the draft updated NECPs (2022-2050)



Source: [Working document on progress towards Energy Union goals and climate action](#)

By June 30, 2023, EU Member States had to submit their draft updated NECPs, taking into account the EGD strategic objectives and the European Commission's [recommendations](#). Based on the results of the assessment of the draft updated NECPs, the European Commission published a separate [communiqué](#) demonstrating the results of the assessment of their compliance with the European goals. It should be noted that 6 out of 27 EU countries did not submit draft updated NECPs by the deadline. For these countries, as well as for all others, the European Commission [provided](#) recommendations separately. The draft NECPs (submitted in 2018), final NECPs (submitted in 2019) and their assessment by the European Commission, as well as the draft updated NECPs (in 2023) of the EU Member States are [published](#) on the European Commission's website.

Despite significant emissions reductions in recent years, greenhouse gas emissions are projected to be 51% below 1990 levels in 2030, which is 4% less than the 55% target set by the European Climate Law. To achieve this goal, emissions reductions by 2030 [must](#) be almost three times faster than the average annual reduction achieved over the past decade.

The assessment results also showed that the level of ambition set by EU Member States in the draft updated NECPs will allow to achieve a share of RES in gross final energy consumption in the EU of 38.6-39.3% in 2030. This is significantly higher than the 32% previously set in Directive (EC) 2018/2001 on the promotion of the use of energy from renewable sources ([RED II](#)); however,

it is less than the mandatory share of 42.5% (with a collective aspiration to reach the target of 45%) set in the [updated version](#) of this Directive (RED III).

Emissions from domestic transport (excluding aviation), buildings, agriculture, small industry, and waste are expected to be reduced by 40% by 2030 compared to 2005. The combination of available forecasts shows that emissions will decrease by 33.8%, which is 6.2% less than the EU target. Only Croatia, Greece, Hungary, Luxembourg, Portugal, Slovenia, Spain, and Sweden are not expected to fall short of their national emission reduction targets in these areas. A limited number of EU Member States (Cyprus, Czech Republic, Estonia, France, Hungary, Lithuania and Romania) are considering a new emissions trading system (ETS2) in their plans and forecasting scenarios, covering fuels used for combustion in buildings and road transport sectors.

Aggregation of LULUCF projections showed that overall net removals would still lead to a gap between actual reductions and the target of -40 to -50 million tons of CO₂ eq. compared to the 2030 target of -310 million tons of CO₂ eq. Particular risks exist for the Czech Republic, Estonia, Finland and France, where there is a general downward trend in net carbon removals by 2025. In contrast, Lithuania's plan provides a detailed quantitative assessment of the impact of various policies and measures on climate mitigation, while Denmark, Spain, the Netherlands, and Germany plan to implement measures to rewet or restore peatlands, which play a major role in absorbing greenhouse gas emissions. Eight countries (Belgium, the Czech Republic, Denmark, France, Greece, Italy, Lithuania, and the Netherlands) have provided forecasts of CO₂ to be captured starting in 2025 (a total of 15.2 million tons per year). In total, EU countries plan to capture 34.1 million tons annually by 2030, of which 5.1 million tons will come from biological sources.

Under the Fit for 55 package and the REPowerEU plan, the EU has set itself the goal of reducing energy consumption by 11.7% by 2030 compared to the EU 2020 baseline projections. Compared to this new level of ambition, in 2021, EU energy consumption was 31.9% higher than the 2030 indicative target for primary energy consumption and 26.9% higher than the 2030 binding target for final energy consumption. This means that final energy consumption in the EU is projected to reach 814.3 Mtoe in 2030, which corresponds to a 5.8% reduction. This is lower than the previous reduction target (Energy Efficiency Directive 2018) of 956 Mtoe, but higher than the current target of 763 Mtoe, which corresponds to an 11.7% reduction (Energy Efficiency Directive 2023). Among the EU Member States, Germany and the Netherlands offer a sufficient level of ambition in terms of primary energy consumption in the updated NECPs, Estonia and Romania – in terms of final energy consumption, and the Czech Republic, France, Italy, and Lithuania – in terms of both indicators.

In the draft updated NECPs, most EU Member States do not provide an overview of expected total investments. Cyprus, Spain, France, Hungary, Italy, Lithuania, Luxembourg, the Netherlands, and Romania have included a partial assessment of investment needs. However, no EU country has provided an assessment of the gap between investment needs and available sources of financing. Little attention is paid to investment needs in the agricultural sector. Nevertheless, several countries report investment needs in the energy, construction, industrial and transport sectors.

The draft updated NECPs confirm that all EU countries have begun to phase out the use of solid fossil fuels for energy production. Some EU Member States no longer use coal, while others have committed to phase out by 2030. However, Croatia, Germany, and Romania have less ambitious goals and plan to use solid fossil fuels even after 2030. Several EU countries have identified plans to phase out oil use and described the likely consequences of this process for energy security and oil infrastructure.

The European Commission’s conclusions also noted that it is crucial that EU Member States fully reflect in their final updated NECPs the reforms and investments required to implement them. The NECP should be an instrument that allows to explore ways to improve the regulatory environment for attracting private investment, as well as to determine how to effectively use public funds (national sources and EU funding) to attract private investment. This includes how states will use the Recovery and Resilience Facility, Cohesion Policy (including the Just Transition Fund), the Common Agricultural Policy, and the Innovation and Modernization Funds. Estonia and Italy have good cases in terms of attracting private investment, with measures to support the development of venture capital, as well as Luxembourg, which plans to use public finance to mobilize private investment, and Finland’s test platforms and innovation ecosystems.

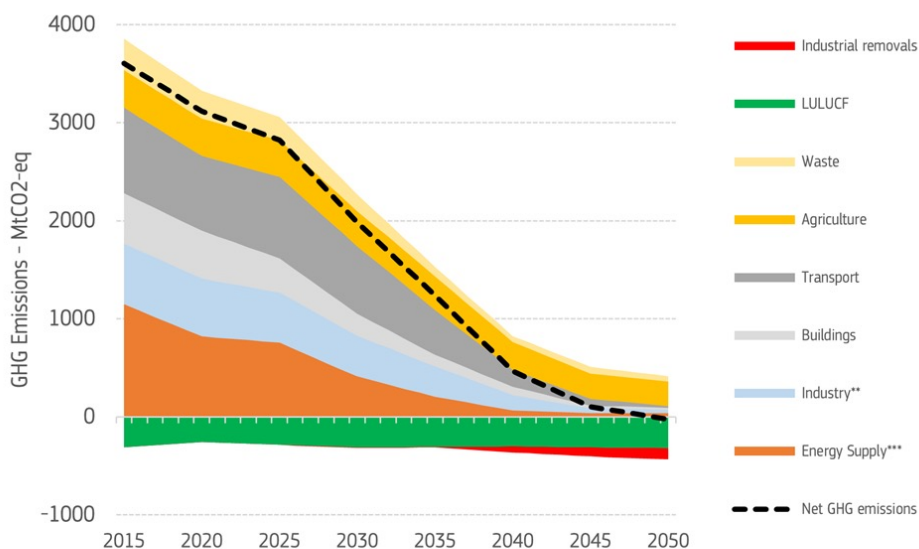
It is [noted](#) that additional efforts and measures are most needed in areas that still need significant emission reductions (e.g., buildings and transportation), where progress has been too slow (agriculture), or where there has been a deteriorating trend in recent years, as in the case of carbon sequestration (LULUCF sector).

Taking into account the results of the [pan-European assessment](#) and specific [recommendations](#) provided by the European Commission under the European Climate Law to each EU country in December 2023 - early 2024, EU Member States must finalize the drafts of the updated NECPs and submit their final versions by June 30, 2024.

In summary, the European Commission’s assessment shows that EU Member States are on the right track and have exceeded the targets set in 2018 in a number of key indicators. However, gaps remain in the ambition to achieve the recently agreed enhanced goals and targets for 2030, which is expected given the short time between the finalization of the Fit for 55 package and the submission of draft updated NECPs.

In accordance with the European Climate Law, in February 2024, the European Commission [presented](#) its assessment of the EU’s 2040 climate target and recommended a 90% reduction in net EU greenhouse gas emissions by 2040 compared to 1990.

Projected trends in GHG emissions in various EU industries, taking into account the 2040 target



*Source: PRIMES, GAINS, GLOBIOM
 **Excluding non-BECCS industrial removals
 ***Including Bioenergy with carbon capture and storage (BECCS)

Source: [European Commission](#)

The European Parliament and the EU Member States will discuss this goal, and the European Commission will put forward relevant legislative proposals.

2.3. Recommendations

Government of Ukraine (Ministry of Economy):

- Finalize the draft NECP taking into account LULUCF modeling and the recommendations of the European Commission, which it made during the evaluation of the draft updated NECPs of EU countries and which related to strengthening emission reduction measures in transport, buildings, agriculture, small industry, waste and LULUCF; creating a favorable business environment with simplified regulations, competitiveness and innovative solutions for scaling up clean technologies; reliable assessment of investment needs, supported by concrete measures to attract private financing; integration of biodiversity, nature restoration and LULUCF to increase natural carbon sequestration; systematic policy of eliminating subsidies for fossil fuels, etc.
- When finalizing the NECP, take into account the successful cases of EU countries in certain aspects of state climate policy development, for example the experience of Finland, Italy, Portugal in developing plans to ensure diversified access to gas or low-carbon energy sources; approaches to mobilizing private investment in Estonia, Italy, Luxembourg, and Finland, including through the use of public finance, test platforms, and innovations; measures to rewet or restore peatlands planned by Denmark, Spain, the Netherlands, and Germany, etc.

Government of Ukraine (Ministry of Environmental Protection):

- When supporting the draft law «On the Basic Principles of State Climate Policy», include in its provisions a number of strategic documents (LEPs, the Strategy for the Formulation and Implementation of the State Climate Change Policy for the period up to 2035, the action plan for the implementation of Ukraine's climate policy within the framework of participation in the Global Methane Pledge) that are directly related to climate policy, determine their place in the climate architecture and/or consistency with other strategic documents, the development of which is envisaged by the draft law.
- It would also be advisable to add a provision providing for the approval of the procedures for the development of the Long-Term Strategy and the Nationally Determined Contribution, as well as to include a requirement that the development of procedures for the preparation of strategic documents should take into account the provisions of Regulation (EU) 2018/1999.
- Mechanisms for financial support of state aid and support for the implementation of measures for «green» development and climate change mitigation and/or adaptation should be developed, including the use of trust funds, certain types of taxes and state budget revenues, including revenues from greenhouse gas emissions trading.
- Introduce an approach that would provide for inter-regional coordination of climate and energy goals so that the total of measures taken by all regions would have a sufficient effect to achieve national goals.
- Harmonize the reporting indicators of the Strategy for the Formulation and Implementation of the State Policy on Climate Change for the period up to 2035 with the list of benchmark indicators to be included in the integrated energy and climate reporting in accordance with the provisions of Regulation (EU) 2018/1999, identify specific quantitative indicators or provide references to strategic documents that will determine their quantitative target value.

- Harmonize the list of strategic documents envisaged by the draft Law «On the Basic Principles of State Climate Policy» with the list of strategic documents specified in the draft Strategy (in particular, this applies to sectoral, regional and local emission reduction strategies and plans).
- Add to the operational action plan of the Strategy the task of developing sectoral, regional and local strategies and plans for reducing greenhouse gas emissions and approving procedures for developing a number of strategic documents in the field of energy and climate.

Government of Ukraine

- Agree on the main long-term climate goal of achieving climate neutrality, synchronizing it with the EU goal (2050);
- Organize a system for implementing NECP policies and measures, as well as biennial integrated reporting on energy and climate progress as required by Regulation (EU) 2018/1999, including the indicators set out in Articles 17-25 and Annex IX of this Regulation.

Verkhovna Rada of Ukraine

- Adopt the Law «On the Basic Principles of State Climate Policy» by the end of 2024.

Local state (military) administrations and local self-government bodies

- At the stage of development of local greenhouse gas emission reduction plans and LEPs, a mechanism should be envisaged to harmonize the targets with the goals and objectives of regional emission reduction plans and the NECP of Ukraine.



3.1. Situation in Ukraine

Regulatory and legislative initiatives

- **On January 3, 2024**, the CMU Resolution No. 4 amended the list of underground facilities not related to the extraction of minerals, including facilities for underground storage of oil, gas and other substances and materials, in particular, the wording «A well for the injection of mine, quarry and pit water to prevent the flooding of mines, quarries and pits during the mining operations and wells for the return of associated reservoir water of oil and gas fields to the underground horizons» was replaced by «Underground structure (underground storage facility) for disposal of oil and gas production waste and associated waters».
- **On January 9, 2024**, the CMU [adopted](#) Resolution No. 68 «On Amendments to the Regulation on the Procedure for Granting Mining Allotments», which removed the provision on the possibility of granting mining allotments for the disposal of hazardous substances and production waste, wastewater discharge in exceptional cases and in compliance with special requirements and conditions for their neutralization, utilization or development of special disposal technology.
- **On January 11, 2024**, the Ministry of Environmental Protection issued [Order](#) No. 49 amending paragraph 1 of Order No. 176 of the Ministry of Environmental Protection and Natural Resources of Ukraine dated March 28, 2023 «On Approval of Model Agreements on Subsoil Use Conditions» by supplementing the list of model agreements. The Order approved:
 - model agreement on the terms of subsoil use for the purpose of geological exploration of subsoil areas of local importance;
 - model agreement on the terms of subsoil use for the purpose of geological exploration, including pilot commercial development of mineral deposits of national importance;
 - model agreement on the terms of subsoil use for the purpose of geological exploration of oil and gas subsoil, including pilot development of fields.
- **On January 30, 2024**, CMU [Resolution](#) No. 101 amended the Annex to the Regulation on Data Sets to be Disclosed in the Form of Open Data. It provides for the publication of the section «Information on mining allotments granted for the development of mineral deposits by underground mining».
- **On February 01, 2024**, the Verkhovna Rada Committee on Energy, Housing and Utilities [considered Draft Law](#) No. 6133 dated October 05, 2021 «On Amendments to the Law of Ukraine «On Oil and Gas» on the Determination of Critical Gas Storage Facilities and Critical Gas Transmission Pipelines» and recommended to adopt the act in the second reading together with the amendments developed by the Committee.
- **On February 07, 2024**, the [Law](#) of Ukraine No. 3577-IX «On Amendments to Certain Legislative Acts of Ukraine on Restoring Solvency of Certain State-Owned Energy Enterprises in Critical Condition» was adopted. The Law extends the moratorium on enforcement proceedings and enforcement measures against state-owned coal mining enterprises, seizure and prohibition of alienation of property in such enforcement proceedings, and the moratorium on bankruptcy proceedings against state-owned coal mining enterprises from 1 January 2024 to 1 January 2025. The moratorium on enforcement proceedings applies to the State Enterprise Eastern Mining and Processing Plant and operators of electricity distribution systems in the territories where military operations are ongoing or under occupation as of December 31, 2023.

- On February 09, 2024, the Cabinet of Ministers of Ukraine [adopted](#) Resolution No. 169 «Some Issues of Use (Sale) of a Part of the Products Remaining in the State's Ownership in Accordance with the Production Sharing Agreement (Natural Gas)», which defines the procedure for the use (sale) of the state share of the distributed natural gas. The subsidiary company Gaz Ukrainy, NJSC Naftogaz of Ukraine, has been designated as an authorized person to carry out all actions with hydrocarbons in the event of withdrawal of the state's share in profitable hydrocarbons in kind as part of the execution of the concluded hydrocarbon production sharing agreements (PSAs), in the process of selling a part of the produced products distributed under the PSA that remains in the state's ownership in kind.
- On February 20, 2024, the Ministry of Environmental Protection [launched](#) a public discussion of the draft law «On Mining Waste Management».
- On February 28, 2024, the Ministry of Environmental Protection [approved](#) Order No. 212 «On Approval of the Procedure and Conditions for Insurance of Risks in the Industrial Development of Oil and Gas Fields».
- On March 1, 2024, the State Service of Geology and Mineral Resources of Ukraine [published](#) for discussion the draft law «On Amendments to Certain Legislative Acts on Improving Legislation in the Field of Geological Exploration and Rational Use of Subsoil». The act proposes to supplement the list of grounds for suspension of a special permit for subsoil use, in particular due to failure to pay or late payment of rent for subsoil use for mining, upon submission of the State Tax Service. In addition, amendments to the Subsoil Code of Ukraine are proposed to include the payment for compensation for the cost of primary and secondary geological information in a special fund of the state budget, from which the State Service of Geology and Mineral Resources will be able to use them for the preparation and holding of auctions, maintaining catalogs and databases, processing and digitizing geological information, etc.
- On March 13, 2024, the State Service of Geology and Mineral Resources of Ukraine [published](#) for discussion a draft resolution «On Approval of the Procedure for Monitoring the Geological Environment». The draft [Procedure](#) was developed pursuant to the Law of Ukraine No. 2973-IX dated March 20, 2023 «On Amendments to Certain Legislative Acts of Ukraine on the State System of Environmental Monitoring, Information on the State of the Environment (Environmental Information) and Information Support for Environmental Management». The purpose is to introduce an assessment of the state of the geological environment and its changes under the influence of economic activity. The objects of geological environment monitoring are: mineral resources; groundwater resources; exogenous geological processes; endogenous geological processes; geochemical state of landscapes; geophysical fields.
- On March 18, 2024, the Ministry of Environmental Protection [canceled](#) Order No. 253 dated March 12, 2024 «On Approval of the Procedure and Conditions for Insurance of Risks in the Pilot and Commercial Production and Use of Gas (Methane) from Coal Fields».
- On March 18, 2024, the Verkhovna Rada of Ukraine introduced [Draft](#) Law No. 11089 «On Amendments to Certain Laws of Ukraine on the Management of Property of Coal Mining Enterprises, Military Property and Other State Property», which provides for changes to the privatization procedure for coal mining facilities, which is regulated by the provisions of the Law of Ukraine «On Peculiarities of Privatization of Coal Mining Enterprises», including the use of electronic auctions and the creation of a list of objects subject to special legislation.
- On March 21, 2024, the Verkhovna Rada Committee on Energy, Housing and Utilities considered [Draft Law](#) No. 6227 dated 27.10.2021 on amendments to the National Program for the Development of the Mineral Resources Base of Ukraine for the period up to 2030. The Committee [recommended](#) that the Main Committee on Environmental Policy and Nature Management submit the draft law to the Verkhovna Rada of Ukraine for adoption as a basis in the first reading.

- The Verkhovna Rada is preparing for the second reading of the [Draft Law](#) No. 6133 of October 05, 2021 «On Amendments to the Law of Ukraine «On Oil and Gas» regarding the definition of critical gas storage facilities and critical gas transmission pipelines».

News from the government, central executive bodies, and companies

- Thanks to the subsoil use reform implemented in 2023, the industry's revenues from auctions [reached](#) a record high of over UAH 2 billion for the year. The most popular minerals in Ukraine were sand, peat and amber. In total, the State Service of Geology and Mineral Resources issued 465 special permits in 2023, which is 68% more than in 2022.
- Roman Opimakh, Head of the State Service of Geology and Mineral Resources of Ukraine, [said](#) that the service initiated the creation of a Geological and Investment Passport of the Territorial Communities so that investors could obtain all the necessary data on deposits in the territory of a particular community. The guide will contain a description of deposits, reserves and maps of minerals, dangerous exogenous geological processes, a list of special permits and contours of license areas, available exploration reports, as well as an analysis of the State Geological Map at a scale of 1:200,000 to find objects that are promising for investment.
- The service for submitting data to the Catalog of Geological Information has been operating in the subsoil user's electronic [cabinet](#) for a month now. Information on primary and secondary geological information is subject to registration in the Catalog of Geological Information in accordance with the [Procedure](#) for the disposal of geological information approved by the Resolution of the Cabinet of Ministers of Ukraine No. 939 dated November 7, 2018. Acceptance of geological reports for state storage by the State Geological Fund is carried out after the data on primary geological information is entered into the Catalog. Subsoil users have already submitted reports on 56 units of primary geological information. The Catalog should also include information on the creation, acquisition, transfer of ownership of geological information or granting the right to use geological information by a subsoil user who is the owner or user of such information. After the end of martial law, the Catalog data will be available on the State Geological Portal.
- On February 20, 2024, the Ministry of Energy and the Extractive Industries Transparency Initiative (EITI) Multistakeholder Group [presented](#) the national [EITI Standard Report 2022](#) (additional reporting data is available on the Extractive Industry Data [Portal](#) of Ukraine). The ninth EITI Report of Ukraine presents the results of activities of 11 extractive industries in 2022 (extraction of hard coal, natural gas and oil, iron ore, titanium, manganese, refractory clay, high-melting clay, quartz sand, construction stones, uranium ore, as well as natural gas and oil transportation). Uranium ore was added to the scope of the EITI Report for the first time.
- The CMU [approved](#) the Ukraine Plan for the EU's Ukraine Facility support program, which, among other things, [provides](#) for several reforms for the critical materials management sector:
 - Improving planning and ensuring optimal conditions for attracting strategic investors (defining the terms «strategic» and «critical» raw materials at the legislative level, conducting regular methodological risk assessment of the security of its supply, updating the priorities of the National Program for the Development of Ukraine's Mineral Resources Base until 2030, adopting the relevant law, strengthening the institutional capacity of the State Service of Geology and Mineral Resources to participate in the implementation of the EU Regulation on Critical Raw Materials);
 - Improvement of administrative procedures (formation of a portfolio of investment projects, launch of international PSA tenders with transparency, and digitalization of access to geoinformation and services of the regulator);

- Use of modern extraction technologies and integration of Ukraine into modern downstream value chains (approval and publication of a report on the assessment of the legislative introduction of mandatory environmental, social and governance (ESG) reporting for the extractive industry with recommendations on overcoming existing legal barriers).

The impact of war, damage assessment and recovery

- According to the [EITI Standard Report 2022](#), the full-scale invasion of Russia resulted in a negative GDP growth rate of 15.83% in the extractive industries, with a corresponding decrease in GDP by UAH 55.6 billion in monetary terms.

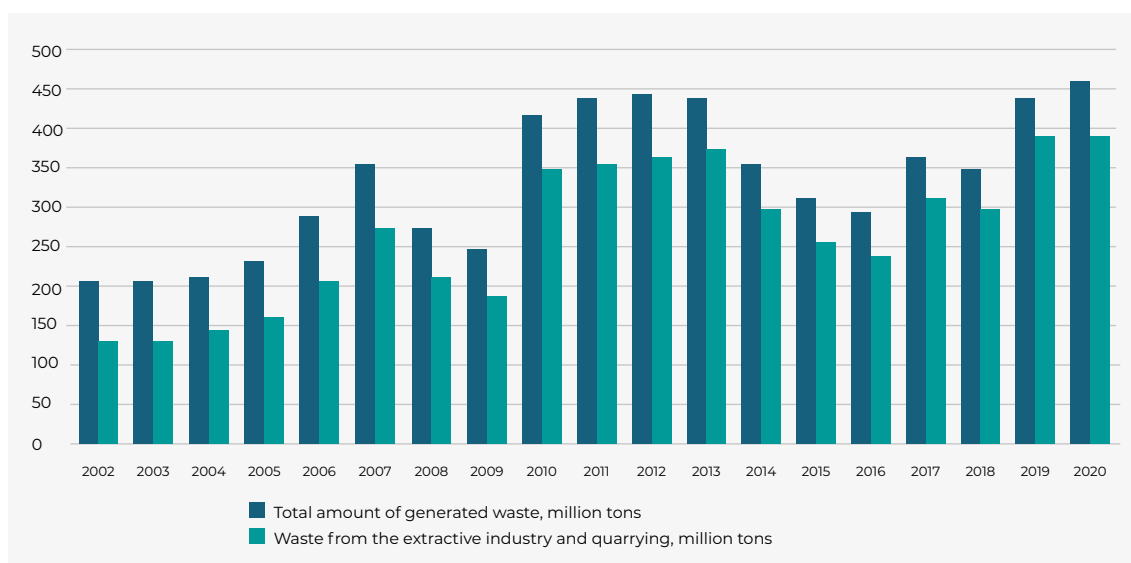
3.1.1. Extractive industry waste management

Extractive industry waste [accounts](#) for the largest share of all waste in Ukraine. They are generated in the process of mining, enrichment and processing of minerals. Some of them contain hazardous chemicals and pose a threat to the environment and human health. In Ukraine, the most common way to manage such waste is to place it in dumps, sludge pits, tailings, landfills, and other storage facilities. This method of storage takes up land, including fertile land, and is often a source of air, soil and groundwater pollution.

The large volumes of waste generated by the extractive industry are [due to](#) the fact that the amount of minerals is often only a small fraction of the total mass of the extracted material. The volumes of waste generated in Ukraine are the highest among European countries. The accumulations have been left over from the Soviet era and are growing every year, including because the state has never taken care of the issue of integrated management of extractive industry waste.

Even before the full-scale invasion of Russia, the volume of such waste in Ukraine was the highest among European countries. [According](#) to the State Statistics Service, waste from mining and quarrying amounted to 391.1 million tons in 2020, accounting for 84.6% of Ukraine's total waste. The volume of waste generated by the extractive industry has increased significantly over the past decade: in 2002-2003, it was 130 million tons per year.

Waste generation, mln tons



Source: State Statistics Service

[There are](#) 344 sites for the accumulation of extractive industry waste in Ukraine. Many of them do not meet environmental safety standards and pose a risk of contamination of large areas. They are a «legacy» from the Soviet era and continue to accumulate. More than half of the generated industrial waste, including extractive industry waste, could be recycled as mineral raw materials after preliminary sorting or separation into fractions.

They could also be sold to other sectors of the economy and reused (such as crushed stone after ore mining or cement ash after coal mining). In the EU, the level of use of secondary raw materials – metallurgical slag, ash and slag products, etc. – in the construction and cement industries [reaches](#) 90% and 45%, while in Ukraine it is 45% and 8%, respectively.

Currently, [there is no](#) unified legal act aimed at regulating the management of extractive industry waste. By signing the Association Agreement with the EU, Ukraine has committed itself to implementing a number of acquis, including Directive 2006/21/EC on the management of extractive industry waste. This document provides for measures, procedures and guidelines to prevent or reduce, as far as possible, any adverse effects on the environment, in particular water, air, soil, fauna, flora and landscape, as well as any risks to human health caused by the management of extractive industry waste.

Based on the aforementioned Directive, as well as amendments to Directive 2004/35/EC, the Ministry of Environmental Protection has prepared and [published](#) for public discussion a [draft law](#) «On the Management of Extractive Industry Waste». The draft law [proposes to](#):

- approve national terminology in the field of industrial waste in accordance with the European one, and a new classification of facilities for extractive industry waste;

The draft law stipulates that category A includes facilities for extractive industry waste, provided that they meet at least one of the following criteria:

- 1) based on the results of the risk assessment, which was carried out taking into account the existing or possible size of the facility, its location and impact on the environment, there is a threat of an accident in the event of damage or malfunction of the facility, its parts and structures, for example, in the event of a dump collapse or dam breach; or*
- 2) the facility contains hazardous waste, the volume of which exceeds the indicator established in the procedure for classifying facilities for extractive industry waste as category «A» facilities; or*
- 3) the facility contains hazardous chemicals (products) whose concentrations exceed the indicators established in the procedure for classifying facilities for mining waste as Category A facilities.*

Such facilities should be subject to risk management and control systems and potential hazards to prevent accidents, as well as stricter operating rules.

Directive 2006/21/EC classifies waste disposal facilities as Category A if:

- 1) a failure or improper operation, such as a spoil heap collapse or dam failure, could result in a major accident based on a risk assessment taking into account factors such as the present or future size, location and environmental impact of the waste management facility; or*
- 2) they contain wastes classified as hazardous in accordance with Directive 91/689/EEC that exceed a certain threshold level; or*
- 3) they contain substances or preparations classified as hazardous in accordance with Directives 67/548/EEC or 1999/45/EC that exceed a certain threshold.*

- define the responsibilities of entities in the field of extractive industry waste management, regulate the activities of an entity in the field of extractive industry during the management of extractive industry waste, operation of facilities for the management of such waste, closure and implementation of post-operational measures for such facilities;
- introduce a number of regulations on planning activities for the management of extractive industry waste and accident prevention, regulation of man-made deposits and abandoned facilities;

Operators engaged in mining activities and/or operating extractive industry waste facilities are obliged, among other things, to:

- » - develop waste management plans (a document containing technological solutions, conditions and measures for managing extractive industry waste);
- » - use the Best Available Techniques (BAT) in the management of extractive industry waste, operation and post-operational activities. The BAT requirements come into force from the date of entry into force of the guidelines on BAT in the field of extractive industry waste management, but not earlier than 4 years after the date of termination or cancellation of martial law;
- » - conduct a geological and economic assessment of mineral reserves and resources contained in extractive industry waste, except for overburden, within 12 calendar months after their accumulation in excess of the limit value specified in the waste management plan, or transfer such waste to another business entity for the purposes of geological and economic assessment of reserves.

An operator that has carried out a geological and economic assessment of mineral reserves and resources contained in extractive industry waste and ensured the approval of such reserves and testing of forecast (prospective) resources by the State Commission of Ukraine for Mineral Reserves is entitled to obtain a special subsoil use permit for the relevant man-made deposit without holding an auction and without paying a fee for granting a special subsoil use permit.

- define the requirements for the provision of administrative services, including obtaining permits in the field of waste management, as well as for state supervision (control) in the field of extractive industry waste management;
- establish financial security requirements for an operator that intends to operate or operates an extractive industry waste facility;

Financial security may be provided in the form of:

- 1) a bank guarantee provided in accordance with the procedure established by law, and/or
- 2) funds placed on an escrow account, and/or
- 3) insurance of possible expenses and other losses of the authorized body in case of violation by the operator of its obligations to take post-operational measures.

The provisions on financial security shall come into force 5 years after the date of entry into force of this Law, but not before the entry into force of the Law on Amendments to the Tax Code on the Abolition of Environmental Tax for the Disposal of Extractive Industry Waste.

- introduce liability for violations of legislation in the field of extractive industry waste management.

Thus, the draft law generally complies with the provisions of Directive 2006/21/EC, outlines the main issues of extractive industry waste management, but also leaves a wide range of issues for further regulation by bylaws. To ensure proper implementation of the European norms of extractive industry waste management, it is necessary to ensure that the bylaws are also developed in accordance with the EU acquis.

The waste management reform also provides for the establishment of separate environmental tax rates for the disposal of extractive industry waste. On January 3, 2024, the Ministry of Environmental Protection [published](#) a notice on the promulgation of the draft law «On Amendments to the Tax Code of Ukraine on Environmental Taxes on Waste Burial and Extractive Industry Waste Disposal». The act provides for amendments to the Tax Code in accordance with the new classification of waste introduced by the framework Law «On Waste Management» and the establishment of 4 basic tax rates:

- for the burial of hazardous waste;
- for the burial of non-hazardous waste;
- for the burial of hazardous waste from the mining industry;
- for the burial of non-hazardous mining waste;

as well as upward or downward adjustment factors for certain types of waste. No burial of extremely hazardous waste is planned.

3.2. International experience

3.2.1. Extractive industry waste management

Extractive industry waste accounts for the largest share of all waste not only in Ukraine but also in many other countries around the world. The extraction and processing of mineral resources generates a large amount of waste, which includes topsoil, waste rock, and tailings (after mining). Some of this waste is inert and unlikely to cause environmental damage, but other waste may contain large amounts of hazardous substances.

To prevent or reduce any negative impact on the environment due to the management of extractive industry waste, the EU adopted a separate [Directive 2006/21/EC](#), which also amended [Directive 2004/35/EC](#), providing for environmental liability in case of violation of extractive industry waste management standards.

Directive 2006/21/EC introduces measures for the safe management of waste resulting from the extraction, processing and storage of mineral resources and quarrying, obliges the operator (business entity) to obtain a permit to operate a facility for the disposal of waste from the extractive industry. The permit defines the conditions for the operation of such facilities, taking into account BAT for the management of extractive industry waste ([MWEI BREF, 2018](#)).

The European [List of Wastes](#) provides reference terminology and common coding in the classification of hazardous waste. The assignment of waste codes affects transportation, permits, decisions on the suitability of waste for recycling, or is the basis for waste statistics.

EU Member States must ensure that the operator draws up a waste management plan to minimize, treat, recover and dispose of extractive industry waste, taking into account the principles of sustainability. The objectives of the waste management plan should be:

- Preventing waste generation or reducing it and its harmfulness (including filling mining workings with waste after extraction, as far as it is technically and economically feasible and environmentally sound; returning topsoil to the site after closure of the waste disposal facility; using less hazardous substances for mineral resources processing);

- Encouraging the recovery of extraction waste through recycling, reuse or recovery of such waste, if it is environmentally sound in accordance with applicable environmental standards;
- Ensure the short- and long-term safe disposal of extractive industry waste, in particular by taking this into account during the design, management during operation and after closure of the waste disposal facility and by selecting a design that requires minimal, and if possible, no monitoring, control and management in the long term, prevents or at least minimizes any long-term adverse effects and ensures the long-term geotechnical stability of any dams or dumps.

The waste management plan must include the classification of the waste disposal facility in accordance with the criteria set out in [Annex III](#) and the characterization of the waste in accordance with [Annex II](#) of the Directive. For category A waste disposal facilities, except for those waste disposal facilities falling within the scope of Directive 96/82/EC, each operator, before commencing operation, must develop a policy for the prevention of major accidents for the management of extractive industry waste and put in place a safety management system, as well as put in place an internal emergency plan.

Directive 2006/21/EC sets out the procedure for applying for a permit to operate a waste disposal facility, public participation in the permitting process, standards for the construction and management of waste disposal facilities, and procedures for closing such facilities.

3.3. Recommendations

Verkhovna Rada of Ukraine:

- Ensure the consideration and adoption of the draft law «On Extractive Industry Waste Management» by 2024, and ensure that the adopted law complies with the provisions of Directive 2006/21/EC.

Government of Ukraine (Ministry of Environmental Protection):

- Include in the draft law «On Extractive Industry Waste Management» specific thresholds for determining the procedure for classifying extractive industry waste facilities as Category A facilities, based on the provisions of Directives 91/689/EEC, 67/548/EEC and 1999/45/EC;
- Establish a system of accounting and inventory of accumulated extractive industry waste in the regions, establish their ownership (special attention should be paid to industrial waste facilities whose operator is unknown);
- Start work on the creation of a Register of Extractive Industry Waste Operators, form an organized database of industrial waste with the definition of its volumes, chemical composition, toxicity and harmfulness, risks of accidents, etc., identify man-made facilities whose activities may provoke a man-made emergency;
- Formulate a state policy aimed at stimulating the use of extractive industry waste as a secondary resource or its further utilization/processing, removal through the use of appropriate technologies, including innovative ones;
- Ensure the translation and approval of BAT in the field of extractive industry waste management (MWEI BREF, 2018), remove the wording on the advisory nature of BAT guidelines from part 6 of Article 5 of the draft law «On Extractive Industry Waste Management», since part 1(3) of Article 23 provides for the obligation of the operator to use BAT;
- Clarify the norms on radioactive extractive industry waste in the draft law «On Extractive Industry Waste Management», in particular, the procedure for determining such waste as radioactive, subjects and methods of such determination.

Government of Ukraine (Ministry of Finance, Ministry of Environmental Protection):

- Develop a mechanism for transferring and using financial support funds to authorized state bodies in case of failure of the operator of the extractive industry waste facility to implement post-operational measures (post-closure maintenance, land reclamation, control and monitoring) and to determine the procedure for implementation of relevant measures by the state.

Government of Ukraine (Ministry of Environmental Protection, other relevant central executive bodies):

- Ensure that the bylaws to the draft law «On Extractive Industry Waste Management» are developed in accordance with the EU acquis and ensure proper implementation of European law.

Operators of extractive industry waste facilities:

- When planning extractive industry waste management activities, take into account the [BAT](#) guidelines and the information in the best practice [guidance document](#) on extractive industry waste management plans.

DiXi Group

+38 044 253 66 94

вул. Інститутська 18 а, офіс 2

author@dixigroup.org

dixigroup.org

