



SUSTAINABLE DEVELOPMENT
GOALS IN BELARUS

PUBLIC REVIEW OF THE IMPLEMENTATION
OF SUSTAINABLE DEVELOPMENT GOAL 13

**TAKE URGENT ACTION
TO COMBAT
CLIMATE CHANGE
AND ITS IMPACTS
IN THE REPUBLIC
OF BELARUS**



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Terms and abbreviations

SMR	–	Secondary material resources
RES	–	Renewable energy sources
LULUCF	–	Land use, land-use change, and forestry
IPCC	–	Intergovernmental Panel on Climate Change established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Program (UNEP) and then endorsed by the UN General Assembly
Mainstreaming	–	Activities aimed at making specific ideas or actions (e.g., climate change mitigation and adaptation) generally accepted and dominant in society so that they become a «normal practice».
NSSD-2035	–	National Strategy for Sustainable Development of the Republic of Belarus until 2035
NDC	–	Nationally determined contribution – a state's official document submitted to the UNFCCC Secretariat, stating commitments on combating climate change (reduction of GHG emissions)
SPNA	–	Specially Protected Natural Area
UNFCCC	–	The United Nations Framework Convention on Climate Change
FER	–	Fuel and energy resources
Covenant of Mayors	–	Covenant of Mayors for Climate and Energy
CCPI	–	Climate Change Performance Index



Introduction

According to the Intergovernmental Panel on Climate Change (IPCC)¹ reports, human activities have been scientifically proven to be the main cause of current global warming. The use of fossil fuels such as oil, coal, and gas, as well as deforestation, drainage of wetlands, and degradation of natural ecosystems have led to a significant increase in carbon dioxide and other greenhouse gases in the earth's atmosphere, which prevent solar radiation from Earth being reflected back into space. Higher levels of greenhouse gases in the atmosphere have led to higher air temperature and sea level, decreased the area of ice in the polar regions and the oxygen content in the ocean, and increased the frequency of droughts and extreme events.

The consequences of climate change are also common for the Republic of Belarus. According to the state institution Republican Center for Hydrometeorology, Radioactive Pollution Control and Environmental Monitoring (Belgidromet), the average annual temperature in Belarus has been rising by an average of 0.6 degrees per 10 years from the late 1970s to the present time. Almost all years from 2010 to 2021 were markedly warmer than the country's climate norm².

Global climate change has not only increased the average annual temperature in Belarus by 1.4 degrees from 1989 to 2020³ but has also led to phenomena uncommon

¹ IPCC website: <https://www.ipcc.ch/languages-2/russian/>

² BelTA news based on Belgidromet materials: <https://www.belta.by/comments/view/pogoda-i-klimat-kak-ih-izmenenie-vlijaet-na-selskoe-hozjajstvo-belarusi-8319/>

³ <https://pravo.by/document/?guid=3871&p0=C22100099>

in the past – tornadoes, hurricanes, and extreme precipitation events, which have increased in frequency⁴.

Climate change also significantly impacts the water resources of Belarus. At the local level, it can lead to changes in ground and surface water levels (e.g., drying up of wells, extinction of small rivers); forest and peat fires; flooding of streets and houses during heavy precipitation events; shifting habitats of plants and animals; spread of new pests and diseases; health risks during dangerous weather events, weather extremes, and heat waves.

Among the positive effects of climate change in Belarus are the reduced consumption of fuel and energy resources (FER) during the heating season, better agroclimatic conditions for heat-loving crops, and new prospects for tourism development.

The Kyoto Protocol to the UN Framework Convention on Climate Change (UNFCCC) (1997) and the Paris Agreement (2015) – the global agreements to combat climate change to which the Republic of Belarus is a party – were adopted in response to the climate problem at the international level. The signatories to the Paris Agreement have set a goal to keep the temperature rise within 1.5 – 2 °C until the end of the century to prevent catastrophic consequences for the economy, nature, and humanity. In September 2015, the UN Member States adopted the 2030 Agenda for Sustainable Development (2030 Agenda). The 17 Sustainable Development Goals (SDGs) and 169 subordinate targets to be achieved by 2030 are an integral part of the 2030 Agenda.

The Republic of Belarus is active in implementing the 2030 Agenda at the state level, in particular, through establishing an institutional

structure, capacity building, developing and tracking national SDG indicators, reporting, and other measures. On February 04, 2020, taking into account the 2030 Agenda, the Government of the Republic of Belarus adopted an updated National Strategy for Sustainable Development of the Republic of Belarus until 2035.

This review includes an assessment of activities in the Republic of Belarus to achieve SDG 13 «Take urgent action to combat climate change and its impacts» (SDG 13).

Section 1 of the review examines the SDG 13 targets, compares the Republic of Belarus national indicators in achieving SDG 13 with a set of international indicators, analyzes how the indicators reflect the most relevant aspects of climate change for Belarus, such as the impact of climate change on the most weather-dependent and vulnerable economic sectors (agriculture and forestry, healthcare, access to water resources, energy and transport), adaptation to slow climate change (e.g., rise in mean annual temperature, change in precipitation patterns, shift in climate patterns, etc.), and the impact of climate change on the environment.

Section 2 presents an assessment of the framework conditions for implementing SDG 13, in particular the participation of Belarus in global climate agreements, international cooperation on climate change, related legislative and policy documents, institutional cooperation, and the role of public associations. Documents defining the policies and measures of the Republic of Belarus to combat climate change are listed in Annex 2 of this review.

Section 3 assesses the progress of the Republic of Belarus in achieving SDG 13 based on data on performing SDG 13 indicators and its contribution to global greenhouse gas emissions compared with

⁴ BelTA news based on materials of the Ministry of Natural Resources and Environment Protection: <https://www.belta.by/interview/view/o-prirodnom-bogatstve-belarusi-ekologii-i-prognozah-pogody-7469/>

other countries (Ukraine, Russia, Moldova, and Germany). Particular attention is given to the issue of whether the impact of climate change on vulnerable groups is taken into account. Besides, the opinion of the Belarusian expert community on the vulnerability of different social groups, which was obtained through online questionnaires, was also analyzed.

Section 4 gives recommendations for improving progress in implementing SDG 13 as an integral part of the state's policy on mitigating greenhouse gas emissions and adapting to climate change. The recommendations are grouped into three areas:

- ➔ improving climate change mitigation and adaptation policies;
- ➔ recommendations on strengthening the capacity of non-governmental organizations (NGOs) to achieve SDG 13;
- ➔ improving the adaptation capacity of vulnerable populations.

The review was based on analyzing publicly available information on climate change mitigation and adaptation activities in Belarus. In addition, to assess the relevance of SDG 13, a survey was conducted from May to July 2022 among representatives of NGOs, individual experts, former and current employees of research organizations – a total of 30 participants. Survey participants from the environmental, education, sustainable development, mobility and social spheres shared their opinions on the extent to which climate change affects (or will affect) the social and economic development of the country and their experience of participating in measures to reduce greenhouse gas emissions and/or adapt to changing weather conditions. The opinions of survey participants are presented in the relevant sections of the review.

Survey participants also shared their experience in implementing and participating in initiatives and international projects to reduce greenhouse gas emissions and/or adapt to climate change. A list of international projects on climate change implemented in Belarus in 2006-2022 was based on the survey results and additional research and is presented in Annex 1 below. NGOs' practical experience in implementing and participating in initiatives and projects aimed at reducing greenhouse gas emissions and/or adaptation to climate change is presented in this review as case studies «NGO contribution to achieving SDG 13». This experience, in our opinion, is innovative for Belarus and can be recommended for further multiplication.



1. SDG 13 "Take urgent action to combat climate change and its impacts"

SDG 13 «Take urgent action on climate change and its impacts» promotes countries' resilience and adaptive capacity to climate change through improved national strategies, policies, and planning. SDG 13 has two main areas of action:

1) *mitigation* or prevention of the negative anthropogenic climate change, including reduction of greenhouse gas emissions and increase of greenhouse gas adsorption from the atmosphere by natural ecosystems or using carbon capture technologies (the Russian language often uses the expression softening of climate change instead of mitigation);

2) *adaptation* or adjustment to new climatic conditions to reduce damage and maximize the benefits of climate change.

In addition to strategic planning and policy, SDG 13 involves improving education, awareness, and capacity building.

SDG 13 involves achieving the following targets:

→ 13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries;

→ 13.2 Integrate climate change measures into national policies, strategies, and planning;

→ 13.3 Improve education, awareness-raising, and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning;

→ 13.a Implement the commitment undertaken by developed-country parties to the UNFCCC to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible;

→ 13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in the least developed countries and small island developing States, including focusing on women, youth, and local and marginalized communities.

The system of global indicators for achieving the SDGs and targets of the 2030 Agenda for Sustainable Development is available on the UN website⁵. For each of the listed SDG 13 targets, the Republic of Belarus selected indicators⁶, most of which correspond to the global SDG 13 indicators proposed by the UN. The global and Belarussian SDG 13 indicators are listed in Table 1 below.

⁵ A list of SDG 13 global indicators: https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202022%20refinement_Rus.pdf and a review of the implementation of the 2030 Agenda for Sustainable Development targets: <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N17/207/66/PDF/N1720766.pdf?OpenElement>

⁶ Source: website of the National Statistical Committee of the Republic of Belarus, National List of Sustainable Development Goals Indicators https://www.belstat.gov.by/ofitsialnaya-statistika/SDG/Naz_perechen_pokas_SDG/tsel-13/

Table 1: List of SDG 13 indicators defined at the global level and in the Republic of Belarus

INDICATORS DEFINED AT THE GLOBAL LEVEL	INDICATORS DEFINED IN THE REPUBLIC OF BELARUS	MITIGATION \ ADAPTATION
Target 13.1 «Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries»		
13.1.1. Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population	13.1.1.1. Number of deaths due to emergencies	Adaptation
	13.1.1.2. Number of injured and sick people due to emergencies	Adaptation
	13.1.1.3. Number of temporarily resettled and evacuated people due to emergencies	Adaptation
13.1.2. Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030	13.1.2. Availability of national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030	Adaptation
13.1.3. Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies	13.1.3. Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies	Adaptation
Target 13.2 «Integrate climate change measures into national policies, strategies, and planning»		
13.2.1. Number of countries with nationally determined contributions, long-term strategies, national adaptation plans and adaptation communications	13.2.1.1. An integrated policy, strategy or plan that enhances the national capacity to adapt to the adverse effects of climate change, to prevent climate change and to reduce greenhouse gas emissions	Mitigation + Adaptation

INDICATORS DEFINED AT THE GLOBAL LEVEL	INDICATORS DEFINED IN THE REPUBLIC OF BELARUS	MITIGATION \ ADAPTATION
13.2.2. Total greenhouse gas emissions per year	13.2.2. Total greenhouse gas emissions per year	Mitigation
Target 13.3 «Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning»		
13.3.1. Extent to which i) global citizenship education and ii) education for sustainable development are mainstreamed in a) national education policies; b) curricula; c) teacher education; and d) student assessment	13.3.1. Extent to which i) global citizenship education and ii) education for sustainable development are mainstreamed in a) national education policies; b) curricula; c) teacher education; and d) student assessment	Mitigation + Adaptation
13.a.1. Amounts provided and mobilized in United States dollars per year in relation to the continued existing collective mobilization goal of the \$100 billion commitment through to 2025	Not relevant for the Republic of Belarus	—
13.b.1. Number of the least developed countries and small island developing States with nationally determined contributions, long-term strategies, national adaptation plans and adaptation communications	Not relevant for the Republic of Belarus	—

The last two SDG 13 indicators (13.a.1. and 13.b.1.) were recognized as irrelevant for the Republic of Belarus and remained without national indicators.

In contrast to the approved SDG 13 indicators and reports to international UN agencies, legislation and state regulation at the national level of the Republic of Belarus pay much more attention to mitigation, such as the reduction of greenhouse gas emissions by improving energy

and resource efficiency, environmental regulations and pollution limits, rather than to adaptation, which has been less studied and tested in the country so far. This is primarily due to the direct economic benefits derived from energy-saving measures for which state funding is available.

We want to note that the SDG 13 indicators approved in the Republic of Belarus do not practically reflect the impact of climate change on the most weather-dependent and vulnerable sectors, such as agriculture and

forestry, healthcare, access to water resources, energy, and transport. The main focus of climate change adaptation indicators is on the consequences of emergencies and disaster risk reduction (i.e., on critical events); no attention is paid to adaptation to the so-called slow (or chronic) climate change (such as rising average annual temperature, changes in precipitation patterns, shifting ecosystems from south to north, etc.), which are nevertheless obvious and have significant consequences for society and the environment in Belarus.

For comparison, the EU member states track the achievement of SDG 13 by the following indicators⁷:

- 13.10. *Greenhouse gas emissions;*
- 13.21. *Greenhouse gas emissions from Land Use, Land-Use Change, and Forestry (LULUCF);*
- 13.40. *Climate-related economic losses;*
- 13.50. *Contribution to the \$100 billion commitment for climate-related costs;*
- 13.60. *Population covered by the Covenant of Mayors for Climate and Energy;*

→ 07.40. *Share of renewable energy in gross final energy consumption by sector;*

→ 12.30. *Average CO₂ emissions per kilometer from new motor vehicles.*

The Statistical Office of the European Union (Eurostat) presents data on the EU SDGs on its website in different formats, allowing for clear visualization, comparison, and evaluation of progress by each goal⁸ so that all stakeholders can quickly identify bottlenecks and priorities for further work⁹. In the Republic of Belarus, in contrast, the general approach is to emphasize the indicators for which there are significant achievements¹⁰ and to veil those where progress is insufficient¹¹. This prevents a multilateral discussion of the situation and the search for effective and acceptable solutions from different stakeholders' points of view.

The Republic of Belarus uses only the first of the seven SDG 13 indicators known in the EU (13.10). However, data for the second and the last three indicators (13.21, 13.60, 07.40, and 12.30) are available in Belarus. Data on economic losses in different sectors (indicator 13.40) is not tracked and published in the Republic of Belarus. World Bank experts carried out a one-time damage assessment in 2005 and showed the country's losses from the effects of climate change at more than \$90

⁷ Eurostat database on SDG 13: https://ec.europa.eu/eurostat/databrowser/explore/all/tb_eu?lang=en&subtheme=sdg.sdg_13&display=list&sort=category&extractionId=SDG_13_60 и <https://ec.europa.eu/eurostat/web/sdi/climate-action#:~:text=sdg%2013%20climate%20action&text=It%20aims%20to%20strengthen%20countries,national%20strategies%2C%20policies%20and%20planning>

⁸ See different sections on the website: <https://ec.europa.eu/eurostat/web/sdi/overview> and a booklet at: <https://ec.europa.eu/eurostat/documents/4031688/14665125/KS-06-22-017-EN-N.pdf/8febd4ca-49e4-abd3-23ca-76c48eb4b4e6?t=1653033908879>

⁹ Key Findings on the EU's SDG 13: <https://ec.europa.eu/eurostat/web/sdi/key-findings>

¹⁰ Booklet "Belarus Towards Achieving SDGs": https://sdgs.by/kcfinder/upload/files/Инфографика_Беларусь_ЦУП.pdf; a leaflet on SDG statistics: https://sdgs.by/kcfinder/upload/files/statisticheskij_buklet_sdgs.pdf, a section Program Documents on the website sdgs.by: https://sdgs.by/documents/strategicheskie_i_programmie_documenti/

¹¹ Ranking of Belarus in the Sustainable Development Report 2020 (among 166 countries): <https://thinktanks.by/publication/2020/07/08/kak-belarus-dostigaet-tsur-7-problem-8-znachitelnyh-problem-i-1-dostizhenie.html>

million annually¹². Losses are likely to have increased, given the worsening manifestations of global warming in Belarus over the last decade.

EU losses in 2020 were EUR 12.9 billion, showing an increase of 11.3% since 2015¹³. This figure reflects annual and averaged economic losses over the previous 30 years from weather and climate-related events (including storms, floods, mass movement (landslides), heat waves, cold waves, droughts, and wildfires) for a total of 27 EU member states.

In the healthcare sector, climate change leads to higher mortality and injury during heat waves and floods, as does the number of illnesses related to shortages of clean drinking water and food, the spread of new types of allergens and disease vectors. The World Health Organization (WHO) estimates that climate change will cause approximately 250,000 premature deaths worldwide between 2030 and 2050¹⁴. In Belarus, this figure may exceed the world average because the temperature growth rate in the country is higher than the global average. By 2020, the average annual temperature here has risen by 1.4 °C compared to the climatic norm.

Although even the EU's SDG 13 indicator set does not cover data on excess mortality due to more frequent and intense heat waves and other diseases exacerbated by climate change¹⁵, the EU still collects, analyzes, and uses such data for strategic planning¹⁶. Many major cities worldwide have reduced excess mortality during heat waves through information and education, improved cross-sectoral cooperation, and urban greening¹⁷.

The Russian Federation has also approved a methodology that calculates the excess mortality rate during heat waves, which makes it possible to assess the scale of the problem and take preventive measures. Similar studies are relevant to the Republic of Belarus. As shown by the survey conducted in more than 20 cities that joined the international initiative Covenant of Mayors for Climate and Energy in 2018-2020¹⁸ and the survey of the expert community on the relevance of SDG 13 in 2022¹⁹, the population of Belarus already feels the negative impact of changing weather conditions on health. However, there is almost no official information about it, and research studies are not conducted or are not covered in the media.

¹² The World Bank's assessment of the economic losses of Belarus from climate change is presented in a report available on the website of the Ministry of Natural Resources and Environment Protection: <https://minpriroda.gov.by/uploads/files/Otsenka-ujazvimosti-Belarusi-Rus.pdf>

¹³ Statistics by year: https://ec.europa.eu/eurostat/databrowser/view/sdg_13_40/default/bar?lang=en

¹⁴ Climate change & health. WHO Myanmar newsletter special: 10 September 2020

¹⁵ Data from the World Health Organization: <https://www.who.int/europe/news-room/fact-sheets/item/climate-change>

¹⁶ The EuroHEAT project resulted in a guide for developing Health and Heat Wave Action Plans: <https://www.who.int/publications/i/item/9789289071918>

¹⁷ Experience of the cities of the C40 network is presented on the website: <https://www.c40.org/what-we-do/scaling-up-climate-action/adaptation-water/the-future-we-dont-want/heat-extremes/> and in the guide for city

¹⁸ The Sustainable Energy and Climate Action Plans of many of Covenant of Mayors signatory cities and districts in RB include the results of the survey, which can be accessed at: <https://climate.ecopartnerstvo.by/ru/map>

¹⁹ An absolute majority of expert responses to the SDG 13 questionnaire (<https://forms.gle/ZMBqK7Zk2p6kF9vY8>) identified those whose health and income are more vulnerable to climate risks as social groups which are the most vulnerable to climate change.



2. Framework conditions for the implementation of SDG 13 in the Republic of Belarus: progress achieved and current challenges

2.1. International commitments of the Republic of Belarus and cooperation on climate change

The Republic of Belarus has been a Party to the United Nations Framework Convention on Climate Change (UNFCCC)²⁰ since 2000, the Kyoto Protocol²¹ since 2005, and the Paris Agreement to the UNFCCC²² since 2016. Since 2017, Belarus has approved and implemented the «Action Plan to implement the Paris Agreement to the UNFCCC»²³. The work on SDG 13 at the national level is carried out mainly within the framework of these international agreements. The country's targets for greenhouse gas emissions are the same in these two interrelated processes.

The Paris Agreement is the first-ever legally binding international treaty adopted by 196 Parties to the UN Framework Convention on Climate Change at the 21st session of the Conference of the Parties on December 12, 2015 in Paris and entered into force on November 4, 2016. Its main goal is to keep the global average temperature increase below 2 °C above pre-industrial levels, with all efforts being taken to limit the temperature increase to 1,5 °C. To achieve this goal, countries aim to move to a climate-

²⁰ Decree of the President of the Republic of Belarus of April 10, 2000, No. 177 «On Endorsement of the United Nations Framework Convention on Climate Change»

²¹ Decree of the President of the Republic of Belarus No. 370 of August 12, 2005 «On Accession of the Republic of Belarus to the Kyoto Protocol to the United Nations Framework Convention on Climate Change»

²² Decree of the President of the Republic of Belarus of September 20, 2016, No. 345 «On the Adoption of the International Treaty»

²³ Action Plan to Implement the Paris Agreement to the UN Framework Convention on Climate Change: <https://new.minpriroda.gov.by/uploads/files/Plan-meropri-jatij-po-realizatsii-PS.PDF>

neutral society by the middle of the 21st century when anthropogenic emissions of greenhouse gases will be fully offset by their absorption in natural ecosystems. Implementation of the Paris Agreement requires a comprehensive economic and social transformation of the world.

The Paris Agreement provides a five-year cycle of increasing the countries' ambitions to combat climate change. Before 2020, all participating countries sent to the UN Climate Secretariat their first Nationally Determined Contributions (NDCs) – the plans with numerical commitments to reduce emissions compared to 1990 levels.

The first commitment of the Republic of Belarus under the Paris Agreement, as shown by the first NDC submitted to the UNFCCC Secretariat, was to reduce anthropogenic greenhouse gas emissions by 28% by 2030 compared to 1990 levels, excluding land use, land-use change and forestry sector (LULUCF), i.e., to keep emissions at 96.1 million tons of CO₂ eq²⁴. However, after the collapse of the USSR, there was a significant drop in carbon emissions (about 40%) from 1990 to 2000, and greenhouse gas emissions in 2015 amounted to 89.6 million tons of CO₂ eq. Thus, the country's commitment to reducing carbon emissions compared to 1990 levels means increasing emissions (with

some retention of its rate) rather than striving for carbon neutrality.

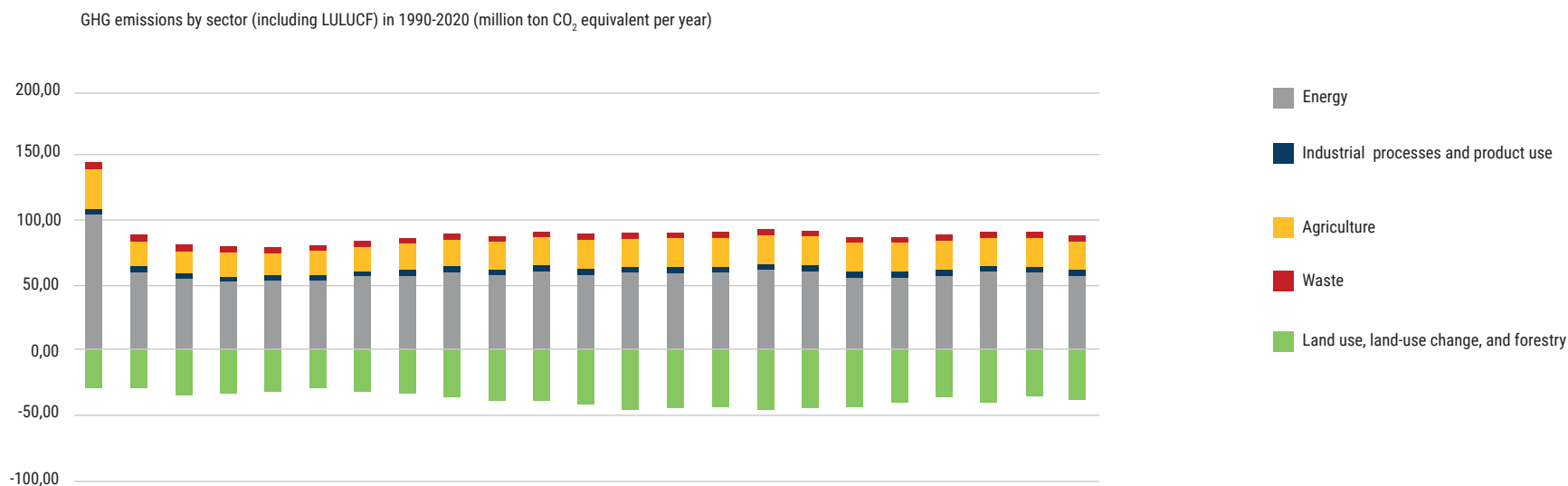
Belstat's data²⁵ on anthropogenic greenhouse gas emissions in Belarus and their absorption from 1990 to 2020, including the LULUCF sector, is shown in Figure 1 below. For a more detailed analysis of emissions by sector, please visit the web page of the UNDP-GEF project «Preparation of the Seventh National Communication on the Implementation of the UNFCCC and the Third Biennial Report of the Republic of Belarus»²⁶.

²⁴ For the obligations of RB, visit the website of the Ministry of Natural Resources and Environment Protection: <https://new.minpriroda.gov.by/ru/paris-ru/>

²⁵ For official statistics on GHG emissions in Belarus by sector and GHG type, visit the Belstat website: <https://www.belstat.gov.by/ofitsialnaya-statistika/makroekonomika-i-okruzhayushchaya-sreda/okruzhayushchaya-sreda/sovmeznaya-sistema-ekologicheskoi-informatsii2/b-izmenenie-klimata/b-3-vybrosy-parnikovyh-gazov/>

²⁶ Infographics on GHG emissions in Belarus in 2018: <http://www.ecoinv.by/aktualno/novosti/466-osnovnye-istochniki-vybrosov-i-poglotiteli-parnikovyh-gazov.html> and greenhouse effect: <http://www.ecoinv.by/aktualno/novosti/480-infografika-parnikovyj-effekt.html>

Figure 1: Changes in anthropogenic greenhouse gas emissions and GHG absorption in the Republic of Belarus from 1990 to 2020



According to the Paris Agreement, each successive NDC should strive for more ambitious international commitments of the country than those specified in the previous one. According to the second NDC²⁷, the Republic of Belarus undertakes to reduce its greenhouse gas emissions by at least 35% by 2030 from the 1990 level, including the LULUCF sector (the so-called "unconditional goal"). In the case of access to international financing facilities to implement the best available technologies for reducing greenhouse gas emissions, the Republic of Belarus commits to reduce its emissions by at least 40% by 2030 from the 1990 level, including the LULUCF sector (the so-called "conditional goal").

According to the survey, the expert community noted the signing of the Paris Agreement to the UNFCCC and the implementation of international commitments to reduce greenhouse gas emissions and adaptation to climate change as the most significant achievements and actions that the Republic of Belarus has taken toward SDG 13.

Given the rapidly shrinking window of opportunity to avert catastrophic levels of climate change, many countries, regions, and organizations have set themselves the goal of achieving carbon neutrality – a zero balance between anthropogenic emissions and carbon absorptions – as soon as

²⁷ For the Second Nationally Determined Contribution of Belarus and its current commitments, visit the UNFCCC website: https://unfccc.int/sites/default/files/NDC/2022-06/Belarus_NDC_English.pdf. To read the announcement of the Council of Ministers Resolution, visit the website of the Ministry of Natural Resources and Environment Protection: <https://minpriroda.gov.by/ru/news-ru/view/novye-objazatelstva-respubliki-belarus-v-borbe-s-izmeneniem-klimata-3887/>

possible in terms of available opportunities²⁸. Most of the 137 countries that have stated such a goal estimate 2050 as a realistic timeframe, some consider 2030 to 2040 as quite real, and two countries have already achieved climate neutrality (Bhutan and Suriname). Against this background, the formal commitments of the Republic of Belarus to reduce emissions, which de-facto assume their moderate growth, and the lack of a vision of how to achieve climate neutrality, appear to be unambitious.

In addition to the obligations of the Republic of Belarus within the framework of intergovernmental negotiations under the auspices of the United Nations, we should also mention the fairly active participation of territorial administrations in the voluntary international initiative – the Covenant of Mayors for Climate and Energy (Covenant of Mayors)²⁹. Fifty-nine Belarusian cities and districts (almost half of all 118 local authorities in the country) signed up to the Covenant of Mayors with obligations to reduce emissions by at least 30% by 2030 and to adapt to climate change. Twenty-four developed and submitted Sustainable Energy and Climate Action Plans (SECAPs) to the Covenant of Mayors Secretariat for review³⁰. Many signatories have started implementing the SECAPs, and seven have already reported the results.

Signatories of the Covenant of Mayors should choose a baseline year for calculating emission reductions between 1990 and any previous year based on the available statistics for their territory's emission inventory

(usually 2010-2016), so the cities' commitments are much more ambitious than those of the state. For example, Braslav District has developed a strategy to achieve climate neutrality by 2050³¹.

Also among the regional climate goals is the Strategy for Sustainable Development of the Mogilev Region, which reflects the general commitment to achieve climate neutrality and reduce greenhouse gas emissions by 30% by 2035 compared to the beginning of 2020³².

According to SECAP experts, a 15-20% reduction in emissions of cities and districts by 2030 compared to the chosen baseline year is quite realistic with the implementation of energy and resource efficiency measures within various government programs³³. But an additional 10-15% reduction requires efforts to find investment projects and international funding. However, it should be noted that emission inventories of CoM signatories (and the obligations to reduce them), as a rule, do not consider the local industry's total contribution (private and republican enterprises, which do not subordinate to local administrations, are usually excluded from calculations). Also, the Covenant of Mayors and UNFCCC apply different methodologies for compiling emission inventories (including factors for converting FER consumption to emissions and inaccuracies in calculations for such sectors as transport, waste, etc.).

In 2021, the Covenant of Mayors for Climate and Energy Initiative updated its commitments for the newly acceding cities to achieve climate

²⁸ For summary information on the timeframe to achieve climate neutrality by country, see the tracker Energy and Climate Intelligence Unit at: <https://www.visualcapitalist.com/sp/race-to-net-zero-carbon-neutral-goals-by-country/>. For grouping of countries by the level of commitment to achieve climate neutrality (law, regulation, statement, etc.), check the tracker at: <https://eciu.net/netzerotracker>

²⁹ International websites of the Covenant of Mayors for Climate and Energy: <https://www.covenantofmayors.eu/> и <https://www.globalcovenantofmayors.org/>, website about the Covenant of Mayors in Belarus: <https://climate.ecopartnerstvo.by/>

³⁰ The Covenant of Mayors website allows sorting performance statistics by country: <https://www.covenantofmayors.eu/about/covenant-initiative/covenant-in-figures.html>

³¹ Strategy on the website of the Braslav District Executive Committee: <https://braslav.vitebsk-region.gov.by/ru/meropriyatiya-proekta/view/strategiya-preobrazovaniya-braslava-v-klimaticheski-nejtralnyj-munitsipalitet-v-belarusi-16278/>

³² SDS on the website of the Mogilev Regional Executive Committee: <https://mogilev-region.gov.by/page/89480-strategiya-ustoychivogo-razvitiya-mogilevskoy-oblasti-na-period-do-2035-goda>

³³ See examples of activities implemented by Covenant of Mayors signatories at: <https://www.covenantofmayors.eu/plans-and-actions/good-practices.html> (with breakdown by country)

neutrality by 2050. Signatories who have already undertaken commitments are also encouraged to raise their ambition. However, none of the cities or districts have done so in Belarus.

Speaking about the international obligations of Belarus to combat climate change, the large volume and scope of support from the international community, provided as technical assistance, grants, loans, credits³⁴, and other forms of cooperation, should not be overlooked. Support was provided at different levels – both to government agencies³⁵ and operators of municipal infrastructure³⁶, as well as to businesses and civil society. The main donor partners included the European Union³⁷, the Global Environment Facility³⁸, the German Federal Government's Support Program for Belarus³⁹, the World Bank⁴⁰, the European Bank for Reconstruction and Development, the United Nations⁴¹, IRENA⁴² and others.

The main directions of international support to the Republic of Belarus are the following:

- ➔ development of legislation and assistance to Belarus in implementing international obligations on climate change;
- ➔ education and awareness;

- ➔ sustainable development at the local level;
- ➔ energy efficiency and renewable energy development;
- ➔ rehabilitation of exhausted peat deposits;
- ➔ and others.

A list of implemented international projects is given in Annex 1 below. However, a series of events in 2019-2022 threatens the continuation of work on combating climate change. First, the COVID-19 pandemic, then the social and political crisis after the elections in 2020, and finally, the outbreak of war in Ukraine in 2022 with the ensuing Western sanctions against Belarus have pushed the relevance of the climate agenda into the background.

The closure of most grant and investment programs and the negative impact of sanctions on Belarus's economy has led to an acute shortage of resources for climate protection activities. In addition, the potential for SDG 13 activities is decreasing, given the ongoing staff turnover in the relevant government agencies and local authorities; the liquidation of many public organizations working on environmental, climate, and regional development issues; and the outflow of many qualified experts abroad.

³⁴ For example, the BelSEFF Sustainable Energy Financing Program: <http://www.gisp.gov.by/ru/aktualnaya-informatsiya/2583-spisok-vozmozhnykh-vidov-proektov-v-ramkakh-programmy-belseff>

³⁵ For example, the Clima East projects: <https://europa.eu/capacity4dev/climateastpolicyproject/book/1174/print>, <https://europa.eu/capacity4dev/climateastpolicyproject/book/1174/print>, Inogate: <http://www.inogate.org/countries/3?lang=en> and many others: <https://energoeffekt.gov.by/energybel/>

³⁶ For example, CoM-DeP projects: <https://com-dep.eu/ru/> and E5P <https://e5p.eu/belarus/projects>

³⁷ Website of EU projects implemented in Belarus until 2021 (<http://euprojects.by>). For some regional EU projects in Belarus, visit the websites: <https://eu4climate.eu/belarus/>, <https://www.eu4environment.org/ru/country-profile-towards-a-green-economy-in-belarus/> and <https://eu4business.by/>. An overview of past cooperation programs between Belarus and the EU is given in the presentation: <https://thepresentation.ru/gosudarstvo/vozmozhnosti-dlya-organizatsiy-i-mestnyh-organov-vlasti-belarusi-v-ramkah-evropeyskih-programm>

³⁸ The GEF's seventh period in RB (2018-2022) provided \$5, 6 million for projects related to climate change: <https://minpriroda.gov.by/ru/news-ru/view/o-nachale-priema-proektnyx-predlozhenij-dlja-realizatsii-v-ramkax-gef-7-2409/>, including projects of the GEF Small Grants Program in RB: <http://www.sgp-gef.by/ru/projects/current-projects.html>

³⁹ Website of the Support Program for Belarus: <http://ibb-minsk.by/educational-center/support-program-belarus>

⁴⁰ World Bank projects and loans in Belarus as of early 2020: https://economy.gov.by/ru/obschaja_info_mfo-ru/

⁴¹ For UN projects on SDGs in Belarus until 2018, visit the website: https://sdgs.by/kcfinder/upload/files/SDG_UN_Projects_RUS.pdf. For UNDP projects in 2019, refer to a press release at: <https://www.undp.org/ru/belarus/press-releases/«зеленые»-проекты-проон-примут-участие-в-хв-республиканском-экологическом-форуме>

⁴² Cooperation of Belarus with IRENA: <https://www.irena.org/publications/2021/Jul/Renewables-Readiness-Assessment-Belarus>

In the current circumstances, the implementation of international obligations by Belarus to combat climate change at both the national and local levels is hindered by the availability of funding opportunities and maintaining the involvement of various stakeholders in addressing the problem.

In the survey of expert opinions, more than 70% of participants mentioned international cooperation as the most significant action of the state to achieve SDG 13, including participation in projects, voluntary initiatives, and investment programs aimed at improving infrastructure (e.g., insulation of buildings, modernization of energy sources, sewage treatment plants, industrial production, renewable energy, etc.), as well as public awareness and training of specialists.

2.2. Legislation and national strategic and sector-specific documents of the Republic of Belarus on mitigation and adaptation to climate change

Belarus has relatively well-developed legislation in environmental protection and economic and energy regulation, which served as a basis for developing policies and measures to combat climate change for many years.

Terms related to SDG 13 are mainly reflected in regulatory documents on the implementation of international commitments of the Republic of Belarus as a party to the Paris Agreement to the UNFCCC and the 2030 Agenda. National legislation instead formulates mitigation

and adaptation objectives as targets for energy conservation in all sectors of the economy, maximum permissible concentrations (MPCs) of environmental pollutants, limits on the use of natural resources, etc., without reference to quantitative indicators of carbon emissions reduction. This indicates that the fight against climate change is still perceived by society as a by-product of increasing resource efficiency and environmental protection and as international rhetoric rather than as a self-target, which has a high priority for Belarusians.

The most important strategic documents defining the policy of the Republic of Belarus in combating climate change (in addition to those that reflect the international obligations of the country under the UNFCCC and specified in section 2.1 above) include:

1. Concept of National Security of the Republic of Belarus

approved by Decree of the President of the Republic of Belarus of November 9, 2010, No. 575. The goal is to form a market of environmental services, implement environmental audits and insurance, and an effective regulatory framework for environmental security, including a system of payments for using natural resources and adequate compensation for damage caused to the environment.

2. National Strategy for Sustainable Development of the Republic of Belarus until 2035⁴³

approved by the minutes of the meeting of the Presidium of the Council of Ministers of the Republic of Belarus of February 04, 2020, No. 3. The Strategy aims at increasing the efficiency of the economy while preserving natural systems for present and future generations and reducing greenhouse gas emissions by 33.2% in 2018

⁴³ <https://economy.gov.by/uploads/files/NSUR/NSUR-2035.pdf>

and by 38.0% in 2035 (compared to 1990 levels).

One of the five priorities of the strategy includes ensuring environmental safety and the transition to sustainable production and consumption patterns (circular economy). For this purpose, Belarus plans to improve the system of natural resource management; increase the environmental sustainability and energy efficiency of settlements and the use of renewable energy sources; encourage recycling and production of goods from recycled resources, minimize waste production per unit of GDP; develop environmentally sound agriculture and forestry (including organic farming and increasing forest cover), maintain biological and landscape diversity, reduce the area of disturbed lands and ecosystems; provide consumers with water of standard quality and wastewater treatment; and reduce air emissions from stationary and mobile sources.

3. Environmental Protection Strategy of the Republic of Belarus for the Period until 2035⁴⁴ approved by Order of the Ministry of Natural Resources and Environment Protection of December 24, 2021, No. 370-OD. The strategic objectives include improving the environment by reducing the burden on it; expanding the reproduction of natural resources and using renewable resources, solving the problems associated with climate change; recultivating and rehabilitating degraded ecosystems.

4. National Strategy for the Development of the System of Specially Protected Natural Areas until January 1, 2030⁴⁵ approved by Resolution of the Council of Ministers of the Republic of Belarus of July 02, 2014 No. 649 (as amended on May 04, 2019). According

to the Strategy, the five functions of the specially protected natural areas (SPNAs) include adaptation to global climate change, including preventing adverse climatic events (flooding and floods, fires) and carbon dioxide absorption (mainly by wetlands and forest ecological systems). The mechanisms and expected results of the strategy implementation include the restoration of disturbed ecological systems of floodplain meadows and bogs through the organization of rational use of shrubs and reeds in SPNAs. On 3.5 thousand hectares of lowland bogs, it is planned to harvest about 1.5 thousand tons of dry biomass to replace fossil fuel to prevent emissions in the equivalent of 15.6 t CO₂-eq/ha/year. The strategy also provides for restoring disturbed bogs, preventing peat fires, and reducing carbon dioxide emissions.

5. Strategy of Scientific, Technical and Innovative Development in Environmental Protection and Sustainable Use of Natural Resources in 2021-2025⁴⁶ approved by the Ministry of Natural Resources and Environmental Protection on April 15, 2020. The Strategy focuses on reducing the impact on the climate, adapting to its changes and mitigating the consequences of these processes. One of the most promising areas of activities is to study the impact of climate change on water resources and develop adaptation measures and scientific methods of watering drought-prone areas, in particular, to identify surface water bodies and develop an automated information system, such as a register of surface waters of the Republic of Belarus, and to develop appropriate geoinformation systems.

For the protection of land resources, the Strategy provides for

⁴⁴ <https://minpriroda.gov.by/uploads/files/strategija-oxr.okr.sredy-do-2035g..pdf>

⁴⁵ <http://expert.by/EC/monitorings/208849.txt>

⁴⁶ <https://minpriroda.gov.by/uploads/files/Strategija-na-2021-2025-gg..pdf>

scientific support to prevent land degradation and achieve a neutral balance of land degradation, ecologization and adaptation of land use to climate change; improvement of territorial organization of agricultural landscapes; rehabilitation (restoration) of disturbed (polluted) territories.

In the field of hydrometeorology and climate change, the most promising areas of scientific activity are technical upgrades of the network of weather observations and weather forecasting; introduction of modern pollution control and monitoring systems; training in hydrometeorology and climate impact regulation; improvement of observations of climate change, mitigation of climate impact and adaptation to a changing climate.

Implementing many government and sector-specific programs for 2021-2025 provides for specific measures to reduce greenhouse gas emissions. For example, the Program of Social and Economic Development of the Republic of Belarus for this period involves reducing greenhouse gas emissions by 33% by 2025 compared to 1990 levels and the energy intensity of GDP by at least 7%, achieving savings of fuel and energy resources (FER) with energy saving measures at the level of 2.5-3 million tons of fuel equivalent by 2025.

The following state programs plan activities corresponding to SDG 13: Environmental Protection and Sustainable Use of Natural Resources, Energy Saving Program, Comfortable Housing and Enabling Environment, Belarusian Forest Program, Transport Complex Program, the State Program of Agricultural Business Development in Belarus, the

Program of Comprehensive Modernization of Energy Sector Productions, National Action Plan for Energy Efficiency until 2030, National Action Plan for Conservation and Sustainable Use of Biological Diversity for 2021-2025 and other regulatory documents. Among them, we can highlight the National Action Plan for Developing the Green Economy in the Republic of Belarus for 2021-2025⁴⁷, which integrates the activities of various government programs to achieve the SDGs in one way or another.

The following strategic regulatory documents of the Republic of Belarus provide for the adaptation to climate change:

- Strategy for Adaptation of Forestry in Belarus to Climate Change until 2050⁴⁸, National Action Plan on Adaptation of Forestry in Belarus to Climate Change until 2030, and National Action Plan to Increase Absorption by Greenhouse Gas Sinks for the Period up to 2030 (approved by the Ministry of Forestry in 2019);
- Strategy for Adaptation of Agriculture to Climate Change by 2050⁴⁹ (approved by the Ministry of Agriculture and Food and National Academy of Sciences of Belarus in 2019);
- Strategy of Water Resources Management in the Context of Climate Change for the Period up to 2030⁵⁰ (approved by the Council of Ministers of the Republic of Belarus in 2022);
- Strategy for the Conservation and Rational (Sustainable) Use of Peatlands⁵¹ (approved by the Council of Ministers of the Republic of Belarus in 2015);

⁴⁷ <https://www.minpriroda.gov.by/uploads/files/2021/nats.plan-po-razvitiju-zelenoj-ekonomiki.pdf>

⁴⁸ Strategy for Adaptation of Forestry in Belarus to Climate Change until 2050: <https://minpriroda.gov.by/uploads/files/2-Minlesxoz-Strategija-adaptatsii-l-x.pdf>

⁴⁹ Strategy for Adaptation of Agriculture of the Republic of Belarus to Climate Change by 2050: <https://minpriroda.gov.by/uploads/files/4-Minlesxozprod-Strategija-adaptatsii-s-x.pdf>

⁵⁰ Strategy of Water Resources Management in the Context of Climate Change for the Period up to 2030: <https://pravo.by/document/?guid=12551&p0=C22200091&p1=1&p5=0>

⁵¹ Overview of the Strategy for the Conservation and Rational (Sustainable) Use of Peatlands: <https://www.minpriroda.gov.by/ru/news-ru/view/novyj-zakon-ob-oxrane-bolot-pomozhet-belarusi-v-realizatsii-parizhskogo-soglashenija-3037/>

➔ National Strategy for Reducing the Risk of Emergencies in the Republic of Belarus for 2019-2030⁵² (approved by the Prime Minister in 2018).

For a complete list of documents defining the policies and measures of the Republic of Belarus in combating climate change, please refer to Annex 2 below.

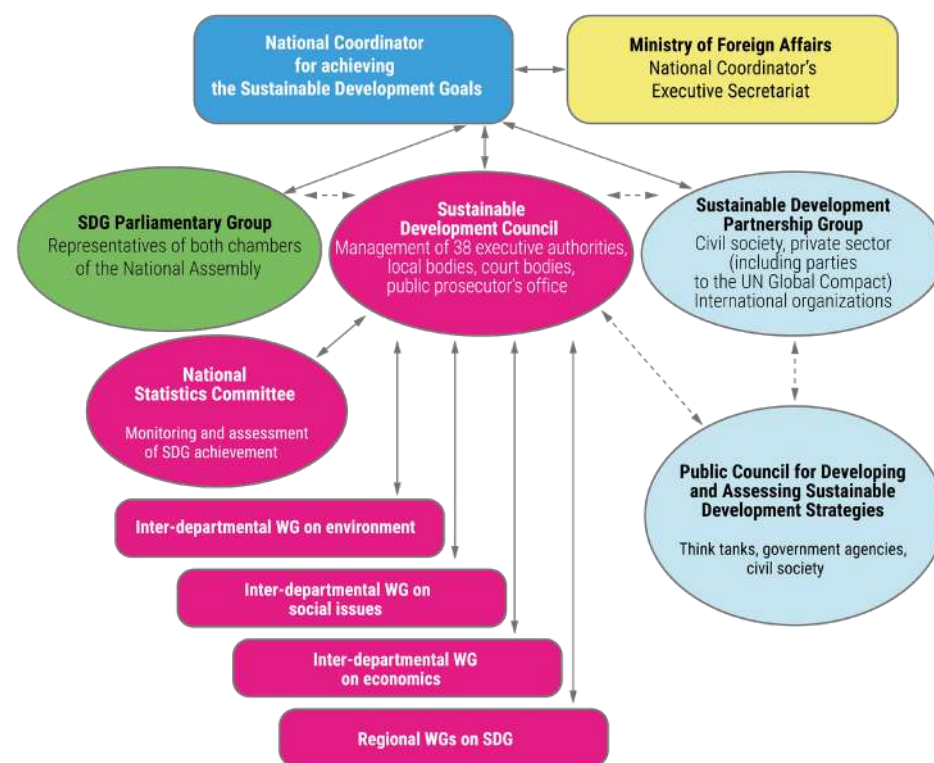
2.3. Institutional cooperation – formats for interaction in achieving SDG 13 at the national and local levels

This section will consider the institutionalization of SDG implementation processes in the Republic of Belarus, including SDG 13, and existing inter-sectoral coordination and cooperation on climate issues. The involvement of NGOs in implementing SDG 13 will be considered separately.

2.3.1. Process management architecture for achieving the SDGs in the Republic of Belarus

In the Republic of Belarus, the process management architecture for achieving the SDGs was established in 2017 (see the flowchart on the right)⁵³:

Figure 2: Process management architecture for achieving the SDGs in the Republic of Belarus



These authorities and bodies hold regular meetings or events on the SDGs, including SDG 13. The website <https://sdgs.by/> and social media publish updates about the meetings. The participation of civil society in the state's processes for achieving the SDGs is envisaged

⁵² National Strategy for Reducing the Risk of Emergencies in the Republic of Belarus for 2019-2030: <https://ucp.by/images/file/fpnk/NS1930.pdf>

⁵³ Process management architecture for achieving the SDGs in the Republic of Belarus is described on the national SDG platform at: <https://sdgs.by/architecture/>. The flowchart is sourced from the presentation of the Ministry of Foreign Affairs of the Republic of Belarus on SDGs: https://unece.org/fileadmin/DAM/hlm/Meetings/2019/05_20-24_Minsk_workshop_and_CP_presentation/Presentations_Minsk_workshop/1_01_Larisa_Belskaya.RUS.pdf

in the framework of the Sustainable Development Partnership Group. It is an open group that currently has 6 coordinators⁵⁴, including the coordinator on the environment (from Green Economy Public Association and Educational Establishment Republican Center of Ecology and Local Lore), economy (from CJSC Agency of Strategic and Economic Development), social issues (from Belarusian Red Cross Society), education (from Belarusian Pedagogical Society Public Association) and assessment and monitoring of SDG achievement (from Belarusian Women Union Public Association).

The process management architecture for achieving the SDGs in Belarus has no special working group for climate change. There is a group on the environment within the framework of the Sustainable Developmental Council, which the Ministry of Natural Resources and Environment Protection coordinates.

According to the national list of SDG indicators, three ministries are responsible for developing SDG 13 indicators: the Ministry of Emergency Situations, the Ministry of Natural Resources and Environmental Protection, and the Ministry of Education, so their involvement and interaction on this goal are assumed. Belstat is the primary data source on GHG emissions for the Ministry of Natural Resources and Environmental Protection. This data can be complemented by direct requests for additional information from other ministries and departments, including concerns and enterprises (if necessary).

As noted above, the indicators approved in the Republic of

Belarus for SDG 13 do not consider the impact of climate change on agriculture and forestry, healthcare, and other weather-dependent sectors. Consequently, the state bodies supervising them are still poorly involved in cooperation in achieving SDG 13.

2.3.2 Cross-sector coordination on climate issues

The Ministry of Natural Resources and Environmental Protection is the state body authorized to coordinate the implementation of international obligations of Belarus under the Paris Agreement to the UNFCCC, which can hardly be achieved without a dialogue with other agencies. Therefore, in 2015, the Ministry of Natural Resources and Environmental Protection established an Interagency Working Group on Climate Change, which brings together representatives of the Ministry of Natural Resources and Environmental Protection, Ministry of Foreign Affairs, Ministry of Energy, Ministry of Economy, Ministry of Finance, Ministry of Forestry, Ministry of Agriculture, as well as experts⁵⁵. The main objectives of this Working Group on Climate Change are to coordinate the activities of various government bodies and organizations to meet Belarus' obligations under the UNFCCC and the Paris Agreement, including discussion of projections and targets for reducing greenhouse gas emissions, approaches to achieving them, development of the country's position for international negotiations, etc.

The Interagency Working Group on Climate Change usually holds its meetings on the eve of the intergovernmental negotiations on

⁵⁴ Sustainable Development Partnership Group: https://sdgs.by/architecture/partnerskaya_gruppa_ustoiचेvogo_razvitiya/

⁵⁵ Order of the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus of May 20, 2015. No. 180-OD

climate change or during reporting to the UNFCCC. Twice in 2019, IPO Ecopartnership and the Interaction Foundation were invited to attend this Working Group's meetings, as they are a support structure for the Covenant of Mayors Initiative in Belarus, which actively contributes to the country's achievement of climate goals. Since 2020, information about the meetings of this Working Group is not publicly available.

Also, in 2021, when the EU introduced a carbon border adjustment mechanism (CBAM), the Government of Belarus established an interagency working group on reducing the carbon intensity of sectors of the economy⁵⁶. The Action Plan (for 2021-2022) to minimize the risks to the economy⁵⁷ associated with the planned restrictions on exports to European countries of products produced with high greenhouse gas emissions was developed and approved. First, this will affect inorganic chemicals, fertilizers, aluminum, and aluminum products⁵⁸. The Ministry of Industry, Ministry of Natural Resources and Environment Protection, Ministry of Energy, Ministry of Construction and Architecture, Belneftkhim and Bellesbumprom, regional executive committees, Minsk City Executive Committee, National Academy of Sciences of Belarus, Ministry of Economy, Ministry of Antimonopoly Regulation, OJSC Belarusian Universal Commodity Exchange and other state stakeholders and organizations are responsible for the implementation of this Action Plan.

In early 2022, the Interdepartmental Working Group for Developing Green Financing in the Republic of Belarus⁵⁹ was established at the

initiative of the Ministry of Natural Resources and Environmental Protection and the Ministry of Finance and brought together representatives of the Ministry of Industry, Ministry of Economy, Ministry of Forestry, Ministry of Labor, Department of Securities of the Ministry of Finance, the Belarusian Currency and Stock Exchange, Bellegprom, Eurasian Development Bank, BelVEB Capital LLC, and VEB.RF State Corporation and BIK Ratings LLC. The first meeting on February 15, 2022 discussed the plans to create a taxonomy of green and sustainable development projects along with their verification system, the issuance of targeted bonds by Belarusian enterprises as pilot projects, and the development of mechanisms to encourage investments in this type of bonds.

Thus, there are three interdisciplinary working groups of government bodies on climate change, but civil society representatives have little or no involvement in their operation.

International projects implemented in Belarus by governmental and non-governmental organizations have contributed to the development of intersectoral cooperation, including the achievement of SDG 13. Most projects established coordination councils with the participation of various stakeholders to exchange information and avoid duplication of activities.

⁵⁶ <https://www.minpriroda.gov.by/ru/news-ru/view/belarus-razrabatyvaet-strategiju-po-minimizatsii-posledstvij-vvedeniya-es-uglerodnogo-naloga-3751/>

⁵⁷ Action Plan approved by the First Deputy Prime Minister of the Republic of Belarus on July 20, 2021: <https://www.ecoinfo.by/wp-content/uploads/2022/04/План-мероприятий-по-минимизации-рисков-Трансграничное-Углеродное-Регулирование-ЕС.pdf>

⁵⁸ Assessment of the carbon intensity of the Belarusian economy and CBAM payments was made by BEROC: <https://beroc.org/upload/iblock/b66/b66eb26acc4f4b86e983e116268ea8dd.pdf>

⁵⁹ Source: https://www.minfin.gov.by/ru/securities_department/press_releases/doc/2022/c16fd8df58234b09.html

NGO contribution to achieving SDG 13:

Support for the Covenant of Mayors Initiative in Belarus

In 2016-2020, Ecopartnership, an international public organization, and the Interaction Foundation created a platform to engage all stakeholders and develop cross-sectoral cooperation on climate change at national and local levels as part of the Covenant of Mayors Initiative in Belarus.

The Coordination Council for the Covenant of Mayors, established at the initiative of non-profit organizations, brought together representatives of the Ministry of Natural Resources and Environmental Protection, Department of Energy Efficiency of the State Committee for Standardization, Ministry of Housing and Communal Services, Ministry of Forestry, Ministry of Agriculture and Food, EU Delegation to Belarus, EU International Technical Assistance Center in Belarus, and National Center for Emergency Response Management. This body coordinated climate activities between governmental and non-governmental organizations and other projects and initiatives on related issues in Belarus.

The Ministry of Natural Resources and Environmental Protection and the Department of Energy Efficiency of the State Committee for Standardization of the Republic of Belarus decided to take over the functions of National Coordinators of the Covenant of Mayors in Belarus and signed the relevant declarations with the Secretariat of the initiative.

Two non-profit organizations – Ecopartnership and Interaction Foundation – received the status of Covenant of Mayors support structures from the CoM International Secretariat and actively supported all participants of the Initiative in Belarus.

In cities and regions of the Covenant of Mayors, local interdepartmental working groups were established by representatives of local authorities and self-government bodies, territorial bodies of the Ministry of Natural Resources and Environmental Protection, Department of Energy Efficiency and Ministry of Emergencies, public utilities and water supply companies, forestry and administrations of specially protected natural areas, public organization, and the education sector.

<https://climate.ecopartnerstvo.by/>

As part of the regional project "EU for Climate" in Belarus, the National Coordination Council of the Project (NCCP) was established to include representatives of UNDP, the Ministry of Natural Resources and Environmental Protection, Ministry of Economy, Ministry of Energy, Ministry of Forestry, Ministry of Housing and Communal Services, Ministry of Finance, Ministry of Construction and Architecture, EU Delegation to Belarus, public organizations (Green Economy and Ecopartnership), IPM Research Center. Observers and/or external consultants could be invited (take part) to the meetings. The body's main purpose was to facilitate the implementation of the project and discuss its results with the involvement of different sectors. In March 2022, the project and its NCCP suspended its operation in Belarus for political reasons.

2.3.3 Involvement of civil society organizations in achieving SDG 13

In the context of SDG 13 implementation at the national level, civil society organizations played a variety of roles, including:

1. Monitoring compliance with government commitments and the progress achieved. Until 2022, a representative of NGO Akhova Ptushak Batskaushchyny was a member of the Interagency Working Group on Climate Change. Representatives of other NGOs were invited several times to meetings of this Working Group, where they could learn about the results and plans of various ministries and agencies. The Sustainable Development Partnership Group (it did not have a separate climate change coordinator) included representatives of environmental NGOs, one of whom was the coordinator of the environmental group.

2. Involvement of the Belarusian private sector, an important condition for achieving SDG 13, can be assessed as insufficiently active so far. The role of NGOs, in this case, was mainly to inform businesses about the need to make more ambitious voluntary commitments on climate protection and international practice and to advise businesses on possible measures to reduce their carbon footprint. The Center for Environmental Solutions was most active in these initiatives in 2016-2021. Many large companies joined the Global Compact Network in Belarus, but their activities are not focused on specific SDGs, including SDG 13. NGOs also actively initiated discussion platforms on climate change at different levels and with the participation of interested businesses.

3. Raising awareness of citizens and representatives of government authorities. In 2017-2021, Green Network Partnership, Interaction Foundation, IPO Ecopartnership, Education for Sustainable Development Association, IPO Ecoproject, Center for Environmental Solutions held a number of information campaigns (Earth Hour, Car Free Day, Energy Days, Ecologika, etc.) aimed at raising awareness on mitigation and adaptation to climate change. The work of NGOs at the local level helped inform residents about how climate change already affects their lives today and how they can contribute to the achievement of SDG 13.

NGO contribution to achieving SDG 13:

Online platform of climate threats in Minsk

The Education for Sustainable Development Association developed an online map of climate threats in Minsk in 2020 where residents could share their experiences and opinions on where they felt climate change most strongly in the city.

This tool – crowdmapping – is designed to gather the opinions of different people within the urban ecosystem (such as researchers, scientists, city residents, representatives of government, business, education, etc.).

Website visitors were encouraged to mark a place on an interactive map and assess it by various criteria in the context of climate change: air temperature, water and wind circulation, air and soil quality. The large accumulation of dots in one space helps identify problematic places in

the city. Most of the dots on the map fell into the "temperature" category. This demonstrates where people feel comfortable during a heatwave or feel its negative effects. Visitors to the online platform could discuss the information collected on the map with other users and the project team, devise solutions to problems, and follow the project activities.

<http://belklimat.terrifica.eu>

<https://www.facebook.com/TerrificaBelarus>

Many NGOs make a reference to SDG 13 in their information activities (on websites, info-materials, etc.) to support the integration of Belarus into international processes, promote intersectoral cooperation, and increase the visibility of their contribution to achieving SDG 13.

4. Promotion of interests of different groups, including those most vulnerable to climate change. IPO Ecoproject, together with the Belarusian Red Cross Society, increased people's capacity in rural areas in Mogilev and Brest regions to adapt to climate change. Ecopartnership, Center for Environmental Solutions, Nerush and ENDO worked in 2018-2021 on the problems of water shortages in wells in rural areas, including due to climate change.

Also, representatives of Belarusian NGOs participated in international climate forums and conferences and were members of international climate coalitions (CAN EECCA).

Independent implementation of international projects, participation in projects of other organizations, and coordination of various initiatives significantly contributed to Belarusian NGOs achieving SDG 13 (Annex 1). At the same time, the implementation of projects

contributed to the establishment of new partnerships between stakeholders at different levels. At the project level, NGOs cooperated with varying actors at both local and national levels, such as ministries, national authorities, research organizations, businesses, local authorities, and educational institutions. The experience of successful joint activities to solve local problems as part of projects with the participation of NGOs and local authorities helped to strengthen mutual trust, which is a prerequisite for the socio-economic development of society.



3. Assessing the achievement of SDG 13

According to the international Climate Change Performance Index (CCPI), Belarus' performance is rated rather low: the country was ranked 48th in 2022. This is due to the low ranking in the categories Renewable Energy Sources and Climate Policy and can be explained by the lack of long-term targets to reduce greenhouse gas emissions and a strategy for low-carbon development and effective cross-sectoral legislation on renewable energy production⁶⁰. According to the National Action Plan for a Green Economy in the Republic of Belarus for 2021-2025, "In many respects, the current deteriorating position of Belarus is due to the more active climate policies of other countries"⁶¹. Thus, although the plan indicates the international rating of Belarus on the effectiveness of combating climate change, it does not specify the reasons for this rating and the recommendations of international experts to improve it.

We will discuss in detail the achievement of national indicators for the SDG 13 targets below, the expert community's assessment of achievements in climate change mitigation and adaptation, and present some successful examples of the implemented practical actions to achieve SDG 13.

⁶⁰ <https://ccpi.org/country/blr/>

⁶¹ National Action Plan for Developing Green Economy in the Republic of Belarus for 2021-2025

3.1 Official data on the achievement of SDG 13 in the Republic of Belarus. Contribution of the Republic of Belarus to global GHG emissions

Data on the implementation of SDG 13 in the Republic of Belarus and the achievement of the national indicators are available on the national platform for reporting on the SDG indicators: <http://sdgplatform.belstat.gov.by/sites/belstatfront/target.html>. This platform also provides information on the methodology for determining these indicators: government agencies calculating the indicators, the data source, the calculation procedure, units of measurement, and the timing of data generation.

Achievement of indicators for Target 13.1 "Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries".

Official data on the achievement of national indicators for Target 13.1 "Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries" can be found in Table 2 on the right.

⁶² In accordance with international standards, major emergencies are proposed to include those that meet the following criteria:

- 10 or more deaths;
- 100 or more injured or sick;
- 100 or more temporarily resettled and evacuated;
- an emergency, as a consequence of which a disaster regime was declared;
- an emergency that required a request for international assistance.

The decision to classify emergencies as major emergencies by the criterion number of evacuees is made on a case-by-case basis.

Table 2: Achievement of national indicators for Target 13.1

NUMBER	INDICATOR	CALCULATION METHOD	INDICATOR VALUE
13.1.1.1.	Number of deaths due to emergencies	Number of deaths due to major emergencies ⁶² , people	2010 – 14 2013 – 2
13.1.1.2.	Number of injured and sick people due to emergencies	Number of injured and sick people due to major emergencies, people	2010 – 110 2013 – 5
13.1.1.3.	Number of temporarily resettled and evacuated people due to emergencies	Number of resettled people due to major emergencies, people	2013 – 5
13.1.2.	Availability of national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030	In 2018, Belarus approved the National Strategy for Reducing the Risk of Emergencies in the Republic of Belarus for 2019-2030	1

NUMBER	INDICATOR	CALCULATION METHOD	INDICATOR VALUE
13.1.3.	Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies	In 2019, Belarus approved territorial programs implementing the National Strategy to reduce the risk of emergencies in the Republic of Belarus for 2019-2030 with due consideration of the regional specifics (7 programs, each for the regions and the city of Minsk)	100%

It is quite difficult to assess the achievement of Target 13.1 by indicators 13.1.1.1-13.1.1.3. For most years of 2010-2021 (except for 2010 and 2013), the value of indicators is zero. Given that the methodology for calculating the indicators only considers major emergencies, the zero value is most likely due to the absence of major emergencies in these years rather than high resilience and ability to adapt to climate hazards and natural disasters.

Availability of national and local disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, as envisaged by indicators 13.1.2 –13.1.3, may positively contribute to achieving Target 13.1.

Achieving indicators for Target 13.2 "Integrate climate change measures into national policies, strategies, and planning"

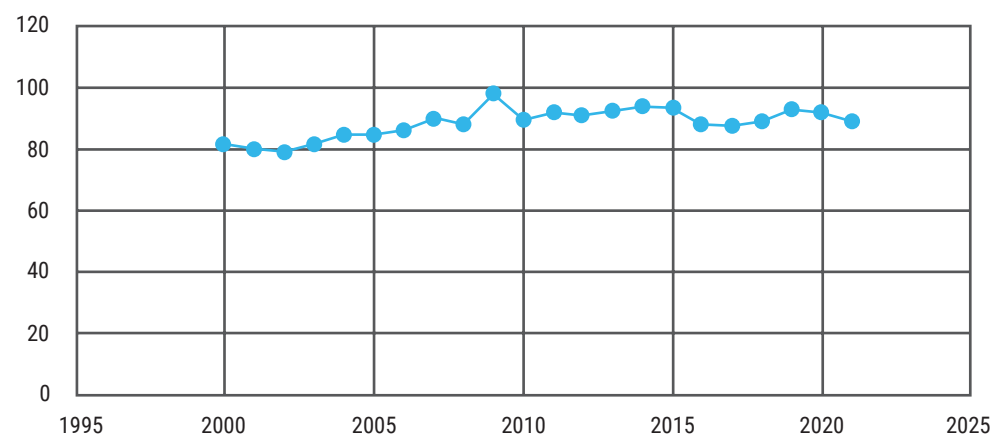
Official data on the achievement of national indicators for Target 13.2 "Integrate climate change measures into national policies, strategies, and planning" is given in Table 3 below.

Table 3: Achievement of national indicators for Target 13.2

NUMBER	INDICATOR	CALCULATION METHOD	INDICATOR VALUE
13.2.1.1	An integrated policy, strategy or plan that enhances the national capacity to adapt to the adverse effects of climate change, to prevent climate change and to reduce greenhouse gas emissions	The Republic of Belarus joined the Paris Agreement, adopted at the 21st session of the Conference of the Parties of the United Nations Framework Convention on Climate Change in Paris on December 12, 2015 according to the Decree of the President of the Republic of Belarus "On the Adoption of the International Treaty" of September 20, 2016, No. 345. After that, in 2017 the Plan of Measures to Implement the Paris Agreement to the UN Framework Convention on Climate Change was approved.	Plan of Measures to Implement the Paris Agreement to the UN Framework Convention on Climate Change

NUMBER	INDICATOR	CALCULATION METHOD	INDICATOR VALUE
13.2.2.	Total annual greenhouse gas emissions (million tons of CO ₂ equivalent)	Sum of emissions of gases with direct greenhouse effect: carbon dioxide, methane, nitrous oxide, perfluorocarbons, hydrofluorocarbons, sulfur hexafluoride, million tons of CO ₂ equivalent. The calculation of greenhouse gas emissions is based on the Recommendations of the International Panel on Climate Change (IPCC 2006). Greenhouse gases are gaseous elements of the atmosphere, both natural and man-made, that absorb and re-emit infrared radiation.	The data are shown in Figure 3.

Figure 3: Emissions of greenhouse gases (2000-2021) in Belarus, million tons of CO₂eq



In 2017 and subsequently in 2019, the Republic of Belarus adopted the Action Plan to Implement the Paris Agreement to the UNFCCC. The Action Plan provides for developing several strategies, action plans, and sector-specific measures for mitigation and adaptation to climate change in key sectors of the economy. The Republic of Belarus has already developed and adopted Strategies and action plans for adaptation to climate change in agriculture and forestry and adopted the Strategy of water resources management in the context of climate change for the period up to 2030.

The National Action Plan for Developing a Green Economy in the Republic of Belarus for 2021-2025 envisages the elaboration of a Strategy for the Long-Term Development of the Republic of Belarus with Low Greenhouse Gas Emissions for the Period up to 2050, including heat and electricity generation, energy efficiency, industrial processes,

construction, the housing and communal sector and the transport sector. It is also planned to approve the National Action Plan for Adaptation to Climate Change, which will cover, among other sectors, the housing and utilities sector and emergencies.

In addition, work on implementing mitigation and adaptation measures in sectoral development is also underway at the district level in the signatory cities of the Covenant of Mayors for Climate and Energy Initiative, which develop the SECAPs.

Thus, the Republic of Belarus is actively working on introducing mitigation and adaptation to climate change in sectoral development, both at the national and local levels. The sectors most actively involved in this process include forestry and agriculture, water resource management, and the protection of the population from emergencies.

The indicator "Cumulative annual greenhouse gas emissions (million tons of CO₂ equivalent)" provides a calculation of the annual volume of greenhouse gas emissions from 2000 to 2021. Despite fluctuations over these two decades, emissions tend to increase.

Main sources of greenhouse gas emissions in Belarus. Contribution of the Republic of Belarus to global emissions. Plans for reduction of GHG emissions. Comparison with other countries (Moldova, Ukraine, Russia, and Germany)

Belarus, with a population of about 9.5 million people (2019), accounts for a relatively small share of global greenhouse gas emissions – 0.18%⁶³. The economy's carbon intensity declined almost fourfold between 1995

and 2012: the average annual GDP growth between 1995 and 2012 was 7.9 %, and the average annual growth in GHG emissions over the same period was 0.4 %⁶⁴. This is a significant achievement towards low-carbon development in Europe.

According to the draft Strategy of Long-Term Development of the Republic of Belarus with Low Greenhouse Gas Emissions for the Period up to 2050, two sectors of the economy are the major GHG emitters: Energy (including any fuel combustion), accounting for 62.0% of national emissions, and Agriculture, accounting for 24.5%. The Waste and Industrial Processes and Product Use sectors produce 6.9% and 6.7% of emissions, respectively. The Land Use, Land-Use Change and Forestry (LULUCF) sector has negative net emissions due to carbon accumulation mainly as a result of biomass growth.

The context of climate change in the Republic of Belarus is closely linked to its commitments under the Paris Agreement. In particular, the main obligation is the reduction of greenhouse gas emissions in Belarus by 2030 by 35% compared to 1990 levels⁶⁵, taking into account emissions and sinks of greenhouse gases in the LULUCF sector without any additional conditions (the obligation does not assume the use of international carbon market mechanisms and attraction of foreign financial resources to implement the best available technical methods). According to an optimistic scenario, this commitment represents a 40% reduction in CO₂ emissions⁶⁶, provided actions are taken.

Ukraine, with a population of about 42 million people (2019), accounts for 0.61% of total GHG emissions. The energy sector is

⁶³ <https://eu4climate.eu/belarus/>

⁶⁴ <https://minpriroda.gov.by/uploads/files/Belarus-INDC-v4-4-r-1.pdf>

⁶⁵ In 1990, greenhouse gas emissions reached 137,766.4 thousand tons of CO₂eq (excluding LULUCF) and 117,201.4 thousand tons of CO₂eq ((including LULUCF).

⁶⁶ <https://eu4climate.eu/ukraine/>

the largest contributor to GHG emissions in Ukraine, with industrial processes accounting for about 16% and the agricultural sector for 13%. Ukraine's first Nationally Determined Contribution sets a new GHG emission goal of not exceeding 60% in 2030 compared to 1990 levels.

Moldova, with a population of about 3.15 million (2019), contributes only 0.04% to total global greenhouse gas emissions and is among the countries with the lowest per capita emissions⁶⁷. The largest share of emissions comes from the energy sector at 31% followed by agriculture (16.7%), transportation (16.3%), and waste (10%). The country's new unconditional goal for the entire national economy is to reduce its GHG emissions by 70% in 2030 compared to 1990 levels, instead of the 64-67% undertaken under the first NDC, which could be further increased to 88% if international low-cost financial resources, technology transfer and technical cooperation are secured.

Germany. In 2021, Germany emitted approximately 762 million tons of CO₂ equivalent, demonstrating an increase of 4.5 percent over the previous year. In 2021, the energy sector was the largest GHG emitter, accounting for 32.5 % of Germany's greenhouse gas emissions. GHG emissions in Germany have fallen by 38.7 % compared to 1990 levels⁶⁸. To meet its climate goals, the country aims to reduce emissions by at least 65% vs. 1990 levels by 2030 and achieve zero greenhouse gas emissions by 2045.

The graph on the right (Figure 4) provides information on GHG emissions per capita by country. As shown on the graph, Belarus is a country with a medium level of emissions.

Figure 4: CO₂ emissions per capita (Land use change not included) by country ⁶⁹

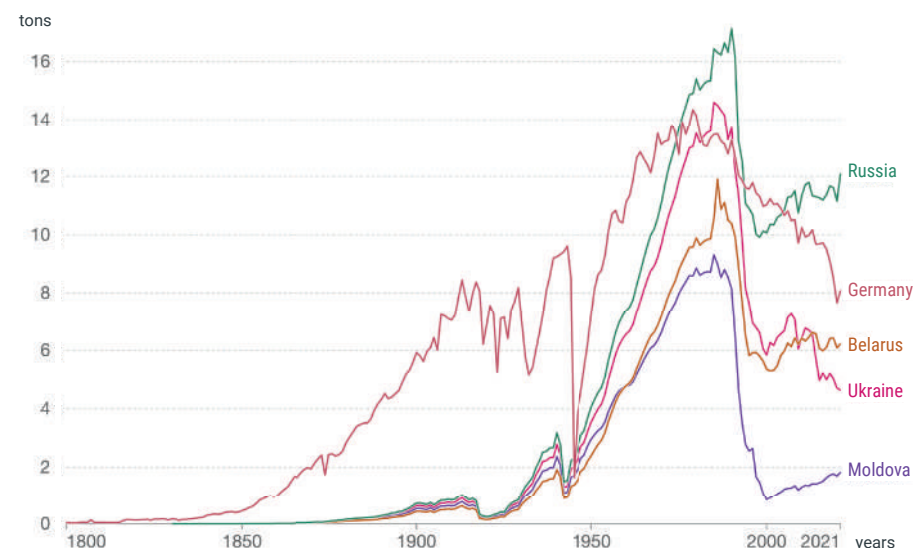


Table 4: Emissions per capita in 2019 and plans to reduce CO₂ emissions by country

Country	CO ₂ emissions per capita, 2019 (ton) ⁵	Plans to reduce CO ₂ emissions by 2030 (compared to 1990 levels)
Belarus	6,46	35% (40%)
Moldova	1,28	70%
Ukraine	5,06	65%
Germany	8,52	40%
Russia	11,51	25-30%

⁶⁷ <https://eu4climate.eu/moldova/>

⁶⁸ <https://www.statista.com/statistics/1308873/annual-greenhouse-gas-emissions-germany/>

⁶⁹ <https://ourworldindata.org/grapher/co-emissions-per-capita?tab=chart&country=DEU~BLR~UKR~RUS~MDA>

⁷⁰ <https://ourworldindata.org/grapher/co-emissions-per-capita?tab=chart&country=DEU~BLR~UKR~RUS~MDA>

Achievement of indicators for Target 13.3 "Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning".

Official data on achieving national indicators for Target 13.3 "Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning" are shown below in Table 5.

Table 5: Achievement of national indicators for Target 13.3

NUMBER	INDICATOR	CALCULATION METHOD	INDICATOR VALUE
13.3.1.	Extent to which i) global citizenship education and ii) education for sustainable development are mainstreamed in a) national education policies; b) curricula; c) teacher education; and d) student assessment.	There is no methodology for calculating the indicator at the global level. Once the methodology is developed, the indicator will be defined at the national level.	No information available

⁷¹ https://mir.pravo.by/news/different/minprirody-ekologicheskoe-obrazovanie-odin-iz-printsipov-politiki-belarusi/?sphrase_id=1044390

⁷² <https://ekapraekt.by/bsrccc/integratsiya-klimaticheskoy-povestki-v-programmy-vysshego-i-professionalnogo-obrazovaniya-v-belarusi-simpozium-programmy-baltijskogo-universiteta-2020-english/>

⁷³ https://ekapraekt.by/wp-content/uploads/2019/11/Climat_Book_15.12.2015_compressed.pdf

There are no official data on the achievement of the indicator for Target 13.3 since there is no methodology for calculating the indicator at the global level.

According to information from the Ministry of Natural Resources and Environment Protection, the environmental focus is established as one of Belarus's main principles of state policy in education. The updated version of the Education Code stipulates the principle of inclusion of the basics of environmental protection and nature management knowledge into the content of educational programs⁷¹.

Many countries face problems with the inclusion of the climate agenda into higher education programs. According to the assessment of IPO Ecoproject in Belarus, the low political importance of climate change issues and the lack of sufficient flexibility in the educational system hinder the promotion of climate issues⁷².

Public organizations and international initiatives played an active role in promoting climate issues by supporting proactive universities and teachers. For example, the first interdisciplinary course on climate change in Russian, "Climate Change: Consequences, Mitigation, Adaptation,"⁷³ was developed by the UNDP Environmental Security Project (2015) with the participation of IPO Ecoproject and piloted in a number of universities as an elective.

Adaptation to climate change is a new activity for the Republic of Belarus. Implementation of the regional project of the countries of the Eastern Partnership "EU for Climate" (EU4Climate) contributed to the national expertise on adaptation in various sectors of the economy. One of the key results of this project in Belarus is strengthening the capacity of national experts to assess the impact of climate change on critical sectors of the economy and develop recommendations on adaptation using international methodologies and guidelines.

NGO contribution to achieving SDG 13: Youth Climate Workshops

The Education for Sustainable Development Association held a series of climate workshops in 2020-2021 to develop project initiatives in adaptation to climate change for high school and university students in Minsk.

The workshop participants participated in mentor sessions on project management, design, and project presentations and received expert feedback. At the final stage, each team presented its project pitch, implementation plan and means of visualization of their project idea.

A summer climate school "Climate Change vs. Climate Action" was hosted by the state educational institution Minsk Gymnasium 19. During this summer school, participants expanded their knowledge about the climate situation in the Republic of Belarus and strategies for responding to climate challenges. They exchanged ideas and opinions on solutions for adapting to climate change through interactive games, discussions, roundtables, and excursions.

<https://www.facebook.com/TerrificaBelarus>

Including climate topics in the curricula of both secondary and higher educational institutions requires a more detailed study and an appropriate action plan to achieve Target 13.3.

Civil society organizations also actively engaged in public education on climate change issues through social networks and the Internet, state and non-state mass media, thematic events, actions, contests, etc.

NGO contribution to achieving SDG 13:

Ecoguide to sustainable living – the Green Map mobile app

People's daily consumption habits contribute significantly to climate change. To meet commitments to reduce greenhouse gas emissions, and as part of the Paris Agreement, governments need to mobilize civil society, including private companies and consumers, to change production and consumption patterns towards more climate-friendly patterns. The Green Map mobile app was launched to raise consumer awareness about sustainable consumption practices. With this app, everyone can lead environmentally friendly lifestyles. The mobile app is a source of information about places to collect recyclable materials and unnecessary things, a map of zero waste stores; cafes that pour drinks in customers' mugs; charging stations for electric cars etc. The mobile app tells you how to sort waste properly, helps you understand the composition of products, cosmetics, and household chemicals, correctly read the labeling of goods, and gives useful tips every day.

You can find out more information and download the app here:
<https://ecoidea.me/ru/media/566>

Since public organizations supported by international projects have been the main driver of climate education and awareness, their absence in the current environment will lead to a decrease in activities in this area. In addition, the intensification of geopolitical confrontation leads to a decline in attention to the problem of climate change.

The wording of the indicator for achieving target 13.3 contains an integrated approach to implementing education for sustainable development, which should cover: a) national education policy; b) curricula; c) teacher training; and d) student assessment. That is, work on embedding climate issues in education should be done as part of curricula, not just elective classes.

3.2 The importance of considering the impact of climate change on vulnerable populations

Climate change affects not only the physical environment but also people's social, economic, and political lives. The strength of its impact on different social groups depends on their current social and economic situation and may further exacerbate existing inequalities or create new ones⁷⁴.

According to the IPCC definition, vulnerability is the susceptibility or predisposition to adverse impacts. This concept includes exposure (being in an area at risk), sensitivity (susceptibility to harm), and the level of coping capacity (adaptive capacity)⁷⁵.

Vulnerable populations tend to be more exposed to climate risks because they cannot afford more comfortable and protected housing,

favorable working conditions, nutritious food, quality health care, etc. Disadvantaged people and communities suffer disproportionate losses from climate impacts in terms of their income and standard of living, i.e., they are highly sensitive to the problem. Their ability to adapt is limited due to inadequate assets (income, education, mobility, physical condition, etc.). This also applies to the response in a situation of extreme weather events and the implementation of proactive measures against the background of slower changes in the weather⁷⁶.

The injustice is that the part of the population that contributes the least to climate change (consumes fewer resources and is less represented in the processes of managing society) suffers the most from its effects.

Inequality and climate vulnerability are in a vicious cycle of interdependence, as one reinforces the other, so the implementation of a climate justice and inclusive adaptation approach is of paramount importance to at least maintain the current level of social development and potentially improve it by providing opportunities to improve the quality of life of as many people as possible.

⁷⁴ <https://hromadske.ua/ru/posts/klimaticheskaya-nespravedlivost-kto-v-ukraine-bolshe-vsego-postradaet-ot-izmenenij-klimata-i-chto-delat-uzhe-sejchas>

⁷⁵ IPCC Fifth Assessment Report, 2014: https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full_ru.pdf.

⁷⁶ https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/WESS_2016_Report.pdf

The groups most vulnerable to climate change include:

The infographic lists 13 population groups most vulnerable to climate change, each with a green icon and a text description:

- The homeless**: Icon of a person sleeping on a pile of blankets.
- Outdoor workers**: Icon of a person working in a field with a shovel.
- People with low or no income**: Icon of a person sitting on the ground.
- People with disabilities, especially those with low mobility**: Icon of a person in a wheelchair.
- The elderly**: Icon of two elderly people with canes.
- People with chronic illnesses⁷⁷**: Icon of a person with a medical drip stand.
- Women (including pregnant women, single mothers with minor children or children with disabilities)**: Icon of a pregnant woman.
- Children, especially infants**: Icon of two children.
- Rural population**: Icon of a farmer in a field.
- Migrants**: Icon of a person with a suitcase.
- People in special institutions (prisons, asylums, nursing homes, refugee camps, etc.)**: Icon of a person behind bars.
- The socially isolated (single) people**: Icon of a person sitting alone at a table.
- Residents of social rental housing or dense developments without green spaces⁷⁸**: Icon of a person standing next to a tall apartment building.

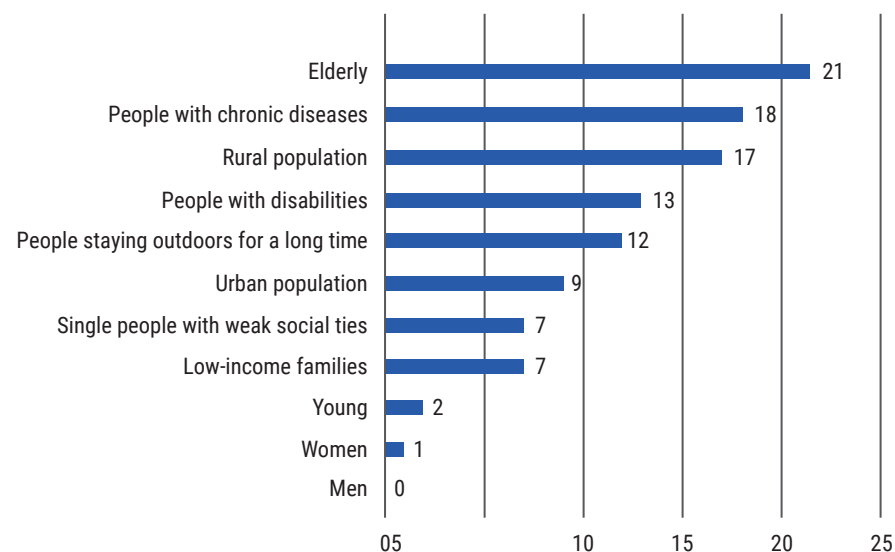
⁷⁷According to the monitoring of living standards indicators of the CIS countries: <http://www.cisstat.com/sdgs> (pp. 59-60), the mortality rate from malignant neoplasms and circulatory system diseases in Belarus is higher than the average for the region

⁷⁸ The source <https://www.climatejust.org.uk/who-vulnerable> highlights the climate vulnerability of residents of social rental housing or dense residential developments without green spaces in the general category "urban population".

These groups may overlap, which only increases their vulnerability to climate change.

The results of the survey among the expert community about population groups in Belarus that are most vulnerable to climate change and its consequences are presented in Figure 5 below.

Figure 5: Population groups most vulnerable to climate change and its consequences in Belarus, according to the expert community



The respondents explained their answers in more detail. Twenty-one noted that the elderly are the most vulnerable. Due to poor health and chronic diseases, their ability to adapt to sudden changes in weather and extremes is weaker. As they age, it becomes physically more difficult to tolerate climate change. Older people are less mobile and have more limited financial resources for individual adaptation. Many have a

pension as their only income, which is spent mainly on food, medicine, and utility bills. In addition, the elderly are usually reluctant to accept the need to transform their lifestyle and everyday life since they are not familiar with modern knowledge about climate change and are often conservative and rigid. With age, lifestyle becomes rather monotonous, and adaptability to environmental changes decreases as the body has become accustomed to other conditions over many years.

According to the expert community survey results, people with chronic diseases (of any age) are second in the "vulnerability rating". As noted by the respondents, they are less adapted to climate change due to their weakened condition; they need constant support and certain lifestyle restrictions related to environmental conditions. Special infrastructure is needed to support their participation in mitigation and adaptation to climate change (e.g., available "infrastructure for the disposal of the medicinal waste they produce"). Many of them are financially disadvantaged, so their additional health costs are very tangible. Their physical abilities, resources, and mobility are limited, making them more susceptible to weather hazards, high or low air pressure, and other sudden or frequent changes in weather. It is more difficult for them to withstand extreme heat and lack of water.

According to respondents, the third vulnerable group is the rural population, as it is most exposed to physical sector-specific risks. This group directly faces the effects of climate change in agriculture and losses in personal subsidiary farming (PSP). Rural residents in Belarus are mostly poor, and with any vagaries of the weather, they risk losing their traditional sources of income. They have little opportunity to invest in combating climate change.

In addition to the respondents' answers in the questionnaire, we

should consider the rural population's increased vulnerability in terms of access to clean drinking water (compared to the city, where public utilities provide a water supply of normal quality) not mentioned by them. When compiling the SECAP under the Covenant of Mayors, the surveys of specialists in many cities and districts revealed the problem of drying up of wells in some villages during severe heat waves. This is true not only for the southern regions but for the whole country, and as the average annual temperature and the intensity of summer heat waves increase, the problem will worsen. Even if the wells do not dry up completely, the overall reduction in groundwater volume amid the heat wave increases the risk of contamination by bacteria and chemicals in fertilizers, detergents, and other sources of pollution.

NGO contribution to achieving SDG 13: Adapting to climate change in rural areas

In 2017, IPO Ecoproject worked on the program "Local Climate – Developing Local Adaptation Strategies for Sporovo and Motol Village Councils and Chausy".

Based on scientific data on climate change in Belarus, Ecoproject, together with initiative groups and local administrations, considered the possible consequences for each area and compiled a list of activities as the basis of each village council's adaptation plans. The plans included both large-scale strategic activities "for the future" and minor steps initiated immediately after the approval of the plans.

In the village of Zditovo in Sporovo Village Council, measures were implemented to increase the adaptation of agriculture to more frequent droughts. A rainwater harvesting system was installed in the local school to irrigate the school greenhouse and promote these systems among local residents. The school also received equipment for local weather observation, which will help prompt villagers about soil acidity, a necessary indicator for adapting their vegetable gardens. In Motol, we created a green eco-trail, purchased a quadcopter, and installed a video camera on the church's roof as part of a monitoring system for peat bog fires.

<https://ekapraekt.by/mestnyj-klimat/programma-mestnyj-klimat/>

The next vulnerable group in the expert community survey was people with disabilities. Many noted their isolated lifestyle and lack of mobility and resources, which affects their ability to cope with climate change, especially during "weather-related disasters". Added to this are fewer opportunities for learning in general and information about climate change in particular. The lack of development of a barrier-free environment makes them hostage to critical situations and more moderate consequences such as flooding, high winds, elevated temperatures, etc.

People who stay outdoors for a long time for occupational or other reasons were fifth on the list of vulnerable groups. Climate change makes it more difficult for them to work in the summer, but staying outdoors becomes easier in the winter (not as cold as before). Increased changes in the weather (surges in temperature, atmospheric pressure, and other parameters) also have a negative impact. This category faces

direct health damage in their professional duties and is more at risk of exposure to dangerous weather conditions or a natural disaster.

One interviewee noted the need for improved tools and clothing for those who work outdoors. In addition, an effective measure for adapting to the heat is shifting work schedules, which is already used in some regions of Belarus (starting shifts early in the morning and/or finishing them later in the evening, taking longer breaks in the afternoon during peak temperatures).

The next vulnerable category noted by the expert community was the urban population, which is more exposed to heat waves and the effects of climate change on urban infrastructure (flooding of streets after heavy rains, smog during heat waves, damage and injuries from high winds, etc.). According to studies, an "urban heat island" with higher temperatures in denser areas than in the suburbs significantly impacts human health and urban ecosystems. In addition, the higher population density in the city makes it more susceptible to local natural emergencies and also makes it dependent on the condition of local infrastructure. Thus, residents of social housing built with minimal capital investment or older apartment blocks in need of renovation are generally more exposed to climate risks (e.g., power, heat, and water outages). Ineffective urban planning, particularly transportation problems and a lack of green buffer zones, increase the vulnerability of low-income city dwellers.

Experts further noted the vulnerability of single people with weak social ties and low-income families. The former are vulnerable to the risk that no one will be around to provide or call for help in a critical situation (emergency or ill health). The latter have limited resources and the rising

costs of the effects of climate change are very critical for them. People with little or no income have less ability and access to funds to recover from or adapt to the impacts of critical weather events. Climate change affects poor people directly, for example, through the loss of crops or destroyed housing. But the impact can also be indirect, such as through higher food prices resulting from emergencies or crop failures.

According to the experts, young people are next to last on the list of vulnerable groups because they will be more exposed to the effects of climate change, which they will inherit from previous generations. Three respondents mentioned the following about young people:

- ➔ lack of knowledge and understanding of climate problems, which are global in nature, actually means a decrease in competitiveness in many areas of the labor market (when choosing high-skilled professions in consulting, the financial sector, etc.);
- ➔ as they grow and develop, they do not get practice and experience in influencing the vital processes;
- ➔ they must be trained, then it will be the main driving force, as children are heirs of our mistakes.

NGO contribution to achieving SDG 13: Wetland restoration

From 2015 to 2020, NGO Akhova Ptushak Batskaushchyny was engaged in research and practical activities on the Yelnia bog, which is a landscape reserve of national importance and has the status of the Ramsar territory. Employees and members of the organization monitored the hydrological regime and the state of ecosystems of the Yelnia bog,

studied its fauna and flora, and assessed the compliance of the bog's condition with the protection regime. Annual volunteer camps with schoolchildren and local residents helped to repair the dam, remove waste and disseminate information about specially protected natural areas and their importance among local residents and the media. The activities undertaken by NGO Akhova Ptushak Batskaushchyny on the Yelnia bog for many years have brought significant results:

- ➔ restoration and maintenance of the natural hydrological regime in the central part of the bog, as evidenced by monitoring data;
- ➔ increased value of the resources of bog ecosystems (improved biodiversity, recreational and aesthetic resources of the territory, better cranberry growing options for local population);
- ➔ the risk of peat fires in the center of the bog decreased to natural risk levels;
- ➔ raising awareness of the local population about the importance of preserving the bog in its natural condition and the need to maintain the sustainability of its resources.

<http://old.ptushki.org>

<https://bahna.land/ru/>

Only one of the interviewed representatives of the expert community indicated women as a group that is more vulnerable to climate change. The gender gap in physical capacity, income, participation in management and decision-making processes should be considered here, which together makes women weaker and less protected, and their needs are not taken into account in various development programs,

which automatically puts them in a more vulnerable position against the background of climate change as well. In addition, pregnancy and breastfeeding place high burdens on women (in terms of healthcare, financial well-being, educational and professional opportunities, mobility restrictions, etc.).

None of the respondents considered men a vulnerable category. However, it should be taken into account that among men, there is a higher share of those who work outdoors (construction, agricultural work, forestry, mowing grass, etc.) or in hazardous conditions, which increases the impact of climate risks on health. A high proportion of men are also involved in emergency response and rescue operations.

Vulnerability to the effects of climate change is also linked to energy poverty⁷⁹, where a household has limited access to basic energy services (heating, cooling, lighting, electricity, transport) due to a combination of factors, such as low income, high energy prices and low energy efficiency of their housing.

In practice, this means either no access to energy services or restricted access to other basic services after paying for energy services. Energy poverty can have serious consequences for health, well-being, social inclusion, and quality of life. Households with low energy consumption miss out on essential energy services, such as lighting, heating/cooling, appliance use, transportation, and more. For this reason, energy poverty must be taken into account in many policies, including social, economic, and, of course, climate and environmental policy.

In Belarus, the problem of energy poverty has not yet received

attention since the energy supply is considered to be generally accessible. Power lines reach even remote villages with only a few inhabitants, cities are provided with centralized heating, and the country has a fairly well-developed gas supply network. The population (primarily in large cities) is provided with all the necessary infrastructure and substantial subsidies for energy tariffs.

Nevertheless, some people in Belarus face the choice of what to spend an insufficient family budget on utilities or medicines, transport, or warm clothes. Some consumers face a shortage if energy resources are expensive or hard to obtain. Examples of such circumstances include apartment utility debtors, who risk losing their homes by court order in the case of large debts, and residents of private homes with wood-fired heating, if they cannot procure fuel for the winter.

The most vulnerable in terms of energy poverty and exposure to climatic impacts are homeless people, who are forced to stay outdoors for a long time or in uncomfortable conditions.

To summarize, populations vulnerable to the effects of climate change include a lot of groups. Still, each is affected by climate change in different ways that need to be taken into account when developing adaptation measures. In addition to this overview of the possible impact of climate change on vulnerable groups, Belarus requires a more detailed analysis of climate change impacts by gender, age, income, health, and other factors (with the involvement of representatives of these groups in data collection).

⁷⁹ <https://eumayors.eu/support/energy-poverty.html>



4. Conclusions and recommendations to improve progress in the implementation of SDG 13 in the Republic of Belarus

The analysis led to the following conclusions on the various aspects of the implementation of SDG 13 in Belarus discussed in this review.

1.A set of national indicators for achieving SDG 13 in Belarus:

- ➔ The Republic of Belarus has developed a system of national SDG 13 indicators.
- ➔ The national indicators for SDG 13 do not practically reflect the impact of climate change on the most climate-dependent and vulnerable sectors of the economy, such as agriculture and forestry, healthcare, access to water resources, energy and transport.
- ➔ The main focus of adaptation indicators is the consequences of emergencies and disaster (critical event) risk reduction. No attention is paid to adaptation to so-called slow (or chronic) climate change (e.g., increase in the average annual temperature, changes in precipitation patterns, shifting ecosystems from south to north, etc.), which are nevertheless obvious and have significant consequences for society and the environment in the Republic of Belarus.
- ➔ The national SDG 13 indicators do not include economic losses associated with climate, which is especially relevant for such climate-dependent sectors of the economy as agriculture and forestry in Belarus.
- ➔ The national SDG 13 indicators do not cover climate risk management in the

health sector. Many countries constantly collect and analyze data on excess mortality as a result of heat waves and diseases aggravated by climate change so that timely preventive measures can be taken⁸⁰.

→ The national SDG 13 indicators do not assess the increased vulnerability of certain population groups to climate risks. Data should be collected and analyzed with breakdown by income, age, gender, health and other criteria to ensure social protection, disaster risk reduction and effective adaptation.

2. Framework conditions for implementing SDG 13 in Belarus: international commitments and cooperation on climate change, legislation and national strategic and sectoral documents related to mitigation and adaptation to climate change, and institutional cooperation:

→ Belarus' commitments under SDG 13, UNFCCC and the Paris Agreement to reduce greenhouse gas emissions by 35% (40%) by 2030 from the 1990 level are not ambitious, as they actually assume some retention of emissions growth, and the goal and time frame for achieving climate neutrality by the RB has not yet been declared;

→ In addition to government efforts, local city and district administrations in Belarus were active in combating climate change in 2016-2020 as part of the voluntary Covenant of Mayors Climate and Energy initiative (30% emissions reduction by 2030 relative to the chosen post-2015 baseline year), as they had the support of both budgetary and international funding.

→ The events of 2020-2022 significantly decreased the relevance of

the climate agenda and the potential for SDG 13 activities within Belarus, and there is a need to support the expert community, and to involve and train new supporters.

→ As a party to international climate agreements (UNFCCC and the Paris Agreement), Belarus is gradually developing relevant national legislation on mitigation and adaptation. It has developed a strategy to reduce the risk of emergencies, two sectoral adaptation strategies (agriculture and forestry), a national action plan to increase the absorption of greenhouse gases by sinks, a strategy of water resources management in the context of climate change.

→ A number of national strategies and state programs on sustainable development, environmental protection, energy efficiency, RES, specially protected natural areas, housing and construction, innovative and scientific-technical development of the country have been approved and are being implemented. They include aspects of achieving SDG 13, even if climate change is not directly mentioned in them.

→ Inter-agency cooperation and training of government officials on SDG 13 takes place mainly as part of international cooperation projects, while horizontal integration of climate change mitigation and adaptation into the regulation and strategic planning of various sectors of the economy of Belarus is quite slow, especially when international cooperation winded down.

→ Belarus has established a management architecture for achieving the SDGs at the national and regional levels. It does not provide for a special structure responsible for SDG 13 – climate change. But there is

⁸⁰ According to the WHO website, health impacts of climate change include death and injury from heat waves and flooding; diseases associated with shortages of clean drinking water and food, the spread of new allergens and disease vectors.
<https://www.who.int/europe/news-room/fact-sheets/item/climate-change>

an intersectoral group on ecology within the framework of the Council on Sustainable Development, and two coordinators on ecology within the framework of the SD Partnership Group.

➔ Belarus has established three government interdepartmental working groups: on climate change, on reducing the carbon intensity of economic sectors, and on the development of green financing.

➔ After 2020, the civil society has been much less involved in the work on the SDGs, as many NGOs have been liquidated despite successful examples of cooperation between various government agencies and NGOs on the SDGs seen before.

➔ Vulnerable groups (such as the elderly, low-income people, homeless, rural residents, people with poor health, etc.) are not yet involved in assessing climate risks and developing adaptation strategies, although they are more exposed and sensitive to the effects of climate change, so they need more support from the state to improve their adaptive capacity.

3. Implementation of SDG Target 13 in the Republic of Belarus:

➔ It is difficult to assess the achievement of Target 13.1 "Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries" by the indicators used. For most years of 2010-2021 (with the exception of 2010 and 2013), the value of the indicators is zero. Given that the methodology for calculating the indicators involves taking into account only major emergencies, the zero value is most likely due to the absence of major emergencies in these years, rather than a high degree of resilience and the ability to adapt to climate hazards

and natural disasters. The availability of national and local disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030 may contribute to achieving Target 13.1.

➔ For Target 13.2 "Integrate climate change measures into national policies, strategies, and planning", Belarus has been actively working on the introduction of mitigation and adaptation to climate change into sectoral development, both at the national and local levels. Adaptation strategies were adopted by the sectors (forestry, agriculture), strategies for water resources management in the context of climate change until 2030, strategies for conservation and sustainable (rational) use of peatlands, the National Action Plan for Green Economy until 2025, as well as implementation of Sectoral State Programs 2021-2025 to achieve SDG 13. It is planned to adopt a Strategy of Long-Term Development of the Republic of Belarus with Low Greenhouse Gas Emissions for the Period up to 2050.

➔ Belarus, with a population of about 9.5 million people (2019), accounts for a relatively small share of total global greenhouse gas emissions – 0.18%⁸¹. Per capita CO₂-equivalent emissions in Belarus were 6.46 tons in 2019, and while the figure has fluctuated significantly in recent years, it tends to increase. Belarus is among the countries with average levels of emissions, but despite achieving a significant reduction in the carbon intensity of the economy over 1995-2020, its goals of reducing emissions are not ambitious (35% by 2030).

➔ For Target 13.3 "Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning", official data on achieving the

⁸¹ <https://eu4climate.eu/belarus/>

indicator is not published since there is no indicator calculation methodology at the global level. The indicator for Target 13.3 contains an integrated approach to implementing upbringing and education for sustainable development, which should include implementation in: a) national education policy; b) curricula; c) teacher training; and d) student assessment. The inclusion of climate education in both secondary and tertiary curricula needs to be explored in more detail and an appropriate action plan should be developed to achieve Target 13.3.

→ Given that public organizations and international initiatives have been the main driver of climate education and awareness, their absence in the current context will lead to a decrease in activities in this area. In addition, increased geopolitical confrontation leads to less attention to global issues such as climate change.

4. Considering the impact of climate change on vulnerable populations:

→ Categories of the population vulnerable to the effects of climate change include a very wide range of people, and each of them is affected by climate change in different ways, which should be taken into account when developing adaptation measures.

→ According to the expert opinion obtained through the survey, the population groups which are the most vulnerable to the effects of climate change in the Republic of Belarus include the elderly, the rural population and people with chronic diseases. All these groups are vulnerable due to their low mobility, low income and poor ability to adapt to climate change. The elderly and people with chronic diseases are also vulnerable because of their health status. Rural incomes are strongly

affected by climate change.

Making progress on SDG 13 should be an integral part of country policies to mitigate greenhouse gas emissions and adapt to climate change. Based on the above analysis and findings, the following recommendations have been developed to improve climate change mitigation and adaptation policies, enhance the capacity of NGOs and increase the adaptive capacity of vulnerable groups.

4.1 Improving climate change mitigation and adaptation policies

Improving climate change mitigation and adaptation policies can pursue the following ways.

Strengthen inter-agency coordination as part of SDG 13

To improve inter-agency communication on climate change adaptation, the effectiveness of the established cooperation mechanisms (cross-sectoral working groups) encouraging scientific and technical cooperation and information exchange should be maintained. Adequate communication should be organized to, inter alia, strengthen a common understanding of vulnerability, policies and specific activities on adaptation to climate change. Information sharing and communication channels should be established with all parties involved to better understand problems, potential solutions, and prospects for alternative action or inaction. It is necessary to ensure the involvement of different stakeholders, including representatives of NGOs, the most vulnerable groups and the largest emitters of greenhouse gases.

Mainstreaming climate issues into sectoral planning

It is necessary to provide mainstreaming of climate issues into sectoral development strategies and plans. This requires the development, adoption and implementation of adaptation strategies in climate-sensitive sectors such as construction, transport, energy, water supply and sanitation, waste management, etc.

Support research

Research on the damage and impact of climate change on economic sectors is necessary to integrate climate risk into planning and decision-making, and to develop evidence-based climate policy.

Monitoring and data collection

To establish an effective system for monitoring the achievement of SDG 13 targets, it is recommended to improve the national indicators for SDG 13, namely:

→ Consider the impact of climate change on the most weather-dependent and vulnerable sectors, such as agriculture, forestry, health, access to water, energy, and transport.

→ Consider adaptation to the so-called slow (or chronic) climate change (e.g., increase in mean annual temperature, change in precipitation patterns, shift of ecosystems from south to north, etc.), which also significantly impact the environment and socio-economic development of Belarus.

→ Consider economic losses associated with climate. It is advisable to conduct a detailed study to determine the extent of damage in agriculture and forestry in Belarus as they are the most climate-dependent sectors of the economy, and to introduce a system of continuous collection of statistics by indicators, which will allow the

Ministry of Agriculture, Ministry of Forestry and Ministry of Natural Resources and Environment Protection to quickly monitor the situation and direct the development of the sectors on the optimal scenario.

→ Consider climate risk management in the health sector and analyze excess morbidity and mortality due to the effects of climate change.

The system for collecting data on the impact of climate change and the effectiveness of the implementation of adaptation measures in economic sectors can be integrated into existing departmental reporting. Use the data obtained to set projections and targets for sectoral strategies (in addition to targets for improving energy efficiency, environmental protection, green economy development, innovative development, etc.).

A study of the actual effects of climate change on different economic sectors will help develop evidence-based climate policy.

Raising awareness

Develop and implement a communication strategy to share and disseminate information on climate change. Well-organized communication will effectively identify barriers and stimulate mitigation and adaptation activities in various sectors of the economy.

The strategy should encourage a systematic exchange of experiences and views to raise inter-agency awareness and strengthen the capacity of representatives of different sectors. This exchange of experience will help ensure the same level of understanding of the problems and harmonize approaches to solving problems.

Involvement of business

Develop climate change adaptation guides for businesses in different sectors of the economy.

Organize dissemination of the best practices of adaptation, study lessons learned through development of cluster cooperation in economic sectors.

Establish interaction and inform stakeholders on potential climate change impacts in the various sectors of economy.

Establish interaction with small and medium-sized private enterprises (SMPEs) to collect information on needs and experiences in adaptation to climate change.

Include climate change issues in educational programs, advanced training and retraining of specialists in various sectors. It is necessary to organize special courses for representatives of ministries and departments, and for top management of enterprises.

Organize study visits and meetings of Belarusian specialists with specialists and experts from different countries to study best practices on adaptation measures.

Mainstreaming climate issues into curricula

Efforts should be directed toward achieving Target 13.3 "Improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning" by focusing on the indicator of achieving this target, which includes the integration of climate issues into curricula, appropriate teacher training, and student assessment. A detailed assessment of the inclusion of climate education in both secondary and tertiary curricula should be conducted and an action plan developed to meet Target 13.3.

Establishment of funding mechanisms for mitigation and adaptation activities

Create a National Climate Fund to finance greenhouse gas emission reductions and increased absorption of greenhouse gases, as well as to reduce vulnerability and increase the resilience of human and ecological systems to the negative impacts of climate change. Financing of the Climate Fund can be provided by paying the tax on greenhouse gas emissions. The introduction of such a tax is expedient in the Republic of Belarus and the countries of the Eurasian Economic Union, taking into account the upcoming payment of the border carbon tax when exporting goods to the European Union. If the carbon tax is paid in the country of origin, the product will not be subject to a border carbon tax in the territory of the European Union. Proceeds from carbon tax payments should go to climate funds.

Implement climate risk insurance to create sources of coverage for damages in the event of climate risks for residents and businesses.

Incorporating climate change into social policy

Social security should develop policies that can provide social assistance to vulnerable populations affected by the effects of climate change. Such measures may consist of operational assistance in the form of various programs, tax-free payments, food vouchers, housing subsidies, medical care and assistance to people who have been injured or lost their jobs due to the emergency.

4.2 Recommendations for strengthening NGO capacity to achieve the SDG 13

By 2020, the capacity of NGOs working on climate change has reached a maximum level in relation to previous periods of the country's development. Work with national and local NGOs to achieve SDG 13 was conducted at the national and local level, led to cross-sectoral partnerships and built high level of trust between state and non-state actors. Achieving SDG 13 has become a high priority for many NGOs.

Proposals to enhance the capacity of NGOs in the conditions close to the first half of 2020 are described below:

- to involve Belarusian national NGOs in international processes, networks and coalitions. This will contribute to increased expertise and a deeper and more comprehensive understanding of climate change and provide opportunities to participate in international negotiations;
- to raise awareness of local NGOs on SDG 13, as NGOs working at the local level do not always understand how they benefit from the SDGs;
- to form national coalitions of NGOs working on SDG 13, which would facilitate the involvement of new NGOs in the process, and strengthen the capacity of individual organization;
- to develop partnerships between NGOs and the private sector to increase private sector involvement in achieving SDG 13. The NGOs' main role in achieving SDG 13 in Belarus was to monitor commitments made by the government, to promote the interests of various population groups, and to communicate SDG 13 to the general public, in particular,

through international projects. Only a few organizations were actively engaged in promoting the issue among private businesses;

- to create opportunities for NGO participation in decision-making processes and increasing confidence in the SDGs at the national level. The activity of NGOs directly depends on how they perceive the country's international commitments undertaken by the government, whether it has an interest in achieving them at the national level;
- developing inter-sectoral cooperation is an important condition for increasing the capacity of NGOs to work on SDG 13, as it is important for NGOs to understand the benefits of SDG 13 to integrate environmental, social and development issues. NGOs represent the interests and needs of various population groups, therefore cooperation of the state with NGOs will help to take the population's interests into account more fully in forming the state policy;
- opportunities to realize the potential of NGOs are enhanced when funding is available. Therefore, increased funding for SDG 13 activities, including those of NGOs, will encourage them to play a more active role in combating climate change and adapting to its consequences.

4.3 Improving the adaptive capacity of vulnerable populations

Categories of the population vulnerable to the effects of climate change include a very wide range of people, and each of them is affected by climate change in different ways, which should be taken into account when developing adaptation programs. At the same time, the term

vulnerable groups is currently missing in the legislation of the Republic of Belarus, so there is no common understanding of who belongs to them.

According to a review of international sources, the most vulnerable populations to climate change include: people with low income, the elderly, people with chronic diseases and people with disabilities, young people (especially children) and women. The vulnerability of these groups is due to limited resources for timely adaptation, health status, level of sensitivity to weather changes, exposure to risks associated with extreme climatic events, mobility (access to transport services), awareness about climate change in relation to their private life.

The level of vulnerability is particularly critical for those citizens who fall into several of these categories at once (e.g., low-income families with many children or elderly people caring for a disabled relative). In addition to these vulnerable groups, climate change can have a significant negative impact on the urban population due to high population density and complete dependence on existing urban infrastructure and on the rural population due to limited access to resources and infrastructure and high dependence of the main source of income – agriculture – on the weather.

Adaptation measures to support vulnerable groups must include:

→ Raising awareness of climate change, education on behavior during dangerous weather conditions, and early warning.

Indicative topics for outreach activities with vulnerable populations on climate change:

→ *Consequences and forecasts of climate change in Belarus, household mitigation and adaptation measures, supporting state programs and voluntary initiatives where you can get help.*

→ *Weather forecasts (e.g. a scoreboard or a ticker in public places), recommended measures to prevent damage during dangerous weather events (heat waves, strong winds, thunderstorms, heavy precipitation, frost, ice, etc.).*

→ *Prevention of vector-borne diseases transmitted by bloodsuckers (including voluntary vaccinations against encephalitis, closer clothing in parks and nature, control of blood tests after a tick bite, etc.).*

→ *Promotion of healthy lifestyles, "pressure schools" to identify health risk group in a timely manner.*

→ *Transition to new crops in agriculture and forestry, urban greening.*

→ *Fire prevention measures (do not burn grass and waste, have fire extinguishers, etc.).*

→ Increasing the resilience of local infrastructure (transport, energy, water and green framework, water supply and sanitation) to both extreme manifestations of climate change and slower ones (increasing average annual temperature, changing rainfall patterns and wind loads, more frequent weather changes, etc.).

Possible focus areas to improve the climate resilience of local infrastructure:

- *Assessing the vulnerability of specific areas and developing risk management plans, followed by monitoring their implementation.*
- *Development of a barrier-free environment, public transport and micromobility.*
- *Maintaining and developing green areas in communities (parks and micro-parks within walking distance) with the active involvement of local residents in taking care of them.*
- *Managing rainwater runoff in communities with the use of natural and innovative technologies.*
- *Energy-efficient retrofitting of buildings to save heat in the heating season, protect against overheating in the summer, and mitigate weather fluctuations.*
- *Improving energy and water supply reliability.*
- *Passive shading and cooling in publicly accessible, densely built-up areas (fountains, parks, gazebos, air-conditioned shopping centers and recreation areas).*
- *Free access to clean drinking water for all (low-income residents, tourists, migrants, etc.).*
- *Improving the preparedness of healthcare institutions for the effects of climate change (e.g. heat strokes and exacerbation of cardiovascular diseases during heat waves; transmissible, allergic and respiratory diseases); analysis of the actual impact of climate change on health in Belarus and development of a prevention program.*

→ Developing risk insurance for vulnerable groups in case of fire, illness, injury, crop failure, etc.

In the field of urban mobility, it is recommended to develop and implement Sustainable Urban Mobility Plans (SUMP). Such documents have been developed and approved in many cities around the world, but in Belarus – only in Polotsk and Novopolotsk so far.

It is worth expanding greenery in public spaces and promoting the development of a network of green areas. Visitors to public gardens and parks can spend their free and leisure time there at no cost. At the same time, expanding green areas can contribute to lowering air temperatures and preventing the formation of urban heat islands.

Improving and expanding the network of free drinking fountains and public toilets in cities is another way to adapt urban infrastructure to climate change. The Republic of Belarus can do so by implementing the UNECE/WHO-Europe Protocol on Water and Health to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes⁸².

In the housing sector, the abandonment of home ownership and the provision of quality rental housing for the general population should be encouraged.

These measures will help make cities fairer and urban infrastructure more comfortable and accessible.

⁸² http://rspch.by/ru/protocol_water_and_health

Annex 1.

Examples of international projects on climate change implemented in Belarus

1. Projects developing legislation and providing assistance to Belarus in implementing international commitments on climate change

1.1 Project name: Regional Project EU4Climate/EU to Combat Climate Change

Implementing agency: Ministry of Natural Resources and Environmental Protection of the Republic of Belarus

Donor: EU-UNDP

Implementation period: 2018–2022, Belarus' participation was suspended in spring 2022.

Further information: <https://eu4climate.eu>

The aim of the EU4Climate project is to help the participating countries (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine) to reduce greenhouse gas emissions and promote sustainable development in accordance with the Paris Agreement. The main objectives of the project are to incorporate emission reduction and climate resilience goals into Belarus' climate policy and development plans, and to bring its legislation in line with these goals, to help economic diversification and green growth.

1.2 Project name: Preparation of the Seventh National Communication on the implementation of the UN Framework Convention on Climate Change and the Third Biennial Report of the Republic of

Belarus

Implementing agency: Ministry of Natural Resources and Environmental Protection of the Republic of Belarus, SE Ecologiainvest

Donor: UNDP-GEF

Implementation period: 2019–2021

Further information: <http://www.ecoinv.by/proekt-proon-gef/o-proekte.html>

The implementation of the project helped to better consider climate aspects in the development of national and sectoral strategies and programs in energy, industry, construction, agriculture, and raise awareness of climate change issues among policymakers.

1.3 Implementing agency: Interaction Foundation

Donor: EU

Implementation period: 2016–2020; 2021–2024 (Belarus' participation was suspended in spring 2022)

Further information: <https://com-east.eu/ru/>

The project aims to bring together local, regional and national authorities of the Eastern Partnership countries in their efforts to develop regional policies based on sustainable energy principles, to enhance energy security and support the global movement to combat climate change. Due to the participation of Belarus in this project, the number of participants in the initiative has increased; Sustainable Energy and Climate Action Plans for cities and regions until 2030 were developed; demo projects (in 5 cities and regions of Belarus) were implemented.

1.4 Project name: Regional Project «Clima East».

Implementing agency: UNDP in Belarus, Ministry of Natural Resources and Environmental Protection of the Republic of Belarus

Donor: EU

Implementation period: 2013–2017

Further information: <https://www.adaptation-undp.org/shifting-ground>

The project was implemented in Armenia, Azerbaijan, Belarus, Georgia, Moldova, Russia and Ukraine to develop approaches for climate change mitigation and adaptation. The project implemented pilot projects in each of the participating countries to show that intact ecosystems can have a strong positive impact on both mitigation and adaptation. The pilot project in Belarus helped reduce greenhouse gas emissions by replacing fossil fuels with biomass production. It also demonstrated the need for an ecosystem approach that combines rural development, sustainable land management and sustainable livelihoods to develop community-oriented solutions to climate change.

2. Projects in education and raising awareness

2.1 Project name: Energy Efficiency in Schools

Implementing agency: UNDP Belarus, Energy Efficiency Department of the State Committee for Standardization of the Republic of Belarus

Donor: EU, UNDP

Implementation period: 2013–2017

Further information:

<https://euprojects.by/ru/projects/energy/Energy%20Efficiency%20in%20Schools/>

The project aimed at creating a working model for energy efficiency training to be used throughout Belarus. As part of the project, four educational institutions (Secondary School No. 4 in Dzerzhinsk and Kindergarten No 6 in Oshmyany, Kindergarten No. 45 in Grodno and Vitebsk M. Shmyrev State Vocational College of Mechanical Engineering)

implemented modern energy-efficient technologies and conducted awareness-raising activities for teachers, students and local residents on energy-efficient practices in everyday life.

2.2 Project name: TeRRIFICA

Implementing agency: Education for Sustainable Development Association

Donor: EU

Implementation period: 2019–2021

Further information: <https://terrifica.eu/pilot-region/minsk/>

The TeRRIFICA project aimed at developing specific roadmaps and key performance indicators to implement the developed methodologies and activities on adaptation and mitigation of climate change in the regional practice. A number of capacity building activities on climate change adaptation and mitigation for local communities and authorities were carried out in Belarus.

2.3 Project name: Implementation of Environmental (and Energy)

Management System in Social, Educational and Church Organizations

Implementing agency: RSEOO Zhivoye Partnerstvo

Donor: Support Program for Belarus

Implementation period: 2007–2018

Further information: <https://partnership.by>

A series of projects implemented by RSEOO Zhivoye Partnerstvo was aimed at reducing energy consumption and waste generation in more than 40 non-industrial organizations/ institutions by introducing environmental management systems and awareness-raising activities for people.

2.4 Project name: EU4Youth: "School Garden" for the Development of Agricultural Entrepreneurship

Implementing agency: Public Association Green Cross Belarus

Donor: EU

Implementation period: 2018–2022

Further information: <http://schoolgarden.net>

The project promotes employment opportunities for young people living in rural areas, including those affected by the Chernobyl accident, and their active participation in the community life and the economy by developing modern job skills, organizational and entrepreneurial skills, promoting prospective professional competencies. In rural schools participating in the project, along with other activities, experiments are being conducted to introduce new types of crops, taking into account changes in climatic zones.

2.5 Project name: Developing a Training Course on Climate Change in the Baltic Sea Region

Implementing agency: IPO Ecoproject

Donor: Swedish Institute

Implementation period: 2019–2020

Further information: <https://ekapraekt.by/BSRCCC/>

The project aimed at developing an interdisciplinary course on climate change for the universities in the Baltic Sea Region. The 15 project partners – universities in the region, research institutes and NGOs – worked on the development of a common vision of climate change and its solutions and developed the course curriculum and teaching and training materials.

2.6 Project name: Understand, Measure and Reduce CO₂ Emissions in Belarus

Implementing agency: IPO Ecopartnership, Baltic Environmental Forum, Lithuania

Donor: Ministry of Foreign Affairs of Lithuania

Implementation period: 2020–2021

Further information: <https://ecopartnership.by/ru/projects/izmenenie-klimata/ponyat-izmerit-i-umenshit-vybrosy-co2-v-belarusi>

The project aimed at educating young people about the environment by focusing on climate change, and at facilitating the transition to environmentally friendly practices within organizations. The project developed a methodology for calculating the CO₂ emissions of daily living and work processes in the organizations, assessed the environmental performance of the pilot organizations and calculated their CO₂ emissions.

2.7 Project name: Education in Energy Efficiency and Climate Change in the Republic of Belarus. School Program for the Use of Resources and Energy (SPARE)

Implementing agency: IPO Ecopartnership, Republican Ecological Center for Children and Youth, Sakharov International State Ecological University, Center for Environmental Solutions

Donor: Ministry of Foreign Affairs of Norway

Implementation period: 2009–2015

Further information: <https://ecopartnership.by/ru/projects/izmenenie-klimata/obrazovanie-v-oblasti-energoeffektivnosti-i-izmeneniya-klimata-v>

The project aimed at raising awareness among teachers and

school administrations, students and their parents about energy-efficiency and the prospects of using renewable energy sources. The project created effective educational models in the area of energy conservation and renewable energy sources, introduced low-cost, practice-oriented energy conservation activities in schools, and provided practical skills training for students to develop behaviors that reduce consumption of non-renewable energy resources.

3. 3. Projects restoring abandoned peatlands

3.1 Project name: Sustainable Management of Forest and Wetland Ecosystems to Achieve Targeted Benefits (Wetlands)

Implementing agency: Ministry of Natural Resources and Environment Protection of the Republic Belarus, UNDP in Belarus

Donor: UNDP-GEF

Implementation period: 2017–2022

Further information: <https://old.un.by/novosti-oon/v-belarusi/4854-24-oktyabrya-den-organizatsii-ob-edinennykh-natsij>

The project aimed at introducing conservation-oriented and financially sustainable approaches to forest and wetland management, thereby generating benefits in the conservation of globally significant biodiversity, climate and land use. The project provided sustainable management of rare and typical habitats subject to special protection on 150,000 hectares of forest land.

3.2 Project name: Wetland Energy

Implementing agency: Sakharov International State Ecological University, Institute of Nature Management of the National Academy of Sciences of Belarus, Michael Succow Foundation, Germany

Donor: European Union, Michael Succow Foundation

Implementation period: 2010–2015

Further information: <https://www.iseu.bsu.by/ru/mezhdunarodnaja-dejatelnost/programmy-i-proekty/>

The project aimed at developing sustainable management of depleted reflooded peatlands at the JSC Peat Briquetting Plant Lidsky, Grodno region. Biomass collected from peat bogs was processed into fuel briquettes and pellets, which will eventually help replace fossil fuels (peat briquettes). This approach combines the most important environmental functions of bogs as a carbon sink, a regulator of hydroregime and a treasure trove of biodiversity and the production of useful biomass.

3.3 Project name: Restoration of Peatlands in Belarus and Application of Peatland Sustainable Management Concept – Climate Change Mitigation with Benefits for Economy and Biodiversity

Implementing agency: NGO Akhova Ptushak Batskaushchyny, in cooperation with the Royal Society for the Protection of Birds (UK) and Michael Succow Foundation (Germany)

Donor: Michael Succow Foundation

Implementation period: 2006–2010

Further information: <https://minpriroda.gov.by/ru/news-ru/view/5-ijulja-2011-goda-zamestitel-ministra-prirodnih-resursov-i-ohrany-okruzhajuschej-sredy-anatolij-lis-primet-uch-932/>

The project aimed at conducting research on the reduction of carbon dioxide emissions by restoring peatlands and developing an appropriate methodology for calculating CO₂ uptake, including the sale of quotas in voluntary and mandatory carbon markets. Based on the

described methodologies, the standard "Re-wetting and Protection of Peatlands" was developed and submitted to the Voluntary Carbon Standard Association (VCSA) and the Committee for the Oversight of Joint Implementation Projects for consideration.

4. 4. Projects in sustainable energy development and climate at the local level

4.1 Project name: Braslav District as the First Climate-neutral Municipality in Belarus

Implementing agency: Braslav District Executive Committee, Centre for Environmental Solutions

Donor: EU

Implementation period: 2016–2018

Further information: <https://euprojects.by/ru/projects/energy/Braslaŭ%20district%20-%20the%20first%20climate%20neutral%20municipality%20in%20Belarus/>

The project aimed to contribute to a 20% reduction of CO₂ emissions by 2020 by reducing energy consumption and introducing modern approaches to energy management. The project developed, adopted and initiated implementation of a strategic action plan to transform the Braslav district into the first climate-neutral municipality in Belarus by 2030.

4.2 Project name: Local Climate. Development of Local Climate Change Adaptation Plans and Joint Vulnerability Assessments

Implementing agency: IPO Ecoproject

Donor: EU

Implementation period: 2016

Further information: <https://ekapraekt.by/izmenenie-klimata/>

As part of the project, risks and opportunities related to climate change in three pilot regions – Sporovo and Motol rural councils (Brest region) and in the city of Chausy (Mogilev region) have been assessed, and local strategies for adaptation to climate change for these settlements have been developed.

4.3 Project name: Supporting the Covenant of Mayors Initiative in Belarus

Implementing agency: IPO Ecopartnership

Donor: EU

Implementation period: 2016–2020

Further information: <https://climate.ecopartnerstvo.by/ru/support>

The project aimed at enhancing the capacity of local authorities to successfully implement their commitments under the Covenant of Mayors Initiative and strengthening the interaction of public organizations with national and local authorities on energy and climate change issues. During the project, a number of educational and awareness-raising activities were conducted, experiences were shared, support was provided to signatory cities in drafting Sustainable Energy Action Plans, financial support was provided for the implementation of local initiatives to reduce CO₂ emissions or adapt to climate change in 10 localities in Belarus.

4.4 Project name: Covenant of Mayors for Localization of SDGs in the Cities of Belarus

Implementing agency: Interaction Foundation

Donor: Support Program for Belarus

Implementation period: 2020–2021

Further information: <https://interakcia.by/project/soglashenie-merov-dlya-lokalizacii-cur-v-gorodax-belarusi/>

The project focused on capacity building of local authorities in Belarus to synchronize their efforts to achieve the goals of the Covenant of Mayors for Climate and Energy and the Sustainable Development Goals and on strengthening the capacity of NGOs that support the CoM signatory cities in this process. The project developed recommendations and a practical guide on monitoring and evaluation of adaptation to climate change with individual analysis and instructions for Korma and Smorgon, as well as summary instructions that can be used by other Covenant of Mayors signatories in the Republic of Belarus.

4.5 Program name: Covenant of Mayors – Demonstration Projects" (COM-DEP), Cities and Districts of the Covenant of Mayors Energy and Climate Initiative

Donor: EU

Implementation period: 2014–2021

Further information: <https://com-dep.eu/ru/results/>

The goal of the program is to support municipalities that have joined the Covenant of Mayors Energy and Climate Initiative in implementing projects aimed at reducing energy consumption (and CO₂ emissions), improving local utilities, and increasing comfort for residents.

In 2014-2021, the 5 Covenant of Mayors signatories from Belarus participated in this program and received grant funding to implement energy efficiency measures, including:

4.5.1 Project: Modernization of District Heating and Lighting Systems, Installation of Solar Collectors in the Kindergarten in the town Braslav.

Implementing agency: Braslav District Executive Committee

Implementation period: 2015–2018

Results:

- ➔ Upgrade of the central heating system (biomass boilers installed; central heating pipes replaced; necessary auxiliary equipment installed).
- ➔ Upgrade of the street lighting system (LED lamps and solar street lamps installed).
- ➔ Installation of a solar collector in the kindergarten.

4.5.2 Project: Modernization of the Water Supply and Centralized Heating System in Chausy

Implementing agency: Chausy District Executive Committee

Implementation period: 2015–2020

Results:

- ➔ Automated system for commercial electricity metering.
- ➔ An automated heating and hot water supply regulation system installed.
- ➔ Automatic control of the city sewage pumping station and wastewater treatment plants installed.
- ➔ Parts of the sewage collector pipes replaced.
- ➔ Water & Energy Information Center established.

4.5.3 Project: GorSvet: Modernization of the Street Lighting System in Polotsk

Implementing agency: Polotsk City Executive Committee

Implementation period: 2015–2020.

Results:

- ➔ LED lighting fixtures installed.
- ➔ A new public lighting control system put into operation.
- ➔ Independent solar-powered lighting fixtures installed.
- ➔ Architectural illumination of the city facilities installed.

4.5.4 Project: Modernization of the Street Lighting System in Bereza

Implementing agency: Bereza District Executive Committee

Implementation period: 2018–2020

Results:

- ➔ Replacement of lamps with new efficient LED fixtures.
- ➔ Introduction of a public lighting control system.

4.5.5 Project: Modernization of the Kindergarten in Oshmyany

Implementing agency: Oshmyany District Executive Committee

Implementation period: 2018–2021

Results:

- ➔ Comprehensive modernization of the kindergarten building.
- ➔ Installation of a solar collector for water heating .
- ➔ Installation of photovoltaic equipment .
- ➔ Installation of heat pumps .
- ➔ Installation of the heat recovery ventilation system.

4.6 Program name: Supporting Green Urban Developmental in Small Towns and Medium-sized Cities in Belarus

Implementing agency: Ministry of Natural Resources and Environmental Protection of the Republic of Belarus

Donor: UNDP-GEF

Implementation period: 2016–2021

Further information: <https://new.minpriroda.gov.by/uploads/files/Proekt-1.doc>

The project aimed at expanding green urban development plans and implementing pilot green urban development initiatives related to energy efficiency and sustainable transport in small and medium-sized cities in Belarus. Green urban development plans were developed for Polotsk, Novopolotsk and Novogrudok; a single sustainable urban mobility plan was prepared for Novopolotsk and Polotsk and the construction of a bicycle network and improvement of public transport was financed. In Novogrudok, an initiative was implemented to install smart energy-efficient street lighting and smart energy meters.

Annex 2.

List of documents defining the policy and measures of the Republic of Belarus to combat climate change

General policies and measures

1. Concept of National Security of the Republic of Belarus

(Presidential Decree of November 9, 2010 No. 575, as amended by Decree of January 24, 2014, No. 49). The goal stated is to form a market of environmental services, implement environmental audit and insurance, effective regulatory framework for environmental security, including a system of payments for the use of natural resources and adequate compensation for damage caused to the environment. Implementing authorities: public authorities and other organizations.

<https://pravo.by/document/?guid=3871&p0=p31000575>

2. Directive No. 3 "On Priority Directions of Strengthening Economic Security of the State»

(Directive of the President of the Republic of Belarus of June 14, 2007, No. 3). It notes the importance of increasing the level of energy security of the country, meeting the needs of the country's economy and population in energy carriers through their most efficient use, while reducing the burden on the environment, including through the reduction of GHG emissions to 7 million tons per year by 2022 by replacing up to 5 billion cubic meters of imported natural gas in the fuel balance of the country. The document also states that the country's own FER, including RES, should be used in the fuel balance as

full as possible.

<https://energoeffect.gov.by/laws/direction>

3. National Strategy for Sustainable Development of the Republic of Belarus until 2035

(approved by the minutes of the meeting of the Presidium of the Council of Ministers of the Republic of Belarus of February 04, 2020, No. 3). The Strategy aims at increasing the efficiency of the economy while preserving natural systems for present and future generations, reducing greenhouse gas emissions by 33.2% in 2018 and by 38.0% in 2035 (compared to 1990). Implementing bodies: Ministry of Labor and Social Protection, Ministry of Economy, Ministry of Natural Resources and Environmental Protection.

<https://economy.gov.by/uploads/files/NSUR/NSUR-2035.pdf>

4. Environmental Protection Strategy 2025

(decision of the Board of the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus of January 28, 2011, No. 8-p). The Strategy includes measures to reduce harmful effects on the environment, restore natural complexes, significantly improve waste management, ensure sustainable territorial development, preserve biological and landscape diversity, minimize the impact on the climate and adapt to its changes. Implementing bodies: public authorities and other organizations.

<https://www.ecoinfo.by/content/98.html>

5. Environmental Protection Strategy 2035

(order of the Ministry of Natural Resources and Environmental Protection of December 24, 2021, No. 370-OD). The strategic objectives include improving the state of the environment by reducing the burden on it; expanding reproduction of natural resources and using renewable resources; contributing to solving the problems associated with climate change; recultivating and

rehabilitating degraded ecosystems. The target indicators of the strategy include increasing the area of ecological rehabilitation of peatlands from 64,2 thousand ha in 2020 to at least 80 thousand ha by 2035, increasing forest cover from 39.8% of the country's territory in 2019 to 41.1% by 2035, conserving wetlands in their natural state at the current level (at least 863 thousand ha), increasing the area of restoration of open meadows and wetlands from 60 thousand ha in 2019 to 140 thousand ha in 2035, and increasing the proportion of protected areas from 9% in 2020 to 9.2% in 2035.

<https://minpriroda.gov.by/uploads/files/strategija-oxr.okr.sredy-do-2035g..pdf>

6. Program of Social and Economic Development of the Republic of Belarus for 2021-2025 (Presidential Decree of July 29, 2021, No. 292). The Program aims at establishing conditions for the sustainable use of natural resources and the introduction of mechanisms (tools) of green transformation of the economy in the Republic of Belarus. By 2025 it is planned to reduce greenhouse gas emissions by 33% compared to the 1990 level, to reduce the level of energy intensity of the country's GDP by at least 7%, to achieve savings of fuel and energy resources through energy saving measures at the level of 2.5-3 million tons of fuel equivalent by 2025. Implementing bodies: ministries, agencies, committees, concerns, National Academy of Sciences of Belarus.

<https://pravo.by/document/?guid=12551&p0=P32100292&p1=1>

7. Program of activity of the Government of the Republic of Belarus for 2021 - 2025 (Resolution of the Council of Ministers of December 24, 2020, No. 758 as amended by Resolution of the Council of Ministers of November 9, 2021, No. 634). The Program ensures

environmental protection, rational use of natural resource potential, national security of the country in the environment protection and promoting a gradual transition to a green economy. Implementing bodies: public authorities.

<https://economy.gov.by/uploads/files/macro-prognoz/PDP-2025.pdf>

8. State Program of Innovation Development of the Republic of Belarus for 2021-2025 (Decree of the President of the Republic of Belarus of September 15, 2021, No. 348). The Program strives to form the accelerated development of high-tech sectors of the national economy. Implementing bodies: ministries, agencies, committees, concerns, National Academy of Sciences of Belarus.

https://pravo.by/upload/docs/op/P32100348_1632171600.pdf

9. State Program "Environmental Protection and Sustainable Use of Natural Resources" for 2021-2025 (Resolution of the Council of Ministers of the Republic of Belarus of February 19, 2021, No. 99 as amended on July 19, 2022, No. 473). The Program envisages assistance in achieving SDG 13 and fulfilling international obligations of the Republic of Belarus under the Paris Agreement and includes Subprogram 2 "Hydrometeorological Activities, Protection of Natural Resources under Climate Change" which implementation is expected to achieve the following results:

→ Maintenance of justifiability of weather forecasts and storm warnings (daily by regions – 97%, daily by regional centers – 93.4%, three-day by country territory – 97%, warnings on adverse weather phenomena – 94%, storm warnings on dangerous weather phenomena – 100%);

→ Reduction of greenhouse gas emissions by no less than 33% of the 1990 level by 2025, excluding emissions and greenhouse gas sinks in the LULUCF sector;

→ Implementation of international commitments to achieve the share of the area of transboundary river basins covered by international agreements on cooperation in the protection and use of transboundary waters – 78%.

<https://pravo.by/document/?guid=3871&p0=C22100099>

10. National Strategy for the Development of the System of Specially Protected Natural Areas until January 1, 2030 (Resolution of the Council of Ministers of the Republic of Belarus of July 02, 2014, No. 649 as amended on May 04, 2019). According to the Strategy, the five functions of the specially protected natural areas include adaptation to global climate change, including the prevention of adverse climatic events (flooding and floods, fires) and carbon dioxide absorption (mainly by wetlands and forest ecological systems). The mechanisms and expected results of the strategy implementation include restoration of disturbed ecological systems of floodplain meadows and bogs through the organization of rational use of shrubs and reeds in SPNAs. On 3.5 thousand hectares of lowland bogs it is planned to harvest about 1.5 thousand tons of dry biomass to replace fossil fuel, which will prevent emissions in the equivalent of 15.6 t CO₂-eq/ha/year. The strategy also provides for restoration of disturbed bogs, which will prevent peat fires and reduce carbon dioxide emissions.

<https://minpriroda.gov.by/ru/gosprog2021/>

11. Strategy of Scientific, Technical and Innovative Development in Environmental Protection and Sustainable Use of Natural Resources 2021-2025 (approved by the Ministry of Natural Resources and Environmental Protection on April 15, 2020). The objectives of the Strategy include reducing the impact on the climate, adaptation to its changes and mitigation of the consequences of these processes. One of the most promising areas of activities is to study the impact of climate change on water resources and develop adaptation measures and scientific methods of watering drought-prone areas, in particular to identify surface water bodies and develop an automated information system, such as a register of surface waters of the Republic of Belarus, and to develop appropriate geoinformation systems.

<https://minpriroda.gov.by/uploads/files/Strategija-na-2021-2025-gg..pdf>

12. State Program "Comfortable Housing and Favorable Environment" for 2021-2025 (Resolution of the Council of Ministers of the Republic of Belarus of January 28, 2021, No. 50) incorporates the subprograms Accessibility of Services; Improvements; Efficient Heat Supply; Housing Repair; Clean Water; Target 99 (consumption waste, waste sorting and SMR recycling); and Development of Electric Power and Gasification of Residential Areas. Implementing bodies: Ministry of Housing and Communal Services, Ministry of Energy, Ministry of Antimonopoly Regulation and Trade; Ministry of Architecture and Construction, regional executive committees, Minsk City Executive Committee.

<https://pravo.by/document/?guid=3871&p0=C22100050>

13. National Action Plan for the Development of a Green Economy in the Republic of Belarus for 2021-2025

(Resolution of the Council of Ministers of the Republic of Belarus of December 10, 2021, No. 710). It is the second plan in this field. The priority areas of development are defined as: the introduction of the principles of sustainable consumption and production; development of a circular economy; development of organic production; development of ecological tourism and agroecotourism; formation of smart and energy efficient cities; development of electric transport (infrastructure) and urban mobility; climate change mitigation and adaptation to climate change; and conservation and sustainable use of biological and landscape diversity; development of green financing; education, training and social involvement; and scientific support for the transition to a green economy. Implementing bodies: republican bodies of state administration and other state organizations, regional executive committees and Minsk City Executive Committee, National Academy of Sciences of Belarus.

<https://www.minpriroda.gov.by/uploads/files/2021/nats.plan-po-razvitiju-zelenoj-ekonomiki.pdf>

14. National Action Plan on Conservation and Sustainable Use of Biological Diversity for 2021-2025

(Resolution of the Council of Ministers of the Republic of Belarus of December 21, 2021, No. 733). It provides for the reduction of greenhouse gas emissions by 2025 by 33% (to the level of 1990); preservation of wetland ecosystems important for carbon storage by declaring them SPNAs or natural areas subject to special protection.

Energy

1. Energy Security Concept of the Republic of Belarus.

Involvement of local energy resources, especially renewable ones, in the fuel and energy balance as well as reducing the environmental load of the fuel and energy complex on the environment. Implementing bodies: ministries, agencies, committees, concerns, the National Academy of Sciences of the Republic of Belarus, regional executive committees and the Minsk City Executive Committee.

<https://minenergo.gov.by/law/kontseptsii-programmy-i-kompleksnye-plany/>

2. Concept of Development of Power Generating Capacities and Electric Networks for the period up to 2030.

Implementation of the Energy Security Concept of the Republic of Belarus. Implementing body: Ministry of Energy of the Republic of Belarus.

<https://minenergo.gov.by/law/kontseptsii-programmy-i-kompleksnye-plany/>

3. The Program of Comprehensive Modernization of the Energy Sector Production in 2021-2025

provides for reducing fuel equivalent consumption for electricity production (excluding NPPs) from 238.5 g/kWh in 2020 to 224.1 g/kWh in 2025; reducing losses during electric energy transmission not more than 8,01% in 2025 and during heat energy transmission not more than 8,5% in 2025; increasing the share of local fuel and energy resources in boiler and furnace fuel by Belenergo organizations not less than 2.4% in 2025 and RES not less than 1.5% in 2025; the ratio of average daily damages of power supply

in settlements to the total number of settlements not more than 0.4% in 2025. The Program is aimed at improving the reliability, technological, economic, and organizational and structural efficiency of the electric power industry. Implementing body: Ministry of Energy of the Republic of Belarus.

<https://minenergo.gov.by/wp-content/uploads/2021/%D0%9F%D0%9A%D0%9C%D0%AD%202025-%D1%81.pdf>

4. Comprehensive Plan for the Development of the Electricity Sector until 2025 Taking into account the Commissioning of the Belarusian Nuclear Power Plant (Resolution of the Council of Ministers of the Republic of Belarus of March 1, 2016, No. 169). Development of the electricity sector, including low-carbon technologies. Implementing body: Ministry of Energy of the Republic of Belarus.

<https://minenergo.gov.by/law/kontseptsii-programmy-i-kompleksnye-plany/>

5. State Energy Saving Program for 2021-2025. The Program aims at suppressing growth of gross consumption of FER during economic development of the country and further increase of use of local FER, including RES. Implementing bodies: ministries, agencies, committees, concerns, the National Academy of Sciences of the Republic of Belarus, regional and Minsk city executive committees.

<https://energoeffekt.gov.by/laws/resolution>

6. Law "On Renewable Energy Sources". This Law regulates relations related to the use of renewable energy sources for the production, further consumption and other use of electric energy,

and the manufacture of RES facilities. Implementing bodies: State Committee for Standardization, Ministry of Energy, Ministry of Natural Resources and Environmental Protection, Ministry of Economy, Ministry of Antimonopoly Regulation and Trade, and State Committee on Science and Technology.

<https://energoeffekt.gov.by/laws/act>

7. Law on Energy Saving. The Law aims at establishing an effective legislative framework to further reduce energy intensity of the national economy and increase its competitiveness. Implementing bodies: ministries, agencies, committees, concerns, the National Academy of Sciences of the Republic of Belarus, regional and Minsk city executive committees.

<https://energoeffekt.gov.by/laws/act>

8. Decree "On the Use of Renewable Energy Sources" (Presidential Decree of May 18, 2015, No. 209). The Decree defines the procedure for establishing new RES facilities and upgrading and reconstruction of available ones. Implementing bodies: State Committee for Standardization, Ministry of Energy, Ministry of Natural Resources and Environmental Protection, Ministry of Economy, Ministry of Antimonopoly Regulation and Trade, State Committee on Science and Technology.

<https://pravo.by/document/?guid=12551&p0=P31500209&p1=1>

9. On the Establishment and Distribution of Quotas for the Establishment of Renewable Energy Sources Facilities (Resolution of the Council of Ministers of the Republic of Belarus of August 06, 2015, No. 662). This Decree regulates the procedure for establishing

and distributing quotas for the establishment of RES facilities. Implementing bodies: State Committee for Standardization, Ministry of Energy, Ministry of Natural Resources and Environmental Protection, Ministry of Economy, Ministry of Antimonopoly Regulation and Trade, State Committee on Science and Technology.

<https://pravo.by/document/?guid=12551&p0=C21500662&p1=1>

Transport

1. State Program "Transport Complex" 2021-202 (Resolution of the Council of Ministers of the Republic of Belarus of March 23, 2021, No. 165) intends to meet the needs of the population and the economy of the republic in transport services. Implementing bodies: Ministry of Transport, other state administration bodies, transport organizations, and State Association Belarusian Railways.

https://pravo.by/upload/docs/op/C22100165_1616792400.pdf

2. Comprehensive Program for Electric Transport Development 2021-2025 (Resolution of the Council of Ministers of the Republic of Belarus of April 09, 2021, No. 213). It aims at increasing the use of electric transport and creating an infrastructure of charging stations.

<https://energoeffect.gov.by/laws/resolution>

3. Decree "On Encouraging the Use of Electric Vehicles" (Presidential Decree No. 92 of March 12, 2020) aims at encouraging the use of electric cars. Implementing bodies: Ministry of Natural Resources and Environmental Protection, Ministry of Transport, Ministry of Industry, other government agencies, National Academy of Sciences of Belarus,

and transport organizations.

<https://pravo.by/document/?guid=12551&p0=P32000092&p1=1&p5=0>

4. Program Establishing the State Charging Network for Electric Cars (Resolution of the Council of Ministers of the Republic of Belarus of October 10, 2018, No. 731) aims at encouraging the use of electric cars. Implementing body: Ministry of Transport.

<https://pravo.by/document/?guid=3961&p0=C21800731>

Industry and Construction

1. State Program "Housing Construction" 2021-2025 (Resolution of the Council of Ministers of the Republic of Belarus of January 28, 2021, 51). Construction of energy-efficient apartment buildings, increasing the level of provision of the population of the Republic of Belarus with affordable and quality housing from 26.5 m² per person (in 2016) to 27.3 m² (in 2020). Implementing bodies: Ministry of Architecture and Construction, Ministry of Energy, Ministry of Communications and Informatization, regional executive committees and Minsk City Executive Committee.

http://mas.gov.by/ru/koncec_zhilischn_politiki/

2. Decree "On Improving the Energy Efficiency of Apartment Buildings" (Presidential Decree of September 04, 2019, No. 327). The Decree provides support for citizens to improve the energy efficiency of housing and comfort of living and reduce greenhouse gas emissions from the consumption of thermal energy in the heating period and

electricity for air conditioning in summer. Implementing bodies: Ministry of Housing and Utilities, Department of Energy Efficiency of the State Committee for Standardization of the Republic of Belarus, executive committees.

https://energoeffect.gov.by/laws/20210714_ukaz/20210714_ukaz_327

3. Concept of Improvement and Development of Housing and Utilities until 2025 (Resolution of the Council of Ministers of the Republic of Belarus of December 29, 2017, No. 1037)

<https://energoeffect.gov.by/laws/resolution>

Agriculture

1. The State Program "Agrarian Business" 2021-2025 (The Resolution of the Council of Ministers of the Republic of Belarus of February 1, 2021, № 59) is about "establishing conditions for stable development of agroindustrial complex, increasing efficiency of agricultural production due to implementation of resource-saving technologies reducing material and labor costs, decreasing production costs, improving product quality to provide its competitiveness on domestic and foreign markets. Implementing bodies: the Ministry of Agriculture and Food, the Belarusian Republican Union of Consumer Societies, regional executive committees, the National Academy of Sciences of Belarus.

<https://mshp.gov.by/programms/b81ab6f86bc5670a.html>

2. Strategy for Adaptation of Agriculture of the Republic of Belarus

to Climate Change (approved by A.N. Khotko, Minister of Agriculture and Food of the Republic of Belarus, on August 30, 2019 and agreed by V.G. Gusakov, Chairman of the Presidium of the National Academy of Sciences of Belarus, on September 11, 2019). The Strategy provides for assessing changes in agroclimatic characteristics; considering sensitivity and vulnerability of agricultural soils to droughts, water and wind erosion; introducing water-saving technologies and expanding irrigated agriculture areas; optimizing crop sowing, agricultural crops and agronomic practices. Implementing bodies: Ministry of Agriculture and Food, National Academy of Sciences of Belarus.

<https://minpriroda.gov.by/uploads/files/4-Minselxozprod-Strategija-adaptatsii-s-x.pdf>

3. Law of the Republic of Belarus "On the Production and Circulation of Organic Products" of November 9, 2018, No. 144-3. The purpose of the law is to develop the production of organic products for the population, selling them for export, and to promote the conservation and rational use of natural resources in the production and circulation of organic products.

<https://pravo.by/document/?guid=3961&p0=H11800144>

Land use, land use change and forestry

1. State Program "Belarusian Forest" 2021-2025 (Resolution of the Council of Ministers of January 28, 2021, No. 52). The Program aims at achieving sustainable, economically efficient, environmentally responsible and socially oriented management of forests, forest management, hunting and hunting. Implementing bodies: Ministry

of Forestry, Ministry of Defense, Ministry of Emergencies, National Academy of Sciences of Belarus, Belarusian Production and Trade Concern of Forest, Woodworking and Pulp and Paper Industry, Ministry of Education and Minsk City Executive Committee.

<https://mshp.gov.by/programms/b81ab6f86bc5670a.html>

2. Strategy for Adaptation of Forestry in Belarus to Climate Change by 2050 (Resolution of the Board of the Ministry of Forestry of the Republic of Belarus of December 05, 2019). The Strategy aims at counteracting the negative effects of climate change on forestry, increasing the forest cover of the territory, the preservation of the gene pool of forest plantations, increasing their sustainability and productivity. Implementing bodies: Ministry of Forestry of the Republic of Belarus, forest holders.

<https://minpriroda.gov.by/uploads/files/2-Minlesxoz-Strategija-adaptatsii-l-x.pdf>

3. National Action Plan on Adaptation of Forestry of Belarus to Climate Change by 2030 (Resolution of the Board of the Ministry of Forestry of the Republic of Belarus of December 05, 2019). The Plan focuses on increasing forest cover, improving sustainability and productivity of forests for the period up to 2030. Implementing bodies: Ministry of Forestry of the Republic of Belarus, forest holders.

<https://minpriroda.gov.by/uploads/files/3-Minlesxoz-Nats.-plan-po-adaptatsii.pdf>

4. Strategy for Conservation and Rational (Sustainable) Use of Peatlands and Scheme of Distribution of Peatlands by Areas of Use

for the Period up to 2030 (Resolution of the Council of Ministers of the Republic of Belarus of December 30, 2015, No. 1111). They aim at ensuring the conservation and use of peatlands in a way and at a pace to avoid their depletion in the long term and to preserve their ability to meet the environmental, economic, aesthetic and other needs of present and future generations. Implementing bodies: republican bodies of state administration, local implementing and administrative bodies, research and other organizations.

<https://www.minpriroda.gov.by/ru/news-ru/view/pravitelstvom-prinjata-strategija-ratsionalnogo-ispolzovanija-torfjanikov-1804/>

5. Strategy for the Implementation of the United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (Resolution of the Council of Ministers of the Republic of Belarus of April 29, 2015, No. 361). The Strategy focused on the conservation and rational (sustainable) use of land (including soils), prevention of land degradation and increasing productivity. Implementing bodies: Ministry of Natural Resources and Environmental Protection, State Property Committee, Ministry of Agriculture, Ministry of Forestry, Ministry of Finance, Ministry of Emergencies, National Academy of Sciences of Belarus, regional executive committees.

<https://mshp.gov.by/documents/plant/ddd941160b83e526.html>

6. National Action Plan on Prevention of Land (Soil) Degradation for 2021-2025 (Resolution of the Council of Ministers of June 15, 2021, No. 341). It focuses on improvement of land and environmental legislation; transfer of land suitable for forest cultivation into the

category of forest fund land; ecological rehabilitation of peatlands; and development of a digital platform "Precision Agriculture".

<https://pravo.by/novosti/novosti-pravo-by/2021/june/64751/>

Waste

1. Subprogram "Goal 99" of the State Program "Comfortable Housing and Enabling Environment" for 2021-2025 (Resolution of the Council of Ministers of the Republic of Belarus of January 28, 2021, No. 50). This Program lists a number of measures to improve the household waste management, including sorting and recycling SMR.

<https://pravo.by/document/?guid=3871&p0=C22100050>

2. Concept for Establishing Facilities for Alternative Fuel Production from Solid Municipal Waste and its Use (Resolution of the Council of Ministers of August 22, 2016, No. 664). The Concept includes measures to create facilities for the production of alternative fuel from MSW and its use. Implementing bodies: Ministry of Housing and Utilities, Ministry of Natural Resources and Environmental Protection.

<https://pravo.by/document/?guid=3961&p0=C21600664>

3. National Strategy for the Management of Solid Municipal Waste and Secondary Material Resources in the Republic of Belarus (Resolution of the Council of Ministers of July 28, 2017, No. 567). The measures aim at minimizing the harmful impact of MSW on human health, the environment and achieving the rational use of natural resources by preventing waste generation and maximizing the extraction

of components contained in waste (organics, scrap metal, paper and cardboard, glass, polymers, textiles, worn-out tires and others), using them in economic circulation as additional sources of raw materials, semi-finished products, other components or products for the manufacture of goods (products), performing works or rendering services. Implementing body: Ministry of Housing and Utilities.

<https://pravo.by/document/?guid=12551&p0=C21700567&p1=1&p5=0>

4. Concept of Developing Facilities for Sorting and Using Solid Municipal Waste and Landfills for their Disposal (Resolution of the Council of Ministers of October 23, 2019, No. 715). The Concepts lists measures to develop the principles and approaches to placing MSW handling facilities, closing decommissioned landfills and mini landfills for MSW disposal and reclaiming land under such decommissioned landfills. Implementing body: Ministry of Housing and Utilities.

<https://pravo.by/document/?guid=12551&p0=C21900715&p1>

5. Plan of Measures Aimed at a Gradual Reduction in the Use of Polymer Packaging with Replacement by Environmentally Safe Packaging (Resolution of the Council of Ministers of the Republic of Belarus of January 13, 2020, No. 7). The Plan aims at reducing the volume of waste generation and preventing their harmful effects on the environment, the health of citizens and property through a step-by-step reduction in the use of polymer packaging with its replacement by environmentally safe packaging.

<https://pravo.by/document/?guid=12551&p0=C22000007&p1=1>



