

**Information and data from Ukraine
for the preparation of the 2024 Report on the determination
of the needs of developing country Parties related to the
implementation of the Convention and the Paris Agreement**

The Government of Ukraine welcomes the opportunity to submit its views on the needs of developing country Parties as an input to the Second report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement by the SCF.

Previously, Ukraine has prepared the following documents which describe its needs related to the implementation of the Convention and the Paris Agreement. They should serve as supplementary to what is detailed in this submission:

- Updated Nationally Determined Contribution (2021);
- Technology Needs Assessment [Report](#), Adaptation (2019);
- Technology Needs Assessment [Report](#), Mitigation (2019);
- Technology Action [Plan](#), Mitigation (2021).

It should be noted that since the submission of these reports, the context in Ukraine has changed drastically due to the full-scale invasion of Russia in 2022. Ukraine's needs related to the implementation of the Convention and the Paris Agreement since then have changed accordingly. Hence, there is a need for more up to date estimations of the relevant Ukraine's needs.

The war has brought large-scale damages to physical assets and to the economy in general of Ukraine. Despite this, Ukraine remains committed to decoupling economic growth from increase in GHG emissions and developing in line with the temperature goals of the Paris Agreement. Recovery after the war damage should be low-carbon and lead to a more energy and resource efficient economy than before war. The pathway of rebuilding with the use of old technologies with the same level of emissions is not considered.

According to the third Rapid Damage and Needs Assessment (2024) prepared by the government of Ukraine jointly with the World Bank, the EU, and the UN, direct damage to buildings and infrastructure is around \$152 billion. This includes housing (US\$56 billion, or 37% of total damage), transport (US\$34 billion, or 22%), commerce and industry (US\$16 billion, or 10%), energy (US\$11 billion, or 7%), and agriculture (US\$10 billion, or 7%). The total recovery and reconstruction needs are estimated to be \$486 billion as of the end of 2023, which is around 2.8 times the estimated nominal GDP of Ukraine for 2023.

While building back better is a principle integrated in RDNA assessments, incl. energy efficiency, disaster and climate resilience, and reduced reliance on fossil fuels, the overall estimation of needs does not equal Ukraine's needs in climate finance but rather illustrates the potential scale. When a general framework for a reconstruction is developed, it will be possible to carve out climate-related needs from the overall number of RDNA.

The first strategic document on recovery - the National Recovery Plan of Ukraine - was developed in 2022. Although it does not set a specific share of climate investments in the total amount, it generally aims at sustainable recovery and parallel green transition. The government of Ukraine currently considers which minimal share of investments during reconstruction should be in green and climate projects. An example here will serve the EU Ukraine Facility regulation under which at least 20% of the overall amount should contribute to climate change mitigation and adaptation, environmental protection, and to the green transition.

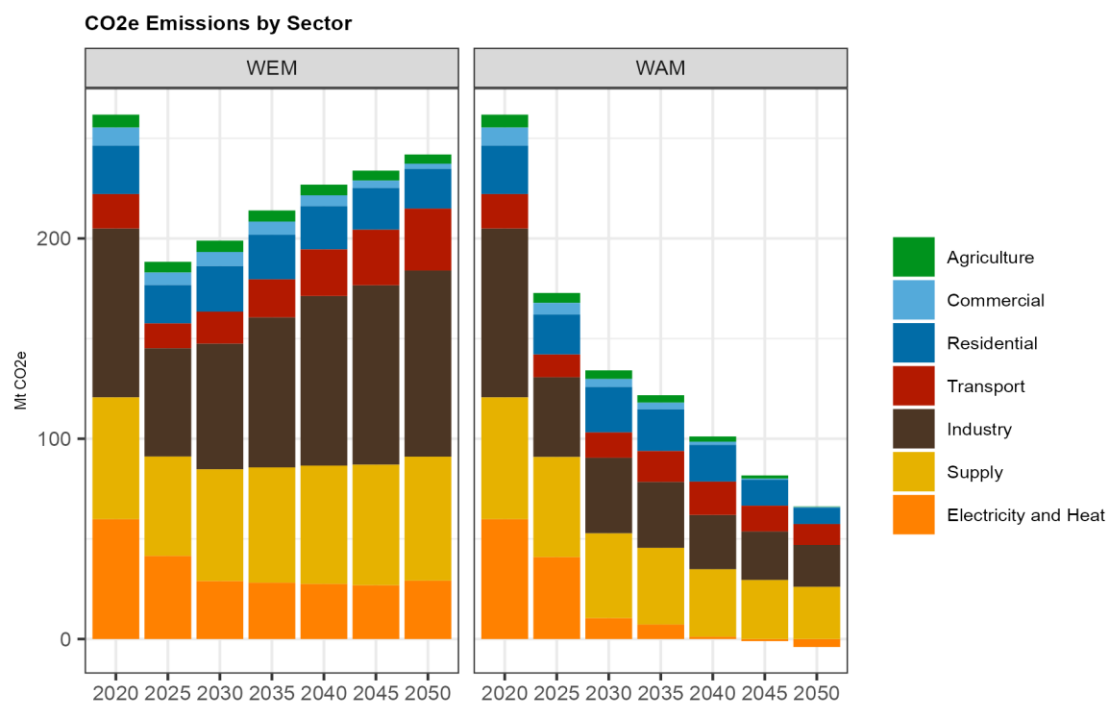
With this said, assessment of needs presented in this submission for the inclusion in the second NDR is based on the estimation of needs done for National Energy and Climate Plan of Ukraine (NECP) (2024) done by the Ministry of Economy of Ukraine.

Mitigation needs

In NECP, two main scenarios are considered:

- 1) Scenario with existing measures (WEM) – assumes that current legislation will be implemented, and a price for carbon will remain low until 2050. Under the WEM scenario, emissions after war will start to increase and grow steadily until at least 2050, although will still not reach the 2020 levels and will be 8% lower than in 2020, and 29% less than in 1990.
- 2) Scenario with additional measures (WAM) – assumes more ambitious climate policies, including the introduction of an emissions trading system, state auctions on renewable energy support, methane emissions reduction under Global Methane Pledge, measures on transformation of coal regions, reduction and/or termination of fossil fuel subsidies. In the WAM scenario decoupling is envisioned, with GHG emissions decreasing (see Fig.1).

Fig. 1. GHG emissions in selected sectors in Ukraine, million tons of CO₂-eq



Source: Ministry of Economy of Ukraine, Institute for Economics and Forecasting of National Academy of Sciences of Ukraine

Since the WAM scenario envisions a substantial reduction of GHG emissions, needs presented in this submission are based on it.

The overall investment needs based on NECP are **\$98.4 billion by 2030**, however numbers may change as planning of reconstruction will further evolve. By sector this will be:

- Energy sector: \$22.8 bln (€21.3 bln) for new generation and energy infrastructure;
- Industry: \$16.4 bln (€15.3 bln) for decarbonization measures and new technologies;
- Transport: \$26.8 bln (€25.0) (without private transport);
- Buildings: \$17.9 bln (€16.7 bln) for buildings retrofit;
- Supply sector: \$4.9 bln (€4.6 bln) for low-carbon and renewable fuels (incl. hydrogen, biomethane);

The following numbers are from the updated NDC (2021), as they have not been updated as of June 2024:

- Agriculture: \$4.3 bln (€4 bln);
- Waste: \$2.1 bln (€2 bln);
- LULUCF: \$3.2 billion (€3 bln).

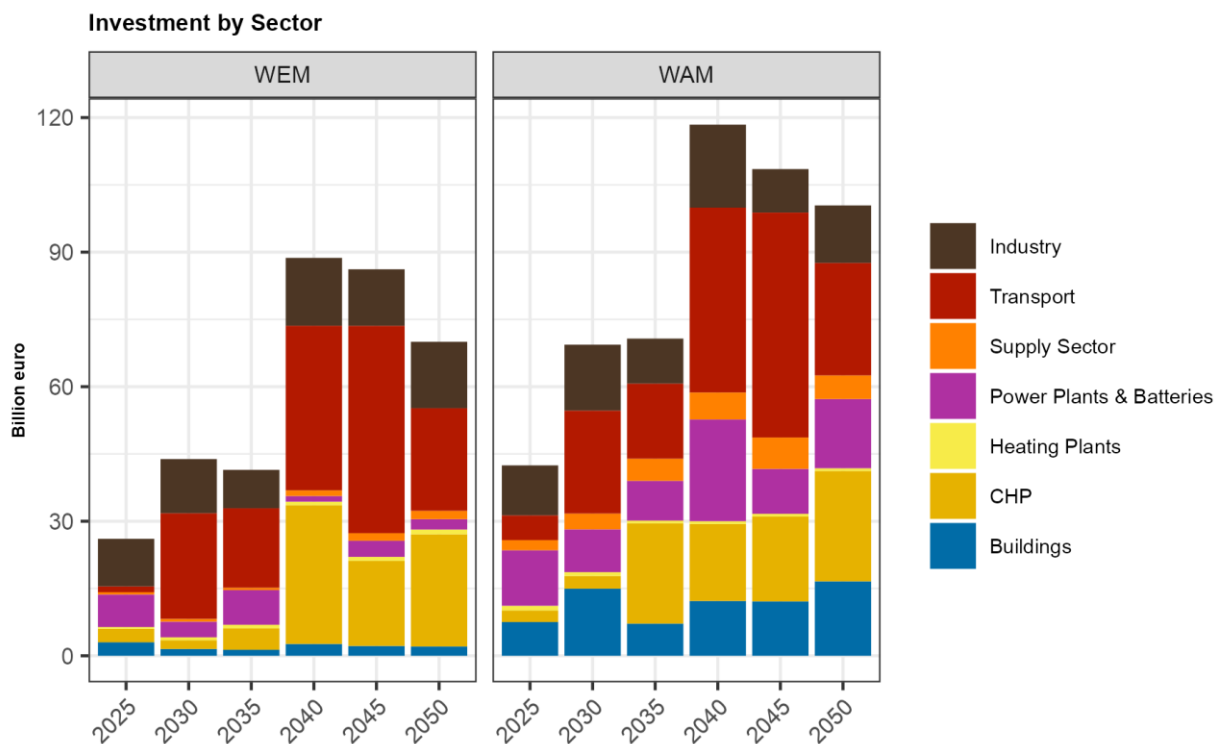
Since numbers from the updated Nationally Determined Contribution of Ukraine have not been updated after 2022, they may be higher when re-evaluated due to the war damage (e.g., to agricultural assets and forests).

The total number is lower than the updated NDC of Ukraine, which was pre-war, since the investment period in this submission is shorter than in NDC (six years compared to 10 years).

Additionally, since 2022 a number of industrial plants have been ruined by attacks during the war, e.g., in the metallurgical sector. It is not envisioned that all of them will be rebuilt. Hence, investment needs in mitigation measures are lower for industry. Additionally, the population of Ukraine has reduced recently both due to war-caused casualties and due to people leaving the country. As of December 2023, an estimated 5.9 million people were recorded as refugees across Europe. A decrease in population leads to lower needs in mitigation measures (e.g., for energy efficiency). Finally, the total investment needs does not include adaptation measures, and measures in the LULUCF sector, as it is currently not feasible to estimate them accurately due to the lack of data on damages to forests from hostilities.

The highest investment needs are in the transportation sector, i.e., for electrification of the vehicle fleet (excluding personal transport of population). Investment needs in low-carbon technologies in power and heating stations are also significant (see Fig. 2).

Fig. 2. Investment needs Industry, transport, supply sector, energy (power and heating), buildings, billion euros



Note: Each bar shows a sum of investment for a five-year period. For example, investments in 2030 include 2028,2029,2030,2031,2032

Source: Ministry of Economy of Ukraine, Institute for Economics and Forecasting of National Academy of Sciences of Ukraine

Adaptation needs

Adaptation needs have not been costed at this point and will be submitted for the future Needs Determination Reports.

Technology needs

Technology needs identified in Technology Needs Assessment Report on Adaptation (2019) and Technology Needs Assessment Report for Mitigation (2019) are used, since there was no update since their submission.

Technology Needs Assessment Report on Mitigation is focused on the technology prioritization for Agriculture and Waste mitigation.

Table 4. Selected priority technologies for climate change mitigation in Ukraine (Agriculture and Waste)

No	Technology
1	Organic agriculture
2	Conservation tillage technologies (low-till, no-till, strip-till, etc.)
3	The use of information and telecommunication technologies in agriculture for GHGs emission reductions in agriculture
4	The production and use of solid biofuels from agricultural residues
5	Methane capture at landfills and waste dumps for energy production
6	Waste sorting (sorting of valuable components of MSW with subsequent treatment of waste residual by other technologies)
7	The closure of old waste dumps with methane destruction (flaring, biocovers, passive vent etc.)
8	The mechanical-biological treatment of waste with biogas and energy production
9	The anaerobic treatment (digestion) of sewage sludge)
10	The mechanical-biological treatment of waste with the alternative fuel (SRF) production for cement industry

The result of technology prioritisation in climate change adaptation is provided in Tables 5 in the order of descending priority (1 – the highest priority, 12 – the lowest).

Table 5. Rank of technologies, agriculture adaptation sector

Rank	Technology Title
1	Drip irrigation in the combination with conservation agriculture practices
2	Agroforestry practices (shelterbelt reconstruction)
3	Integrated Pest and Disease Management
4	Development of an Agrometrological Early Warning System
5	Interactive Integrated Land Management Maps
6	Agricultural Credit Unions Net
7	Seed Bank
8	Improving agricultural production sustainability on complex landscapes
9	Inclusive crops production
10	Climate Smart Construction of Livestock Premises
11	Increasing efficiency of feed production from crops and crop residue
12	Underground greenhouses

Table 6. Ranking of water sector technologies

Rank	Tecnology Title
1	Climate-smart irrigation
2	Drought risk assessment and mapping
3	Flood hazard assessment and mapping
4	Precision agriculture
5	Public water conservation campaigns
6	Efficient irrigation
7	Ecological river restoration
8	Source water protection
9	Urban green spaces
10	Reducing system water loss and leakages
11	Advanced sewage wastewater treatment

Challenges

Lack of internal finance for implementation of the existing and planned policies is the most significant challenge for Ukraine currently. Planned tax revenues for 2024 are around \$39 billion (1.57 trillion UAH). At the same time, spending on defense will amount to \$41.7 billion (1.69 trillion UAH). As a result, the Government has to reduce other expenses, including expenses for the implementation of climate change measures. For instance, the state Energy Efficiency Fund that has provided grants for thermal modernization of residential buildings is suspending its support in 2024, while the importance of energy efficiency has only increased, considering the attacks on energy infrastructure, and the resulting deficit of electricity and heat throughout the year. Around \$4.3 billion is needed to finance activities under the Fund until 2030.

Another challenge is a lack of qualified staff for identification, planning and implementation of climate change measures. Mobilization to the Armed Forces of Ukraine, as well as the relocation of 5.9 million Ukrainians number outside of Ukraine because of the full-scale invasion, are already creating a shortage of employees.

Despite numerous challenges Ukraine keeps working on the key reforms and programs, including in waste management, energy market coupling with the EU, design of emissions trading system, draft climate change framework law. In 2024, the Decarbonization Fund was launched which will support low-carbon technologies and green energy projects using the revenues from carbon tax. This year guarantees of origin were also introduced aiming at creation of additional stimulus to develop renewable energy.

Finally, Ukraine recognizes that all its needs cannot be covered by concessional or grant-based public finance. Where technologies are mature private finance is welcomed, however attracting private finance will need mobilization efforts from the governments of the donor countries, due to the current high risk profile of Ukraine. It is planned that a share of needs will be covered with Ukraine's own resources, both public and private.

On categorization of developing and developed countries

It should be noted that in the second Needs Determination Report developing countries should not be indicated as the same countries that are Non-Annex 1 in the Convention.

In the UNFCCC Secretariat Legal opinion on the question regarding self-differentiation process of “developed-developing” countries under the Paris Agreement, it is stated that Parties may ascribe to themselves the designation of “developing” or “developed” in light of their different national circumstances. The Paris Agreement does not contain the criteria or procedure for the self-determination by Parties as developed or developing countries, and the CMA has not addressed this issue. Hence, in the NDR developing countries should not be equalized to the Non-Annex 1 countries of the Convention.