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Second Nationally Determined Contribution of Ukraine to the Paris Agreement

Introduction

Ukraine as a Party of the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement, recognizing the need for an effective and progressive response to the urgent threat of climate change and in accordance with decision 1/CP.19, prepared its Second Nationally Determined Contribution (NDC2) in the framework of the third global round of nationally determined contributions to the Paris Agreement. Ukraine aims to reduce its greenhouse gas (GHG) emissions in 2035 by more than 65 % from 1990 level.

As a Party to the UNFCCC and the Kyoto Protocol, Ukraine prepared its Intended Nationally Determined Contribution, which was approved by Resolution No. 980 of the Cabinet of Ministers of Ukraine on September 16, 2015, and submitted it to the UNFCCC Secretariat on September 19, 2016. Ukraine has set its target not to exceed 60% of GHG emissions in 2030 from 1990 level.

Following Decision 1/CP.21, which stipulates that those Parties whose intended nationally determined contribution pursuant to decision 1/CP.20 contains a time frame up to 2030 to communicate or update by 2020 these contributions and to do so every five years thereafter in accordance with the Article 4, paragraph 9 of the Paris Agreement, Ukraine has prepared its Updated Nationally Determined Contribution. Ukraine's updated nationally determined contribution was approved by the Resolution of the Cabinet of Ministers of Ukraine No. 868-r of July 30, 2021, and submitted to the UNFCCC Secretariat on July 31, 2021, setting a target of reducing GHG emissions by 65% by 2030 compared to 1990 level.

Ukraine made a significant contribution to reducing global GHG emissions. Since 1990, Ukraine has cumulatively reduced GHG emissions by 15.2 billion tons of CO_2-equivalent as of 2022. According to the UNFCCC reporting methodology, the largest GHG emissions in Ukraine occur in the Energy sector. In 2023, this sector accounted for about 74% of emissions, excluding land use, land-use change, and forestry (LULUCF), including 55% of GHG emissions from the combustion of fossil fuel, and the remaining 19% - from the fuel extraction, processing, and transportation. The share of the Agricultural sector in total GHG emissions, excluding LULUCF, was 14.2%, the Industrial processes and product use sector accounted for 9.5%, and the Waste sector contributed by 6.4% to the total emissions.

Meanwhile, military aggression of the Russian Federation has devastating consequences for the Ukrainian economy and brings vital threats to people and environment, which poses significant challenges for planning and achieving sustainable low-carbon development of Ukraine in medium and long terms. The actions of the Russian Federation have caused the most damage to the housing, energy, transport, industrial, and agricultural sectors. The Russian Federation's aggression has had devastating consequences for the national energy sector and energy security – more than 18 GW of power generation capacities are currently located in the Ukrainian territories being temporarily occupied by the Russian Federation, including the largest in Europe nuclear power plant in Zaporizhzhia. In addition, as a result of the Russian Federation's full-scale invasion of Ukraine, the Kakhovka HPP has been destroyed, and other TPPs, CHPs, HPP and pumped storage PPs have suffered critical damage. The destruction of the 343.2 MW Kakhovka HPP has led not only to the loss of generating capacity, but also to an environmental and humanitarian disaster.

According to the updated Rapid Damage and Needs Assessment (RDNA4) prepared by the Government of Ukraine in cooperation with the World Bank, the European Commission and the UN system (as of December 2024), the total direct damages caused by the Russian military aggression is estimated at $176 billion, and the total needs for recovery and reconstruction are estimated at $524 billion for the next decade. This amount is almost three times Ukraine's nominal GDP in 2024. The energy sector, housing stock, transport and industrial infrastructure, as well as the agricultural sector, have suffered the most damages, creating unprecedented challenges for sustainable development, energy transition, and the achievement of climate goals. In such conditions, planning more ambitious emission reduction targets is objectively limited due to the extremely high level of uncertainty regarding the scale of recovery, economic growth dynamics, the future structure of the energy balance, and the pace of decarbonization. The war has destroyed a significant part of the energy, industrial, and transport infrastructure, while reconstruction requires the involvement of large amounts of material resources, which may temporarily lead to an increase in GHG emissions during the reconstruction period.

Despite the ongoing military aggression of the Russian Federation, Ukraine has been taking decarbonization steps in energy consumption and scaling-up its energy efficiency and renewable energy actions. The National Energy and Climate Plan until 2030 and the National Renewable Energy Action Plan for the period until 2030 provide that the share of energy produced from renewable sources in the structure of gross final consumption should be at least 27% in 2030.

In October 2024 Verkhovna Rada of Ukraine adopted the Law “On the Main Principles of the State Climate Policy”. The law sets legally binding goal for Ukraine to achieve climate neutrality by 2050. A corresponding target for the energy sector is also set out in the Energy Strategy of Ukraine for the period until 2050, approved by

Resolution of the Cabinet of Ministers of Ukraine No. 373 of April 21, 2023. In addition, the Energy Strategy states that coal-fired power generation will be gradually reduced until it is completely phased out by 2035.

In accordance with obligations under Article 4, paragraph 19 of the Paris Agreement and paragraph 35 of the Decision 1/CP.21, Ukraine has developed its Low Emission Development Strategy until 2050, which was approved by a protocol decision of the Cabinet of Ministers of Ukraine on July 18, 2018, and submitted to the UNFCCC Secretariat. To identify ways to achieve the goal of climate neutrality by 2050, as defined by the Law of Ukraine “On the Main Principles of the State Climate Policy” and to consider Ukraine's international commitments as a member state of the Energy Community, Ukraine is currently preparing an updated Long-Term Low Emission Development Strategy by 2050.

Ukraine recognizes the critical importance of climate change adaptation as one of the key areas of the state climate policy, in particular through the submission of the Communication on Adaptation to the UNFCCC, as well as in accordance with the requirements of the Law of Ukraine "On the Main Principles of the State Climate Policy" which defines the Climate Change Adaptation Strategy as the main document for state planning in this area, with the aim of increasing climate resilience, reducing the vulnerability of ecosystems, economic sectors, and the population, including increasing resistance and reducing risks to public health from the current and expected effects of climate change. Currently, the Strategy for Environmental Security and Adaptation to Climate Change until 2030, approved by the resolution of the Cabinet of Ministers of Ukraine No. 1363-r of October 20, 2021, is in force. Over the next two years, Ukraine plans to develop and approve a new strategy for adaptation to climate change.

Scenario modelling within the framework of NDC2 preparation was carried out for the territory of Ukraine within its internationally recognized borders. Determining Ukraine's NDC2 national target based on the scenario modelling, as well as implementing measures to achieve the NDC2 target, is complicated by the partial limitation of statistical information due to the temporary occupation of part of Ukraine's territory by the Russian Federation. The high level of uncertainty regarding current and projected GHG emissions and removals has affected the ability to set ambitious and achievable NDC targets for Ukraine until 2035. At the same time, RDNA4 emphasizes the need to combine post-war recovery with climate-oriented approaches, in particular the development of renewable energy, decarbonization of industry, restoration of ecosystems, and creation of “green” jobs. That is why Ukraine considers NDC2 not only as a climate goal, but as a strategic framework for integrating green reconstruction principles into the post-war recovery processes. In addition, there is uncertainty about the timing and intensity of military operations on the territory of Ukraine caused by the Russian Federation's military aggression, which

in turn could lead to further destruction of Ukraine's infrastructure and economy, as well as an increase in GHG emissions.

After Ukraine's territorial integrity is restored within its internationally recognized borders, Ukraine's NDC2 shall be adjusted based on verified information and calculations (scenario modelling) of anthropogenic emissions from emission sources and GHG removals.

Submission of the Second Nationally Determined Contribution of Ukraine to the Paris Agreement

In line with Article 4, paragraph 8 of the Paris Agreement according to which "all Parties shall provide the information necessary for clarity, transparency and understanding" in accordance with decision 1/CP.21 and any relevant decisions of the Conference of the Parties serving as the meeting of the Parties to this Agreement, following paragraph 2 of Decision 6/CMA.3.

1. Quantified information on the reference point (including, as appropriate, a base year):	
a. Reference year(s), base year(s), reference period(s) or other starting point(s)	1990
b. Quantifiable information on the reference indicators, their values in the reference year(s), base year(s), reference period(s) or other starting point(s), and, as applicable, in the target year	The reference indicator is GHG emissions for 1990, which is equal to 916.5 million CO_2-equivalent according to the Ukraine's GHG inventory report for 1990–2023 (100 %).
c. For strategies, plans and actions referred to in article 4, paragraph 6, of the Paris Agreement, or polices and measures as components of nationally determined contributions where paragraph 1(b) above is not applicable, Parties to provide other relevant information	N/A
d. Target relative to the reference indicator, expressed numerically,	The target is expressed as a reduction of percentage of net GHG emissions, including removals, by over 65% in 2035 comparing to 1990 level.

for example in percentage or amount of reduction	
e. Information on sources of data used in quantifying the reference point(s)	Current estimates of GHG emissions in a base year and a target year are based on the National Inventory for the period of 1990-2023, submitted to the Secretariat of the UNFCCC in April 2025
f. Information on the circumstances under which the Party may update the values of the reference indicators.	The reference value for total GHG emissions for the base year shall be revised in accordance with the provisions of Decision 18/CMA.1 and the methodological recommendations of the Intergovernmental Panel on Climate Change (IPCC) Guidelines.
2. Time frames and/or periods for implementation	
a. Time frame and/or period for implementation, including start and end date, consistent with any further relevant decision adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement	1 January 2031 - 31 December 2035
b. Whether it is a single-year or multi-year target, as applicable	Ukraine’s second NDC is expressed as a single-year target in 2035
3. Scope and coverage	
a. General description of the target	Reduction of net economy-wide GHG emissions, including removals, compared with a base year expressed in percentage. Ukraine's NDC2 covers the territory of Ukraine within

	its internationally recognized borders. Ukraine's NDC2 shall be adjusted after the termination or repeal of the legal regime of martial law, taking into account the territorial integrity of Ukraine and the volume of GHG emissions within its internationally recognized borders.
b. Sectors, gases, categories and pools covered by the nationally determined contribution, including, as applicable, consistent with Intergovernmental Panel on Climate Change (IPCC) guidelines	***Gases covered:*** all GHGs not controlled by the Montreal Protocol – Carbon Dioxide (CO_2), Methane (CH_4), Nitrous Oxide (N_2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur Hexafluoride (SF_6), Nitrogen Trifluoride (NF_3). ***IPCC sectors covered:*** energy; industrial processes and product use; agriculture, land use, land-use change and forestry; waste. ***Percentage of GHG emissions covered:*** 100 %.
c. How the Party has taken into consideration paragraphs 31(c) and (d) of decision 1/CP.21	Ukraine includes all categories of anthropogenic GHG emissions and removals in accordance with the IPCC methodologies.
d. Mitigation co-benefits resulting from Parties' adaptation actions and/or economic diversification plans, including description of specific projects, measures and initiatives of Parties' adaptation actions and/or economic diversification plans	In 2024, Ukraine submitted its first National Communication on Adaptation to the UNFCCC, which sets out the institutional framework, strategic priorities, instruments, challenges, and adaptation measures. Currently, the Strategy for Environmental Security and Adaptation to Climate Change until 2030, approved by resolution of the Cabinet of Ministers of Ukraine on October 20, 2021, No. 1363-r, is in force. The main goal of the adaptation policy of Ukraine is to increase resilience and to reduce risks to public health, as well as to ensure environmental, energy, and food security in the context of climate change. As part of its climate policy, one of the priorities of the Ukrainian Government is to ensure access for the population, particularly vulnerable groups of people, including children, the elderly people, people with disabilities, to sustainable water supply, ensuring the sanitary and epidemiological well-being of the population to mitigate the negative impact of climate

	change on water resources and public health, in particular through: - introduction of climate-resilient water supply infrastructure in schools, medical facilities, and communities to ensure the safety and well-being of children during extreme weather events; - introduction of technologies and practices to improve management in order to ensure the sanitary and epidemiological well-being of the population and access to water resources for the population in areas affected by the negative effects of climate change; - introduction of low-carbon technologies to ensure access to water resources; - inclusion of climate change adaptation measures in national and regional strategies and river basin management plans. To reduce the impacts and consequences of climate change, one of the priorities of climate policy implementation in Ukraine is to ensure that current and projected climate change impacts are taken into account in strategic planning at the national, regional and local levels, as well as in the construction of infrastructure facilities, particularly those that are critical for vulnerable population groups. Biodiversity conservation is another strategic goal of the state policy in Ukraine, which is achieved, in particular, through the implementation of climate change adaptation measures. Ukraine is currently in the process of updating its National Biodiversity Conservation Strategy and Action Plan based on the Global Biodiversity Framework. These strategic documents will define the main measures and indicators for biodiversity conservation in Ukraine.
4. Planning process	

a. Information on the planning processes that the Party undertook to prepare its nationally determined contribution and, if available, on the Party's implementation plans, including, as appropriate:	
(i) Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-responsive manner	**Domestic institutional arrangement:** The Ministry of Economy, Environment and Agriculture of Ukraine is in charge for coordinating efforts at the national level in developing, implementation, and systematic revision of the NDC. Both central and local executive authorities in Ukraine adhere to the procedure for involving the public in the development, review and/or adoption of regulatory acts. This procedure includes, inter alia, the timely publication of draft regulatory documents on official websites, public and in-person consultations, the collection and processing of proposals and comments from interested parties, and the established of special working groups. Representatives of public authorities, as well as national experts and scientists, were involved in the preparation of the Ukraine's NDC2. As part of the procedure set out in the Cabinet of Ministers' Regulations, the NDC, as an act subject to be approved by the Cabinet of Ministers of Ukraine, goes through a process of consultation with interested parties. This procedure for conducting public consultations is held both in written and oral forms The process of involving stakeholders in the preparation of NDC2 included events to present and discuss modelling results that formed the basis for NDC2, two of which focused on discussing modelling results by sectors which are covered by NDC2. Ukraine actively works to integrate gender equality issues into all areas of public policy, including climate policy. The principle of gender equality is one of the principles of climate policy, as defined in the Law of Ukraine "On the Main Principles of the State Climate Policy". In the process of preparing state climate policy documents, the Government of Ukraine makes

	efforts to ensure equal engagement to the climate policy decision-making process. Recognising the important role of consideration of the interests of young people and children, Ukraine ensures the involvement of this population group in the climate policy-making process. The National Energy and Climate Plan for the period up to 2030, developed in accordance with the requirements of Regulation (EU) 2018/1999, summarises policies and measures aimed at achieving the goals of reducing GHG emissions, improving energy efficiency, developing renewable energy and strengthening energy security. The development, monitoring of implementation and updating of the National Energy and Climate Plan is ensured by the Ministry of Economy, in close cooperation with the Ministry of Energy, the Ministry for Development of Communities and Territories, the State Agency for Energy Efficiency, the National Energy and Utilities Regulatory Commission and other ministries and agencies.
(ii) Contextual matters, including, inter alia, as appropriate:	
a. *National circumstances, such as geography, climate, economy, sustainable development and poverty eradication*	Ukraine is located in Eastern Europe and is one of the largest countries in terms of territory (603,628 km^2) and estimated population of 35 million people. The forest in Ukraine covers around 16% of the total territory of the country. Protected areas amount to 6% of the country's territory. Agricultural lands in Ukraine cover around 68% of the territory. Ukraine has a temperate continental climate, with a subtropical Mediterranean climate on the southern coast of Crimea. In general, Ukraine receives sufficient heat and moisture, which creates favourable natural and climatic conditions on its territory. However, these conditions have changed significantly over the last few decades, posing serious threats and challenges to the country's sustainable development due to increased risks to human health,

	life and activities, natural ecosystems and economic sectors, in particular energy, transport, agriculture and forestry. The increase in air temperature leads, in particular, to an increase in the frequency and intensity of convective phenomena such as thunderstorms, downpours, hail, and squalls. Ukraine is vulnerable to dangerous and extreme hydrometeorological phenomena such as rain floods, floods and coastal flooding, including flooding of agricultural and urban areas, mudslides and landslides, which result in human casualties and significant damage and destruction of infrastructure. Regions that have not previously experienced droughts, including northern and north-eastern agricultural areas, are experiencing arid conditions today, leading to increased demand for water and increased water shortages. In addition, climate change causes soil degradation, deterioration of soil fertility, and the ecological condition of land. Due to the increase in the number of dry days over the last decade, combined with rising air temperatures, the risk of fires in Ukraine has increased. In recent decades, average and maximum wind speeds have been decreasing, leading to a reduction in the frequency of associated hazardous weather events such as blizzards and dust storms. Unlike air temperature, the change in annual precipitation in Ukraine has been insignificant (3-5%). Fluctuations in annual precipitation over the last period have been within the normal climatic variability, but the amplitude of interannual fluctuations has decreased. The increase in air temperature and the uneven distribution of precipitation, which is characterised as torrential and localised during the warm season and does not ensure effective moisture accumulation in the soil, have led to an increase in the frequency and intensity of droughts. In combination with other anthropogenic factors, this could lead to an increase in the area of risky farming and even to the desertification of certain areas in the southern regions of Ukraine. Hydropower facilities perform important functions of

	regulating runoff, protecting against floods and providing water supply for the population, industry and agriculture, which is critically important in the context of climate change and the increasing frequency of extreme weather events. These functions ensure synergy between mitigation and adaptation measures to climate change. Nominal GDP in 2023 was approximately $178.34 billion, and GDP per capita was approximately $5,070. In 2022, as a result of the full-scale military invasion of Ukraine by the Russian Federation, Ukraine's real GDP decreased by 28.8%. In 2023, real GDP growth was 5.5%, and in 2024 it slowed to 2.9%, nevertheless demonstrating economic recovery in the context of full-scale war. Nominal GDP in 2024 was approximately $191 billion (according to the State Statistics Service of Ukraine, converted into US dollars based on the average exchange rate for 2024 according to the National Bank of Ukraine). According to the RDNA4, prepared by the Government of Ukraine in collaboration with the World Bank, the European Commission and the UN system (as of December 2024), the total direct damage caused by Russian military aggression is estimated at US$176 billion, while the total needs for restoration and reconstruction are estimated at $524 billion for the next decade. This amount is almost three times Ukraine's nominal GDP in 2024. The energy sector, housing stock, transport and industrial infrastructure, as well as the agricultural sector, have suffered the most damage, creating unprecedented challenges for sustainable development, energy transition and the achievement of climate goals. In such conditions, planning more ambitious emission reduction targets is objectively limited due to the extremely high level of uncertainty regarding the scale of recovery, economic growth dynamics, the future structure of the energy balance and the pace of decarbonisation. The war has destroyed a significant part of the energy, industrial and transport infrastructure, while reconstruction requires the involvement of large amounts of material resources, which may temporarily lead to an increase in GHG

	emissions during the reconstruction period.
b. Best practices and experience related to the preparation of the nationally determined contribution;	Despite the considerable uncertainty caused by Russia's aggressive war against Ukraine, Ukraine applied best international modelling practices in preparing NDC2. The modelling covered all sectors of the economy and allowed for the development of various economic development scenarios, the assessment of the impact of existing climate and energy plans and strategies, and the planning of additional necessary policies and measures for security, recovery and development. GHG emission scenario projections were developed using several mathematical models, including the TIMES-Ukraine energy system model for the 'Energy' and 'Industrial Processes' sectors (according to UNFCCC categories), a mass balance model for the 'Waste' sector, and a special simulation modelling tool for the "Agriculture" and 'LULUCF' sectors.
c. Other contextual aspirations and priorities acknowledged when joining the Paris Agreement	N/A
b. Specific information applicable to Parties, including regional economic integration organizations and their member States, that have reached an agreement to act jointly under Article 4, paragraph 2, of the Paris Agreement, including the Parties that agreed to act jointly and the terms of the agreement, in accordance	N/A

with Article 4, paragraphs 16-18, of the Paris Agreement	
c. How the Party's preparation of its NDC has been informed by the outcomes of the global stocktake, in accordance with Article 4, paragraph 9, of the Paris Agreement;	Ukraine's NDC2 has been informed by the outcomes of the first Global Stocktake at CMA5 (decision 1/CMA.5). Following the outcomes of the first Global Stocktake, Ukraine's NDC2 is an economy-wide absolute emissions reduction target, covering all greenhouse gases, sectors and categories with particular attention to sectors and activities listed in decision 1/CMA.5, paragraphs 28-29. Ukraine fully supports the provisions set out in paragraphs 28 and 33 of the Global Stocktake of the Paris Agreement and reaffirms its responsible and conscious commitment to implementing its own contribution to achieving global goals, commitments and efforts in terms of increasing renewable energy capacity, accelerating the implementation of energy efficiency measures, phasing out coal-fired power generation and generally reducing the use of fossil fuels, introducing zero- and low-emission technologies, significantly reducing non-CO_2 GHG emissions, in particular methane emissions, reducing emissions from road transport and phasing out inefficient fossil fuel subsidies. The relevant measures implemented by Ukraine are defined in national, sectoral and regional strategies and plans and systematised in the National Energy and Climate Plan. The progress in implementing abovementioned policies is presented in the Biennial Transparency Report.
d. Each Party with an NDC under Article 4 of the Paris Agreement that consists of adaptation action and/or economic diversification plans resulting in mitigation co-benefits consistent with Article 4, paragraph 7, of the Paris Agreement to submit information on:	
(i) How the economic and social consequences of response measures have been considered in	N/A

	developing the NDC	
(ii)	Specific projects, measures and activities to be implemented to contribute to mitigation co-benefits, including information on adaptation plans that also yield mitigation co-benefits, which may cover, but are not limited to, key sectors, such as energy, resources, water resources, coastal resources, human settlements and urban planning, agriculture and forestry; and economic diversification actions, which may cover, but are not limited to, sectors such as manufacturing and industry, energy and mining, transport and communication, construction, tourism, real estate, agriculture and fisheries	N/A

5. Assumptions and methodological approaches, including those for estimating and accounting for anthropogenic greenhouse gas emissions and, as appropriate, removals:	
a. Assumptions and methodological approaches used for accounting for anthropogenic greenhouse gas emissions and removals corresponding to the Party's NDC, consistent with decision 1/CP.21, paragraph 31, and accounting guidance adopted by the CMA	In accordance with paragraph 31 of Decision 1/CP.21, Ukraine use the approach of comparing total GHG emissions in the target year to total GHG emissions in the base year to assess and account for GHG emissions and removals, in accordance with Decision 1/CP.21 and other recommendations approved by the CMA.
b. Assumptions and methodological approaches used for accounting for the implementation of policies and measures or strategies in the NDC	N/A
c. If applicable, information on how the Party will take into account existing methods and guidance under the Convention to account for anthropogenic emissions and removals, in accordance with Article 4, paragraph 14, of the Paris Agreement, as appropriate	Ukraine uses methodology IPCC 2006 Guidelines as per UNFCCC decision 18/CMA.1 to prepare National GHG Inventory to promote environmental integrity, transparency, accuracy, completeness, comparability and consistency, and ensure the avoidance of double counting, in accordance with guidance adopted by CMA according to Article 4, paragraph 14, of the Paris Agreement.
d. IPCC methodologies and metrics used for estimating anthropogenic greenhouse gas emissions and removals	Ukraine uses methodology IPCC 2006 Guidelines for National Greenhouse Gas Inventories as per decision 18/CMA.1 to prepare National GHG Inventory. Where it is appropriate, Ukraine also uses the appropriate national methodologies aligned with the 2019 Refinements to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

	100-year time-horizon global warming potentials (GWP) from the Fifth Assessment Report of IPCC are used as required by the Decision 18/CMA.1.
e. Sector-, category- or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance, as appropriate, including, as applicable:	
(i) Approach to addressing emissions and subsequent removals from natural disturbances on managed lands;	All emissions and subsequent removals from natural disturbances on managed lands are included into accounting based on IPCC 2006 Guidelines for National Greenhouse Gas Inventories as per decision 18/CMA.1.
(ii) Approach used to account for emissions and removals from harvested wood products;	Carbon stock changes in harvested wood products are estimated based on production approach according to IPCC 2006 Guidelines for National Greenhouse Gas Inventories as per decision 18/CMA.1.
(iii) Approach used to address the effects of age-class structure in forests;	The assessment of GHG emissions and removals from forests takes into account the effect of forest age structure in accordance with the methods used in the preparation of the national inventory report on anthropogenic emissions from GHG emission sources and GHG removals.
f. Other assumptions and methodological approaches used for understanding the NDC and, if applicable, estimating corresponding emissions and removals, including:	
(i) How the reference indicators, baseline(s) and/or reference level(s), including, where applicable, sector-, category- or activity-specific reference levels, are constructed, including, for example, key parameters,	GHG emissions modelling exercise included three key scenarios development till 2050 aligned with Long-term strategy modelling exercise. The projections of GHG emissions under different scenarios has been developed by several mathematical models incl. the energy system TIMES-Ukraine model applied for the Energy and Industrial Processes sectors (according to the IPCC categories), mass balance model for the Waste sector and simulation tools for the Agriculture and LULUCF.

	assumptions, definitions, methodologies, data sources and models used	The reference value for GHG emissions for the base year is taken from the National inventory report on anthropogenic emissions from GHG emission sources and GHG removals (see 1(b) and 1(e)).
(ii)	For Parties with NDCs that contain non-greenhouse-gas components, information on assumptions and methodological approaches used in relation to those components, as applicable	N/A
(iii)	For climate forcers included in NDCs not covered by IPCC guidelines, information on how the climate forcers are estimated	N/A
(iv)	Further technical information, as necessary	NDC2 supporting information, including public consultations outcomes, is communicated on the official website: https://mepr.gov.ua/zvit-pro-rezultaty-provedennya-elektronnyh-konsultatsij-z-gromadskistyu-shhodo-proyektu-rozporyadzhennya-kabinetu-ministriv-ukrayiny-pro-shvalennya-drugogo-natsionalno-vyznachenogo-vnesku-ukrayiny-d-2/, https://mepr.gov.ua/diyalnist/napryamky/zmina-klimatu/pom-yakshennya-zminy-klimatu/natsionalno-vyznachenyj-vnesok-ukrayiny/drugyj-natsionalno-vyznachenyj-vnesok-ukrayiny/
g.	The intention to use voluntary cooperation under Article 6 of the Paris Agreement, if applicable.	Ukraine plans to achieve its NDC2 target through domestic policies and measures. At the same time, Ukraine participates and intends to continue participating in market mechanisms under Article 6 of the Paris Agreement as a Party on whose territory projects under Article 6 of the Paris Agreement are implemented. Ukraine already cooperates with Switzerland and Japan under Article 6 of the Paris

	Agreement. By participating in cooperative approaches, Ukraine will comply with the rules and guidelines in accordance with the decisions of the CMA to ensure proper accounting, environmental integrity, transparency and avoidance of double counting.
6. How the Party considers that its NDC is fair and ambitious in light of its national circumstances	
a. How the Party considers that its NDC is fair and ambitious in the light of its national circumstances	Ukraine has already made a significant contribution to the reduction of global GHG emissions as of now. Since 1990 Ukraine has already cumulatively reduced its GHG emissions by 15.2 billion tons of CO_2 equivalent as of 2022. These GHG emissions reductions were coupled with significant economic structural changes that, however, caused economic and population decline, and were characterized by social development challenges, and reduced population wellbeing. Despite the ongoing military aggression by the Russian Federation, Ukraine's NDC2 sets a more ambitious target of GHG emission reduction compared to its Updated Nationally Determined Contribution. However, RDNA4 emphasises the need to combine post-war recovery with climate-oriented approaches, in particular the development of renewable energy, decarbonisation of industry, restoration of ecosystems and creation of green jobs. That is why Ukraine considers NDC2 not only as a climate goal, but as a strategic framework for integrating green reconstruction principles into post-war recovery processes. In addition, there is uncertainty regarding the timing and intensity of military operations on the territory of Ukraine caused by the military aggression of the Russian Federation, which in turn may lead to further destruction of Ukraine's infrastructure and economy, as well as an increase in GHG emissions. In implementing measures to decarbonise the economy for achieving the NDC2 target, Ukraine will

	ensure the implementation of the principle of just transition, in particular within the framework of the State Target Programme for the Just Transition of Coal Regions of Ukraine for the period up to 2030.
b. Fairness considerations, including reflecting on equity	Ukraine's NDC2 is consistent with global mitigation efforts to limit global warming to well-below 2°C. Ukraine's NDC2 is aligned with a goal of achieving climate neutrality by 2050 established by the Law of Ukraine "On the Main Principles of the State Climate Policy".
c. How the Party has addressed Article 4, paragraph 3, of the Paris Agreement	Ukraine's emission reduction targets demonstrate progress towards achieving Article 2 of the Paris Agreement. The first Ukraine's emission reduction target communicated in the Intended Nationally Determined Contribution contained a goal of not exceeding 60% of 1990 emissions level in 2030. The Updated Nationally Determined Contribution of Ukraine, submitted in 2021 to the UNFCCC, established a much more ambitious goal of a reduction of 65% in GHG emissions by 2030 compared to 1990 levels. Despite the military aggression and the full-scale invasion by the Russian Federation, as well as the need to restore and rebuild the Ukrainian economy and infrastructure, Ukraine's 2035 emission reduction target demonstrates a further raise of ambitions in climate change mitigation efforts. The quantitative target for NDC 2 will be updated after the termination or repeal of the legal regime of martial law to reflect current information on the most likely ambitions and corresponding capabilities in light of national circumstances, as provided for in paragraph 3 of Article 4 of the Paris Agreement.
d. How the Party has addressed Article 4, paragraph 4, of the Paris Agreement	Ukraine complies with this provision by having an economy-wide absolute target.

e. How the Party has addressed Article 4, paragraph 6, of the Paris Agreement	N/A
7. How the NDC contributes towards achieving the objectives of the Convention as set out in its Article 2	
a. How the NDC contributes towards achieving the objective of the Convention as set out in its Article 2;	Ukraine commits to reducing GHG emissions (including LULUCF) by more than 65% from 1990 levels by 2035, thereby contributing to keeping the increase in global average temperature well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C. This commitment demonstrates progress in reducing GHG emissions compared to Ukraine's previous Updated Nationally Determined Contribution by 2030. In addition, it ensures low GHG emissions that do not threaten food production in Ukraine and allow the Ukrainian economy to develop in a sustainable manner, including further green reconstruction and economic recovery.
b. How the NDC contributes towards Article 2, paragraph 1(a), and Article 4, paragraph 1, of the Paris Agreement.	Ukraine's NDC2 is consistent with a trajectory to achieve net zero GHG emissions not later than 2050. Policies and measures aimed at achieving strategic climate goals are outlined in the National Energy and Climate Plan and the Biennial Transparency Report.