DECISION OF THE GOVERNMENT OF THE REPUBLIC OF ARMENIA

«22» April 2021 N 610 - L

ON APPROVAL OF THE NATIONALLY DETERMINED CONTRIBUTION 2021-2030 OF THE REPUBLIC OF ARMENIA TO PARIS AGREEMENT

Based on the Article 146 of the Constitution of the Republic of Armenia and taking into consideration paragraphs 2, 3, 4 and 8 of Article 4 of the Paris Agreement, the Government of the Republic of Armenia decides to:

1. Approve the Nationally determined contribution 2021-2030 of the Republic of Armenia to the Paris Agreement.

2. This decision enters into force the next day following its official publication.

Annex

to the Government Decision N 610 – L, 22 April 2021

NATIONALLY DETERMINED CONTRIBUTION 2021-2030 OF THE REPUBLIC OF ARMENIA

TO THE PARIS AGREEMENT

1. The Republic of Armenia ratified the United Nations Framework Convention on Climate Change in May 1993. In December 2002, Armenia ratified the Kyoto Protocol, and in February 2017, it ratified the Doha Amendment to the Kyoto Protocol and the Paris Agreement. In May 2019, the Republic of Armenia ratified the Kigali Amendment to the Montreal Protocol, undertaking a commitment to phase down HFCs[1]. Armenia remains committed to multilateral process addressing the climate change.

2. The Republic of Armenia submitted its Intended Nationally Determined Contribution (INDC) to the UNFCCC Secretariat in September 2015. The INDC started with a preparatory period 2015-2019, following with a next phase from 2020, with a horizon to 2050.

3. With the ratification of the Paris Agreement in February 2017, the INDC of Armenia became its nationally determined contribution (NDC) for the period of 2015 – 2050.

4. The Republic of Armenia is a developing country and, as a developing country Party to the UN Framework Convention on Climate Change, it is not included in the Annex I to the Convention. Article 4, paragraph 4, of the Paris Agreement provides that developed country Parties should continue taking the lead by undertaking economy-wide absolute emission reductions targets, and that developing country Parties should continue enhancing their mitigation efforts and are encouraged to move over time towards economy-wide emission reduction or limitation targets in the light of different national circumstances.

5. In its 2015 INDC, Armenia undertook to pursue economy-wide mitigation measures, striving to achieve per capita net emissions of 2.07 tCO_2eq in 2050,

[1] From year 2033, the ban will be enacted on the import of HFCs to the Republic of Armenia from the countries that are not Parties to Kigali Amendment, export to the said countries, as well as the transit transfer of HFCs through the territory of the Republic of Armenia to the said countries.

subject to adequate international financial, technological and capacity-building support.

6. By 2030, Armenia is going to double its share of renewables in energy generation on the path to achieve climate neutrality in the second half of this century.

7. Armenia is a land-locked country with vulnerable mountainous ecosystems, already facing negative impacts of climate change and water scarcity. Therefore, adaptation policies and measures are of paramount importance for Armenia's ability to achieve its social and economic development goals.

8. This submission constitutes the update of the INDC, which was submitted in 2015, following guidance provided by decision 4/CMA.1, decision 9/CMA.1 and decision 18/CMA.1. It provides up-front information on the emission reductions to be achieved by 2030 and on adaptation measures to be undertaken as part of the NDC, together with information on "action and support".

9. The NDC is based on the principle of green economy and is compatible with the Sustainable Development Goals (SDGs) reflected in social and economic development goals of the Republic of Armenia.

10. In its updated NDC, the Republic of Armenia adopts a ten-year NDC implementation period (2021-2030) unlike its INDC, which proposed a timeframe of 2015-2050. Armenia maintains its 2050 mitigation goal of reducing its GHG emissions to at most 2.07 tCO_2eq/capita, to be reflected in its Long Term - Low Emission Development Strategy (LT-LEDS). The new mitigation target to be achieved in 2030 equals 40 per cent reduction below 1990 emissions levels.

QUANTIFIABLE INFORMATION ON THE REFERENCE POINT		
1.	**Reference year**	1990
2.	**Quantifiable information on the reference indicators**	• 40 per cent reduction from 1990 emission levels by 2030 • Total GHG emissions 1990: 25,855, Gg CO_2eq • Net GHG emissions 1990: 25,118, Gg CO_2eq, (NIR 1990-2017)
3.	**Sources of data used in quantifying the reference points**	• Historical data are quoted from the National Greenhouse Gas Inventory Report of the Republic of Armenia for 1990-2017, Yerevan

		2020. • Calculations of the 2030 emissions target are based on: – 1990-2017 GHG Inventory data; – The main provisions of the new "Strategic Program for the Development of the Energy Sector of the Republic of Armenia (until 2040)"[2], providing for more ambitious development of renewable energy and further lifetime extension of the Armenian Nuclear Power Plant. The measures provided in the new Strategy have been prioritized in the Programme of the Government of the Republic of Armenia, adopted in 2019, justifying projections of GHG emissions from the Energy Sector; – Emissions targets for IPPU, Agriculture and Waste sectors are based on the projections and assumptions provided in 4th National Communication.
4.	**The circumstances under which the Republic of Armenia may update the values of reference indicators**	The values of reference indicators may be updated in the event of further improvements made to the National GHG Inventory such as higher tier approaches for sub-categories, including data for new sub-categories, updates to country-specific emission factors or other improvements resulted from the quality assurance of GHG Inventory, inter alia, identified within the Technical Analysis of the NIRs.
TIMEFRAMES AND/OR PERIODS OF IMPLEMENTATION		
5.	**Timeframe**	1 January 2021 – 31 December 2030
6.	**Number of targets**	Single year target (2030)
SCOPE AND COVERAGE		

[2] RA Government Decision No 48-L of 14 January 2021

7.	**General description of the target**	Economy-wide
8.	**GHG covered**	1. Carbon dioxide (CO_2) 2. Methane (CH_4) 3. Nitrous Oxide (N_2O) 4. F-gases (HFCs, SF_6) These gases are compiled in the National GHG Inventory.
9.	**Sectors covered**	**Sectors included in the mitigation contribution:** a. Energy (Energy Production and Use) b. Industrial Processes and Product Use (Mineral Industry and F-gases) c. Agriculture (Enteric Fermentation, Direct and Indirect N_2O Emissions from managed soils) d. Waste (Solid Waste management, Wastewater) e. Forestry (afforestation, forest protection) and Other Land Use.
PLANNING PROCESSES		
10.	**Planning processes and implementation plans**	**Planning processes** • Coordination of the NDC preparation and monitoring of its implementation is a task of the Inter-agency Coordinating Council on Climate Change, established by the Decision No 955 of the Prime Minister of the Republic of Armenia of 02 October 2012. The Council is composed of representatives of 10 ministries, three State agencies adjunct to the Government and two independent bodies, namely the Armenian Public Services Regulatory Commission and Statistical Committee of the Republic of Armenia. • Public consultation process of the NDC update has been carried out in line with the government procedures, including involvement of the civil society, in a gender-responsive

		manner, and followed by a parliamentary debate. • The implementation of the NDC will be supported on subnational level by involving local communities and encouraging all stakeholders to take action, including NGOs, taking into account the needs of youth, vulnerable groups, in a gender-responsive manner. **In the planning processes, the following national circumstances have been considered:** • Armenia GHG emissions come primarily from the energy sector (electricity and heat generation, other stationary and mobile combustion including in transport and residential sectors, fugitive emissions from natural gas system). In 2018, total primary energy supply (TPES) in Armenia amounted to 3.15 million toe or 1.1 toe/capita; • Armenia has practically no domestic resources of fossil fuels and highly depends on fossil fuel imports. In 2018, 28.4 per cent of TPES was covered by indigenous resources: nuclear energy, hydro energy, biofuels, and small share of solar and wind energy; • Natural gas accounted for 64.9 per cent of Armenia's TPES in 2018 (2.04 million toe), followed by oil products: 10.2 per cent (0.3 million toe). Energy efficiency, energy conservation and renewable energy development are key priorities for the country's energy security and key drivers of low carbon development; • In 2018, Armenia produced 0.67 million toe electricity, of which 43.3 per cent came from natural gas fired thermal power plants, 29.8 per cent came from hydro power plants, 26.6 per

		cent came from nuclear power plant and 0.3 per cent from wind and solar plants. Since 1990, Armenia gradually and completely phased out fuel oil (mazut) from the electricity mix. The government of Armenia does not subsidize the use of fossil fuels; • Total final consumption of energy in 2018 was 2.15 million toe. Households are the largest consumers of final energy (33.1 per cent). Transport is the second largest final energy consuming sector (33.0 per cent); • Armenia is a small, landlocked country, it is responsible for 0.02 per cent of global GHG emissions. In 2017, total GHG emissions amounted to 10,624 Gg CO_2eq and net GHG emissions amounted to 10,180 Gg CO_2eq (NIR 2017); • Armenia is an upper-middle income country with a small population, yet Armenia is assuming its responsibility and is ready to do its fair share in terms of emission reductions. In line with the outcomes of the Talanoa Dialogue of 2017-2018, Armenia is prepared to increase its ambition and in time go climate neutral with the help of international donors; • Long-term planning until 2050 will be undertaken as part of preparation of Armenia's Long-Term Low Emissions Development Strategy, with a view to the government adopting this document in 2021. Armenia anticipates being able to access adequate financial, technological, and capacity building support to mitigate and adapt to climate change; • The main considerations taken into account by the government when updating the NDC were to maintain the growth of national economy, poverty reduction, environment protection,

		achievement of sustainable development goals, while increasing national energy security and ensuring affordable and clean energy supply. **Implementation plans** Implementation of the 2021-2030 NDC is safeguarded by the national and sectoral strategies and their implementation programmes, such as: • Republic of Armenia 2014-2025 Strategic Program of Perspective Development[3] outlines actions to maximize the use of domestic energy resources, focusing on renewable energy and promoting energy efficiency; • Programme of the Government of Armenia[4] (2019) puts emphasis on the development of nuclear energy, renewable energy sources, introduction of energy efficient and new technologies for ensuring energy security and providing affordable and reliable energy supply as well as for mitigating and preventing problems resulting from climate change, pursuant to the commitments under international agreements, the development and implementation of a sustainable policy for promoting green economy and achieving long-term sustainable development goals; • Provisions of the EU-Armenia Comprehensive and Enhanced Partnership Agreement Roadmap[5] with 12 actions on climate change and 34 energy efficiency, renewable energy, and energy security actions; • "Strategic Program for the Development of the Energy Sector of the Republic of Armenia (until 2040)"[6], which safeguards national priority of

[3] RA Government Decision No 442-L of 27 March 2014
[4] RA Government Decision No 65-A of 08 February 2019
[5] RA Prime Minister Decision No 666-L of 01 June 2019
[6] RA Government Decision No 48-L of 14 January 2021

		energy security based upon nuclear energy, modern gas fired generation plants, development and expansion of economically viable and technically available renewable energy sources, mostly solar energy. Particularly, after realizing small hydro potential, mostly after 2000, the focus is shifted to solar energy and wind. Armenia is developing solar energy capacity from current 59.5[7] MW to 1000 MW before 2030, to increase both, green energy share and energy security (at least 15 per cent in 2030 in power generation mix); • A national Energy Efficiency and Renewable Energy Programme 2021-2030, which will define new sectoral targets[8]; • Transport Strategy: increased efficiency of public transport, use of renewable energy, stimulation and support in uptake of electric vehicles; • Agriculture strategy (2020-2030)[9]: improved nitrogen fertilizer management and development of organic farming, sustainable intensification of animal breeding through improved species, breeds, improved irrigation system, promotion of digital agriculture and technological innovation; • Solid Waste Management System Development Strategy for 2017-2036[10]; • National Forestry Programme (2021): increase of forest cover to 12.9 per cent of the territory of Armenia by 2030; Sectoral policy for forestry and sectoral policy

[7] As of 1st July 2020

[8] RA Government Decision No 650-L of 16 May 2019 envisaged development and adoption of national programme

[9] RA Government Decision No 886-L of 19 December 2019

[10] RA Government Protocol Decision No 49 of 08 December 2016

		for agriculture ensure organic carbon conservation, accumulation and storage in all categories of lands through comprehensive measures. Balance achieved will be accounted for in the NDC. **Financing** • The financing needs assessment is part of the National Implementation Plan for 2021-2030 NDC, which is under preparation; • Armenia seeks to develop a debt-for-climate innovative financial swap mechanism, which aims at leveraging additional finance into climate action and suggests innovating not only the technical aspects of the debt-for-climate transaction, but the prioritization and value of commitments undertaken by countries across the world on a bilateral and multilateral level. • Ministries and state agencies responsible for the implementation of sectoral strategies: Ministry of Environment, Ministry of Territorial Administration and Infrastructure, Ministry of Finance, Ministry of Economy, Statistical Committee, Public Services Regulatory Commission, Urban Development Committee, Cadaster Committee.
11.	**Voluntary cooperation under Article 6 of the Paris Agreement**	The NDC commitment will be met through domestic actions, although donor support will be indispensable in order to ensure its implementation. In order to promote and contribute to mitigation outcomes over and above its domestic efforts, Armenia intends to participate in market and non-market mechanisms under Article 6 of the Paris Agreement, subject to relevant provisions having been adopted by Parties to the Agreement, namely in cooperative approaches enabling the use of internationally transferred mitigation outcomes

		(ITMOs) under Article 6.2 by other Parties towards their NDCs, in project mechanisms under Article 6.4, providing additional mitigation outcomes to support the achievement of NDC goals by other countries, and in non-market approaches under Article 6.8 of the agreement. Armenia is already cooperating with the European Union and its Member States to promote measures at domestic, regional and international level, including with regard to market and non-market mechanisms for addressing climate change.[11]
ADAPTATION TO CLIMATE CHANGE		
12.	**Adaptation to climate change**	**In the planning processes, the following national circumstances have been considered**: 1. Armenia is a land-locked, mountainous country with altitudes ranging from 375 to 4090 meters above sea level and has six climate zones: dry subtropical, semi dessert, steppe, forest, alpine and cold high mountainous; 2. The climate of Armenia is rather dry with annual precipitations of 592 mm, some regions are arid, while the highest levels of precipitation are observed in the mountains. Within the period of 1935-2016 the total precipitation decreased by about 9 per cent (with faster decrease after 1996) which necessitates corresponding adaptation measures in agriculture and better water management; 3. The average air temperature has significantly increased compared to the 1961-1990 annual average: by 1.03°C during 1929-2012, and during 1929-2016 this increase made 1.23°C. **Basis and approaches to adaptation**

[11] The scope of this bilateral cooperation is outlined in Chapter IV of the EU-Armenia Comprehensive and Anhanced Partnership Agreement (CEPA) and in its Annex IV

		1. Adaptation strategy and contributions are based on the requirement of the UNFCCC Article 2 “Objective”, which is to restrain climate change within timeframe sufficient to allow ecosystems to adapt naturally to climate change. Thus, the natural ecosystems adaptation approach in NDC is considered pivotal for Armenia’s adaptation strategy and actions (contribution), and a basis for the development of the National Adaptation Plan 2021-2030. 2. General objective of the NAP process is to promote reduction and management of climate risks in Armenia by addressing the impacts of climate change, taking advantage of emerging opportunities, avoiding losses and damages and building mechanisms enabling adaptation of natural, human, production and infrastructure systems. Adaptation activities will be prioritized based on sectors’ vulnerability to climate change: – Natural ecosystems (aquatic and terrestrial, including forest ecosystems, biodiversity and land cover) – Human health – Water resource management – Agriculture, including fishery and forests – Energy – Human settlements and infrastructures – Tourism. 3. The Republic of Armenia embraces the ecosystem approach for adapting to climate change. The ecosystem-based approach to adaptation is in harmony with the environmental policy of the country, linked to the Long-Term Strategy to 2050 and to Armenia development priorities. 4. Ecosystem based Adaptation is expected to

		become part of policy mix in each sector, as reflected in Sectoral Adaptation Plans (SAPs). This ensures that mechanisms and policies supporting improved biodiversity and ecosystem services, income generation, poverty reduction, adoptive development or resilience of infrastructure and carbon emission mitigation co-benefits are integrated into sectoral and sub-national activities to reduce the country's overall vulnerability to climate change. 5. The NAP will undergo periodic review and revision in 5-year cycles, in conjunction with updates to the National Communications, submission of adaptation communications and other relevant Measuring Reporting and Verification processes under the Convention and the Paris Agreement, providing the information necessary to track progress on the implementation and achievement of policies and measures.
ASSUMPTIONS AND METHODOLOGICAL APPROACHES, INCLUDING THOSE FOR ESTIMATING AND ACCOUNTING FOR ANTHROPOGENIC GREENHOUSE GAS EMISSIONS AND, AS APPROPRIATE, REMOVALS		
13.	**Assumptions and methodological approaches used for accounting for anthropogenic GHG emissions and removals corresponding to the Party's NDC**	• Methodologies for estimating emissions are based on IPCC 2006 Guidelines for national greenhouse gas inventories. • The IPCC 2006 Inventory Software, developed for these Guidelines, was used for data entry, emission calculation, results analysis and conclusions. • Global Warming Potential was used on a 100-year timescale in accordance with the IPCC's 2nd Assessment Report ("1995 IPCC GWP Values") as a basis for conversion of CH_4, N_2O, F-gases emissions to CO_2eq. • GHG emissions and removals were estimated

		using tier 1, 2 and 3 methodologies from the 2006 IPCC Guidelines. In the case of key categories, tier 2 and 3 methodologies were mainly applied. Tier 3 methods were used for estimating CO_2 emissions from electricity generation and cement production. Tier 2 methods were used for estimating emissions from stationary and mobile combustion of natural gas, fugitive CH_4 emissions from natural gas, HFC emissions from refrigeration and air conditioning (method 2A), CH_4 emissions from enteric fermentation and manure management of cattle, buffalo and sheep, net CO_2 removals from forest land remaining forest land, and CH_4 emissions from solid waste disposal. • Detailed information on each category is provided in the NIR2017, including an overview of emissions share; a description of methodology used; sources of data used; uncertainty analysis; consistent time-series; source-specific quality assurance/quality control; source-specific recalculations; and source-specific recommendation and planned improvements.
14.	**Transparency**	**Transparency of mitigation and adaptation actions will be ensured through:** 1. The introduction of national MRV system reflecting modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement (Decision 18/CMA.1); 2. Biennial development of National Greenhouse Gas Emissions Inventory; 3. Development and submission to the UNFCCC Secretariat of National Communications and Biennial Update Reports/ Biennial Transparency Reports (from 2024);

		4. Maintaining participatory process in the NDC review and public consultation mechanism during preparation of next NDCs, in a gender-responsive manner; 5. Open and accessible information system ensured through strengthening cooperation between public service providers and civil society organizations.
WHY THE REPUBLIC OF ARMENIA CONSIDERS THAT ITS NATIONALLY DETERMINED CONTRIBUTION IS FAIR AND AMBITIOUS IN THE LIGHT OF ITS NATIONAL CIRCUMSTANCES		
15.	**To what extent the NDC of the Republic of Armenia is fair and ambitious considering the national circumstances**	• The target of the 2020NDC, compared to the 2015INDC has been brought in line with the latest data on GHG emissions and capabilities of the country, taking into account a 10-year timeframe aligned with that of the majority of Parties to the Paris Agreement, as well as aligned with preparations to the global stock take. • Armenia' s current emissions are below 0.02 per cent of total global emissions. • In 1993 relative to 1990 the GDP shrank by 53.1 per cent due to the collapse of the economic system of the Soviet Union. From 1994 onwards, GDP growth rebounded. In the period of 1994-2018, average GDP growth amounted to 6.2 per cent, with exception of 2009, when the GDP fell by 14.1 per cent. • The economic recovery in Armenia was accompanied with significant progress towards low carbon development. In 2017 compared to 1990, greenhouse gas emissions per unit of GDP (constant 2010 prices) fell 4.7 times and made 0.86 Gg $CO_{2eq.}$ /million USD. GDP energy intensity also dropped 4.7 times from 1990 to 2017 and made 0.27 toe/1000 USD. This is due to structural changes in the economy, the

		widespread use of renewable energy resources, the use of low-carbon technologies, and the implementation of EE measures, which are an evidence of Armenia's low-carbon development trends.[12] • Armenia plans to continue growing as low-carbon, modern economy, and to contribute to the long-term global goal of the Convention and of the Paris Agreement in line with its capability and respective capacity.
16.	**How the NDC of the Republic of Armenia contributes towards achieving the objective of the Convention as set out in its Article 2**	**NDC of the Republic of Armenia has been formulated based on the assumption that it will contribute to:** 1. Holding the increase in the global average temperature to well below 2°C above pre-industrial level and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change; 2. Furthering the objective of the Convention, while guided by its principles, including the principle of equity and common but differentiated responsibilities and respective capabilities, in the light of specific national circumstances; 3. Applying an ecosystem-based approach to mitigation and adaptation actions, giving preference to balanced and combined actions.

[12] Armenia's 4th National Communication to UNFCCC