

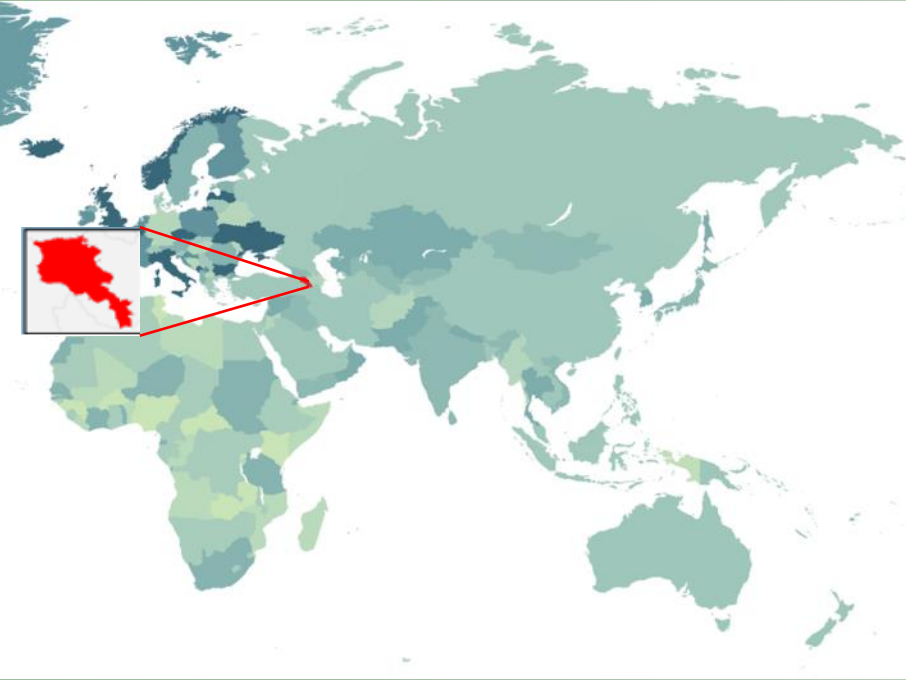


REPUBLIC OF ARMENIA
MINISTRY OF
ENVIRONMENT

ARMENIA
THIRD BIENNIAL UPDATE REPORT TO THE UNFCCC
FACILITATIVE SHARING OF VIEWS

Sharm El-Sheikh, Egypt
11 November 2022

NATIONAL CONTEXT



Geography

Landlocked mountainous country in the South Caucasus region with limited transportation routes

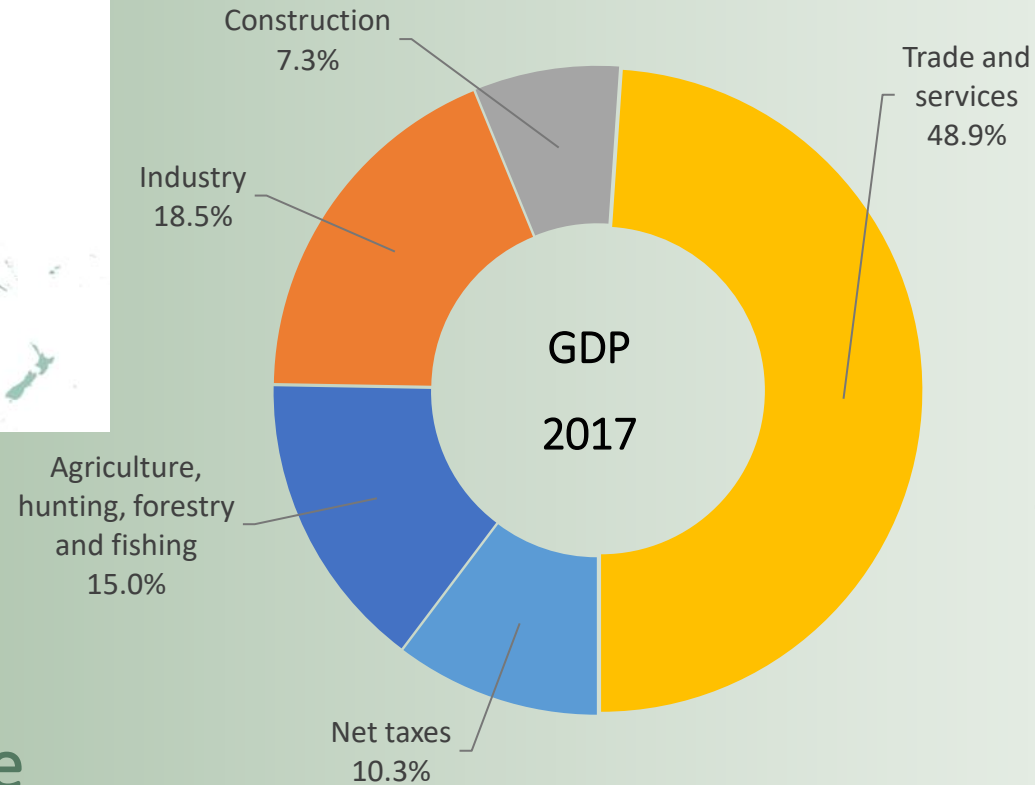
Area

29,743 km²

Mountain ranges occupy about 47% of the total area.

Climate

Rather dry continental with hot summers and cold winters, with 6 climatic zones.



Population

2.986 mil (2017)

Urbanization

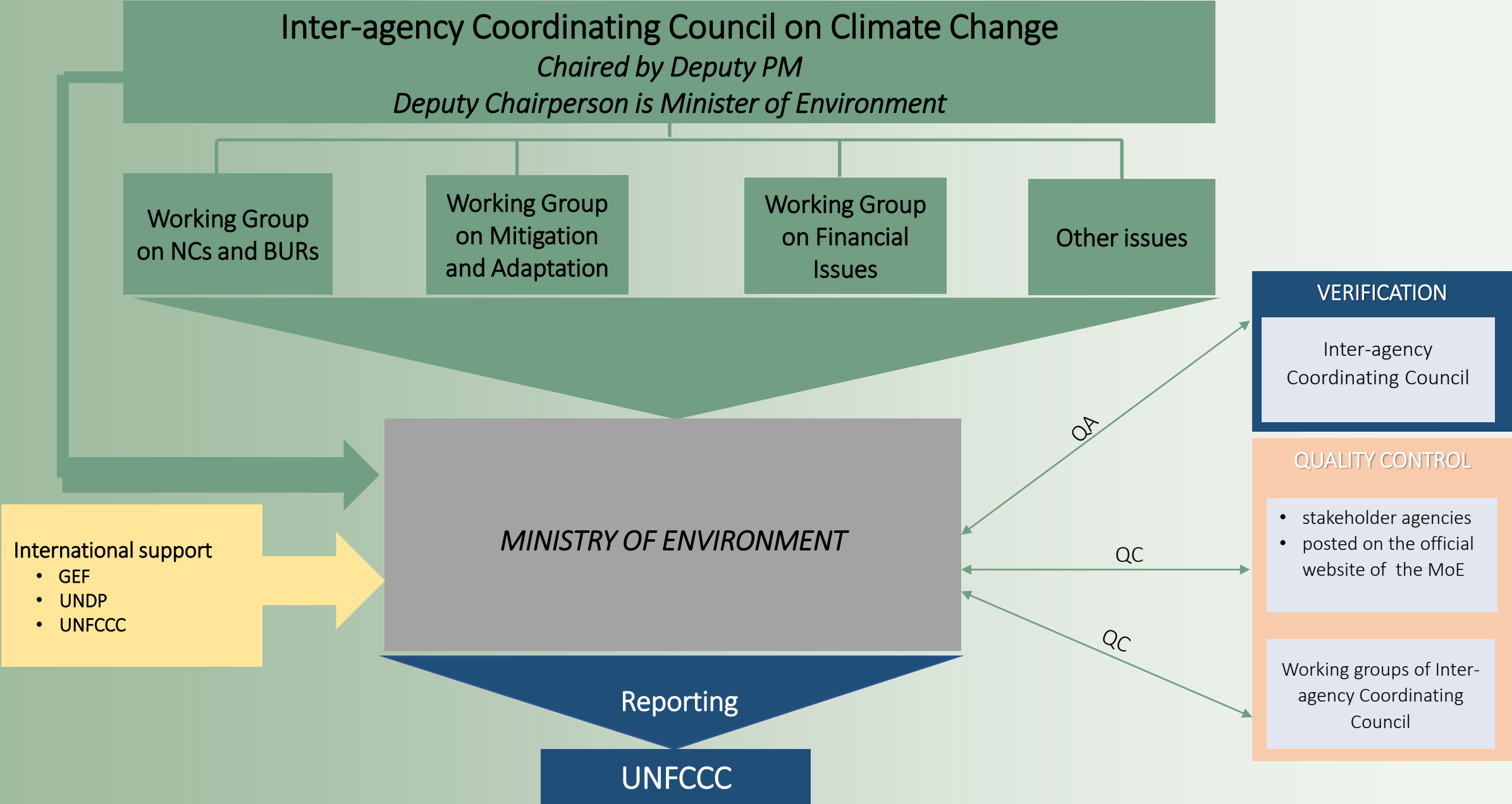
Rate

63.7%

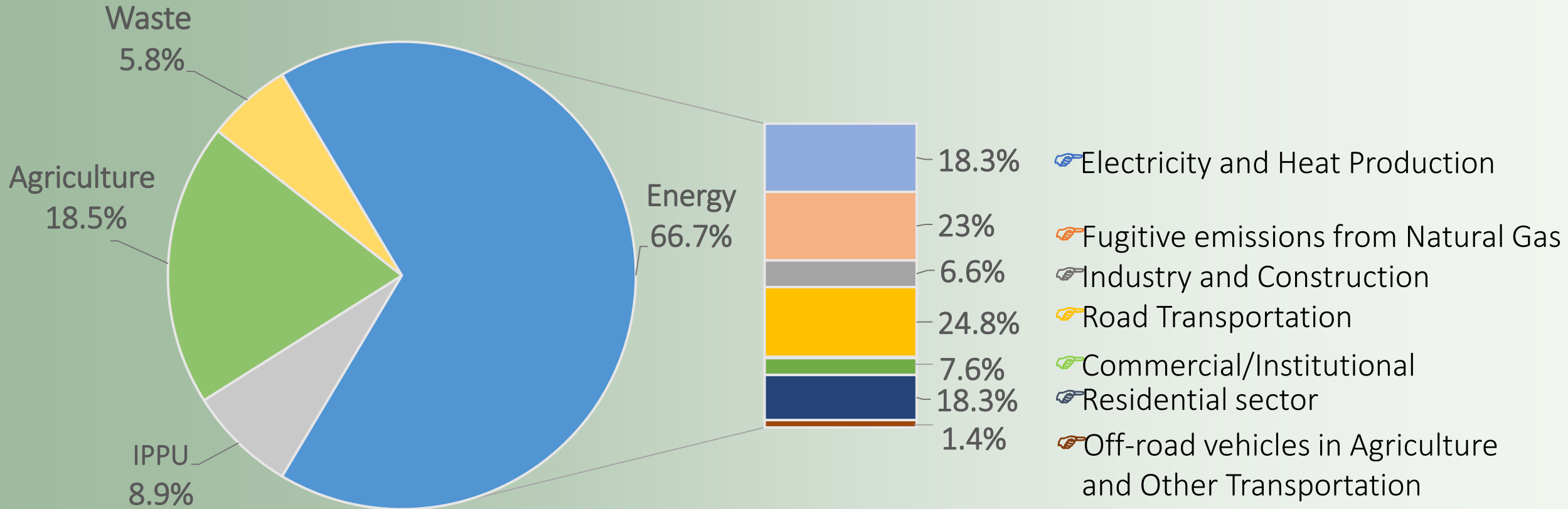
Energy

Armenia lacks indigenous fossil fuel resources and the country's fuel demand is met through imports. Thus, development and expansion of economically viable and technically available renewable energy sources, development of nuclear energy and promotion of energy efficiency are key priorities for sector development.

NATIONAL CONTEXT | INSTITUTIONAL ARRANGEMENTS



NATIONAL GHG INVENTORY | 2017



Total Emissions: 10,624 Gg CO_{2eq.}

EMISSIONS TRENDS | 2017

GHG EMISSIONS 1990-2017

Sector	1990	2000	2010	2016	2017	2017 emission change (%) compared to		
						1990 levels	2000 levels	2016 levels
Energy	22,719.4	4,255.1	5,809.6	6,623.4	7,087.4	-68.8	66.56	7.0
IPPU	631.2	152.9	587.2	796.2	950.5	50.6	521.9	19.4
AFOLU (without Forestry and Other Land Use)	2,085.7	1,374	1,534.9	2,283.6	1,965.4	-5.8	43.1	-13.9
Waste	418.8	513.8	564.8	608.7	620.7	48.2	20.8	2.0
Total Emissions (without Forestry and Other Land Use)	25,855	6,295.8	8,496.6	10,311.9	10,624	-58.9	68.8	3.0
Forestry and Other Land Use	-736.9	-467.8	-550.1	-488.0	-470.6	-36.1	0.6	-3.6
Total Net Emissions	25,118.1	5,828.0	7,946.5	9,823.9	10,153.5	-59.6	74.2	3.4

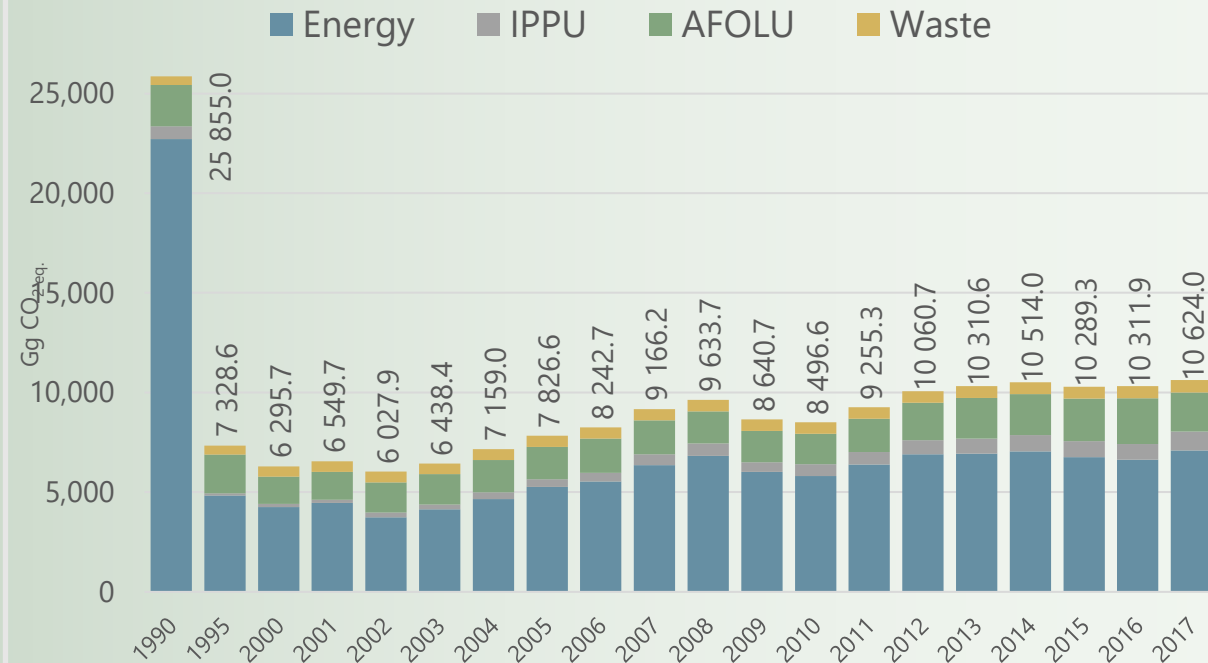
**NET EMISSIONS
(WITH FOLU)**

10 153.5 Gg CO₂ eq.

**TOTAL EMISSIONS
(WITHOUT FOLU)**

10 624 Gg CO₂ eq.

EMISSIONS TIME SERIES

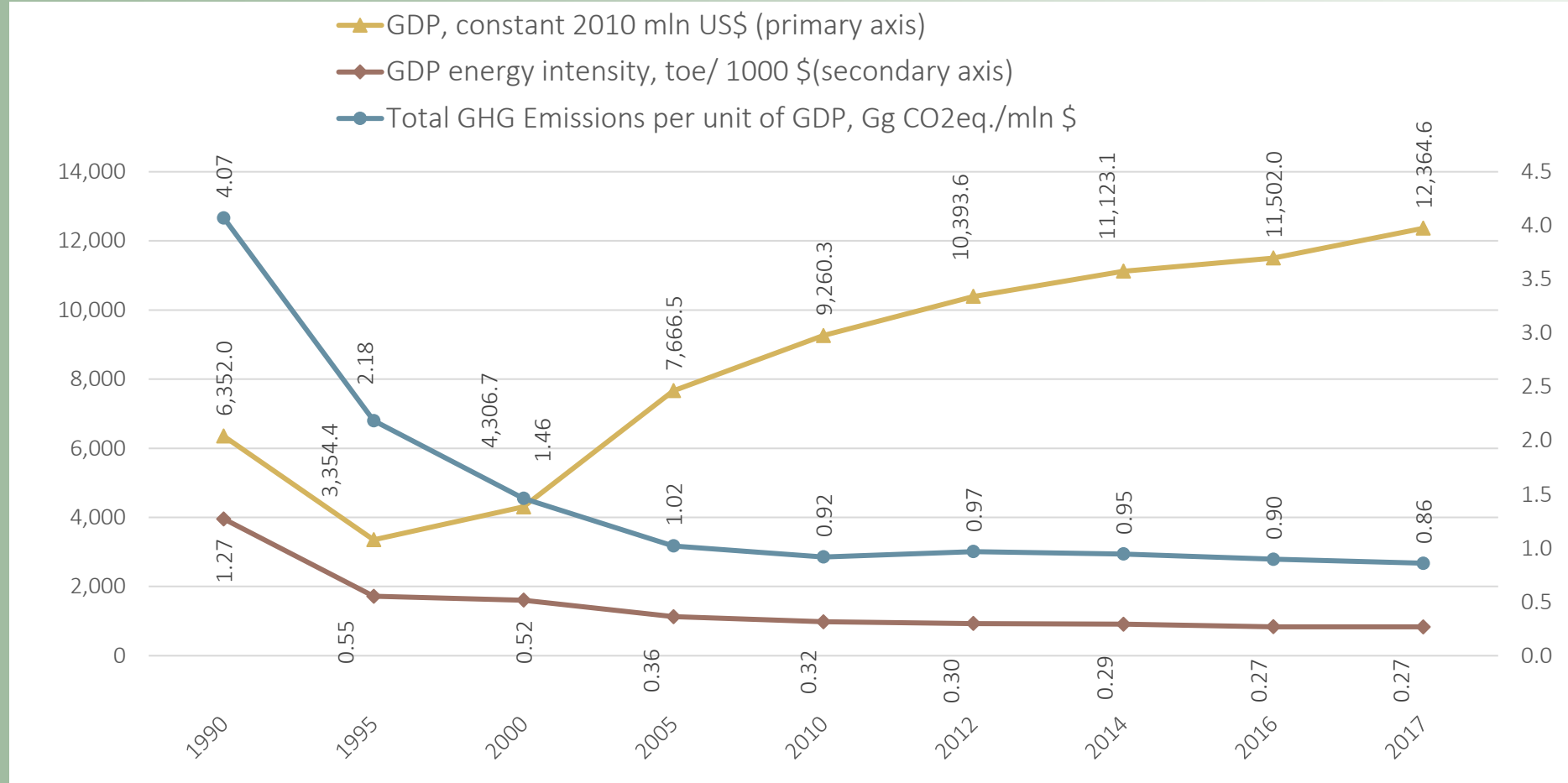


IMPROVEMENTS IN ARMENIA'S GHG INVENTORY

- Emissions of the sulfur hexafluoride (SF_6) have been estimated for the first time,
- GHG emissions of 6 new sub-categories were included,
- Higher Tier for 5 sub-categories was introduced,
- Key Category Analysis was done both by Level and Trend assessment,
- Uncertainties have been assessed for all sub-categories of emissions and removals,
- Time series for years 1990-2017 were recalculated to ensure their consistency considering the latest changes in terms of the improved methodologies and completeness and accuracy of activity data.



ECONOMIC GROWTH AND EMISSIONS INTENSITY



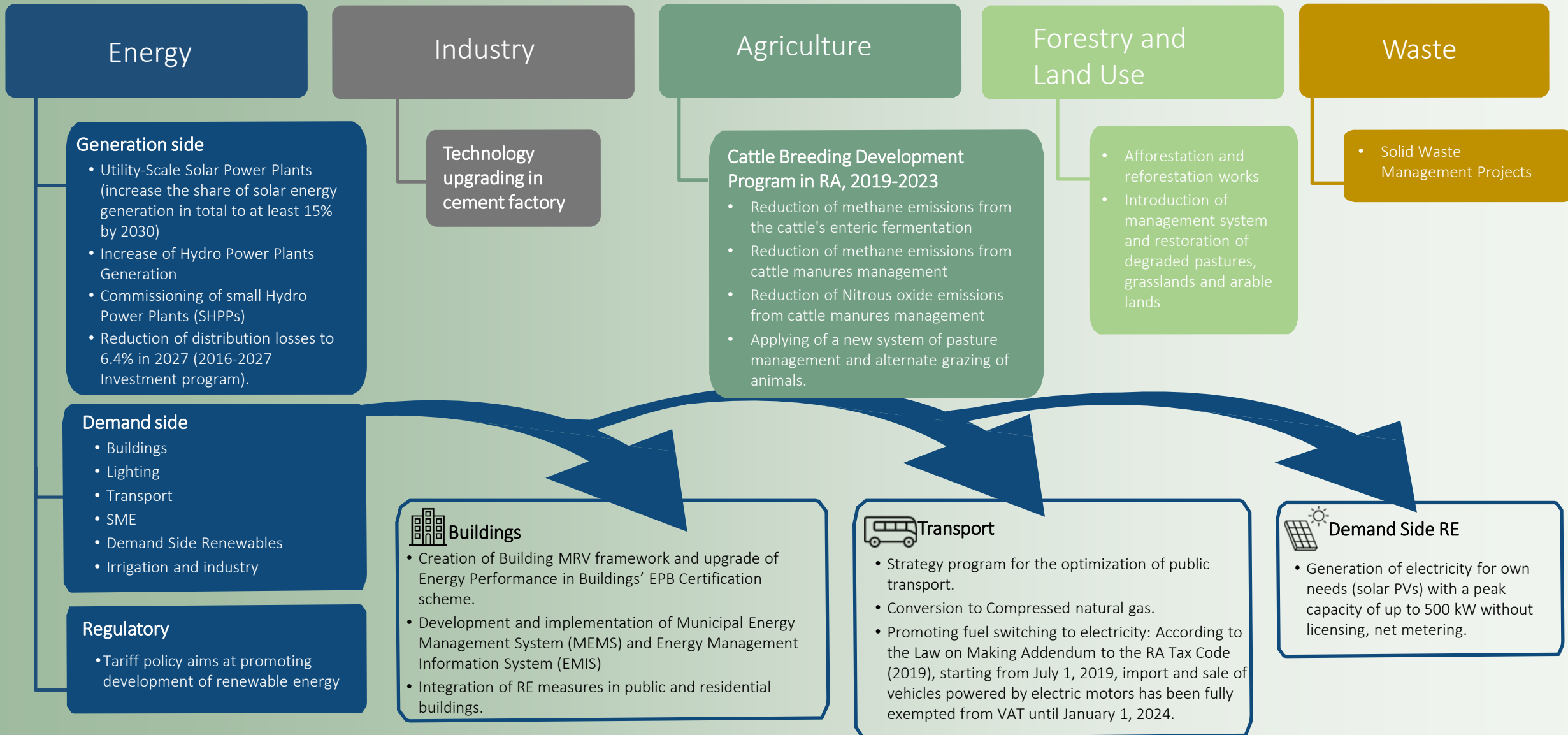
- In 2017 GDP energy intensity decreased 4.69 times compared to 1990, and almost two-fold as compared to 2000.
- In 2017 GHG emissions per unit of GDP decreased 4.74 times compared to 1990, and 1.7 times compared to 2000

MITIGATION ACTIONS AND EFFECTS

- Mitigation measures cover all sectors.
- Vast majority of mitigation measures (implemented/on-going/planned) were reported for Energy sector, considering that Energy is a strategic sector for the country in achieving economic growth and national security and the largest emitter of GHGs with the highest mitigation potential.
- GHG emissions reduction potential has been assessed for the Energy sector up to 2030 for different development scenarios based on the main provisions of the "The Republic of Armenia Energy Sector Development Strategic Program (till 2040)" and "Action Plan to Ensure the Implementation of the Republic of Armenia Energy Sector Development Strategic Program (till 2040)" adopted in 2021.
- These projections allow to assess Energy sector contribution to meeting the country's objectives under the NDC and are critical for evaluating realistic target for 2030 GHG emissions in 2020 NDC update.



MITIGATION ACTIONS AND EFFECTS



Energy

Generation side

- Utility-Scale Solar Power Plants (increase the share of solar energy generation in total to at least 15% by 2030)
- Increase of Hydro Power Plants Generation
- Commissioning of small Hydro Power Plants (SHPPs)
- Reduction of distribution losses to 6.4% in 2027 (2016-2027 Investment program).

Demand side

- Buildings
- Lighting
- Transport
- SME
- Demand Side Renewables
- Irrigation and industry

Regulatory

- Tariff policy aims at promoting development of renewable energy

Industry

Technology upgrading in cement factory

Agriculture

Cattle Breeding Development Program in RA, 2019-2023

- Reduction of methane emissions from the cattle's enteric fermentation
- Reduction of methane emissions from cattle manures management
- Reduction of Nitrous oxide emissions from cattle manures management
- Applying of a new system of pasture management and alternate grazing of animals.

Forestry and Land Use

- Afforestation and reforestation works
- Introduction of management system and restoration of degraded pastures, grasslands and arable lands

Waste

- Solid Waste Management Projects

Buildings

- Creation of Building MRV framework and upgrade of Energy Performance in Buildings' EPB Certification scheme.
- Development and implementation of Municipal Energy Management System (MEMS) and Energy Management Information System (EMIS)
- Integration of RE measures in public and residential buildings.

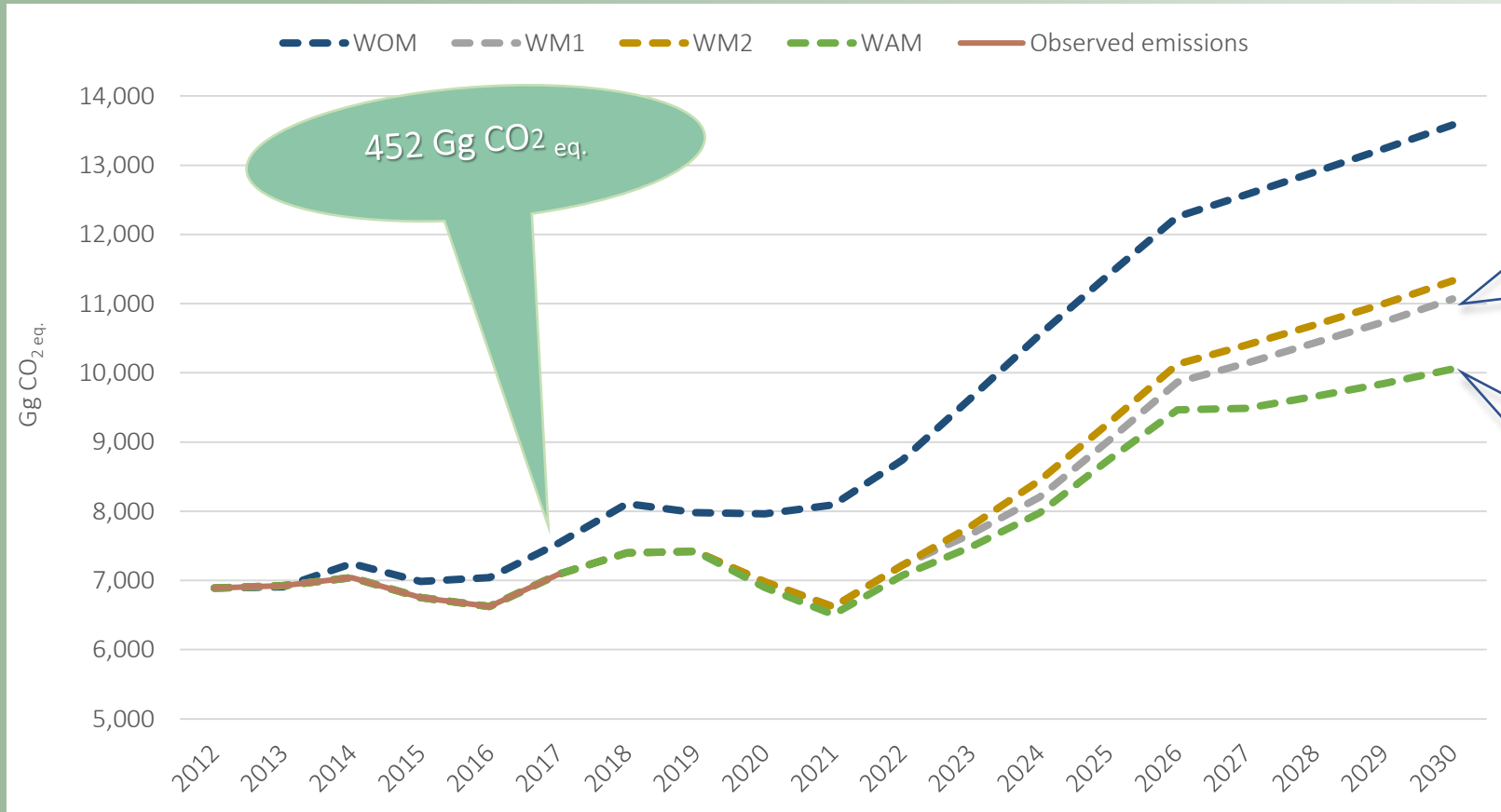
Transport

- Strategy program for the optimization of public transport.
- Conversion to Compressed natural gas.
- Promoting fuel switching to electricity: According to the Law on Making Addendum to the RA Tax Code (2019), starting from July 1, 2019, import and sale of vehicles powered by electric motors has been fully exempted from VAT until January 1, 2024.

Demand Side RE

- Generation of electricity for own needs (solar PVs) with a peak capacity of up to 500 kW without licensing, net metering.

ASSESSMENT OF MITIGATION POTENTIAL IN ENERGY SECTOR



WM1	GHG emissions reduction, Gg CO ₂ eq.
New Renewables	1166
Losses in Electric Networks	298
Demand side	1047
Total	2512

WAM	GHG emissions reduction, Gg CO ₂ eq.
New Renewables	1698
Losses in Electric Networks	308
Demand side	1519
Total	3524

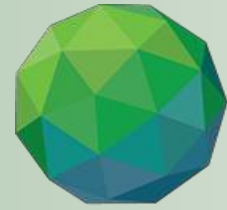
WAM scenario can be realized in case adequate financial and technological support

SUPPORT RECEIVED (FINANCE, TECHNOLOGY, CAPACITY-BUILDING)



Global Environment Fund (GEF)

- Third Biennial Update Report to the UNFCCC
- Armenia's National Transparency Framework under Paris Agreement
- Small grants programme
- Build technical and technological capacities of mitigation projects in Lands and Forestry.



GREEN
CLIMATE
FUND

Green Climate Fund (GCF)

- Funding received to implement mitigation projects in buildings energy efficiency
- Funding received for developing National Adaptation Plan.
- GCF in cooperation with other donors (EBRD, Climate Investment Fund) provided investments in green technology (RE and EE) for small and medium-sized enterprises (SMEs) and corporates.



Multilateral & Bilateral Funding

- Germany (EBRD as a channel of delivery): Financial support for supporting energy efficiency and environmental projects.
- EU/Urban foundation: Making pavers from plastic trash for future clean cities.
- EU/Ministry of Environment of Armenia: Support the environmental protection by strengthening environmental governance.
- WB, ADB, KfW, EBRD: funding for implementation of mitigation projects in different sectors (mainly in Energy sector)
- Training Sessions: UNFCCC, CGE, ADB, KfW, EU, GCF, GIZ

ETF TRANSITION AND IMPLEMENTATION

Amendments to the Law on Ambient Air Protection: obligations are imposed on legal entities with sources of GHG emissions to provide the authorized body the information required for GHG Inventory

NDC Implementation Plan, Financing Strategy and Investment Plan

National Adaptation Plan 2021-2025

Long Term Low Emissions Development Strategy (LT-LEDS)

Strengthening Institutional Capacity and Arrangements, including development of GHG Information Management System (consistent data flow and registries)

Developing request to apply for funding from GEF for first BTR and NC5 combined with BTR2

Questions

A total of 17 questions were received:

EU, New Zealand, Japan, Great Britain, Australia, Thailand, USA

The topics covered

- **Institutional arrangements**
- **GHG emissions**
- **PAMs (policies and measures)**

Most of the questions, both on GHG emissions and PAM, are related to the energy sector, as:

- energy sector is the largest source of GHG emissions,
- vast majority of mitigation measures have been implemented in the energy sector and
- GHG emission projections are done for the energy sector.

Responses

Detailed responses uploaded to the FSV portal.



THANK YOU