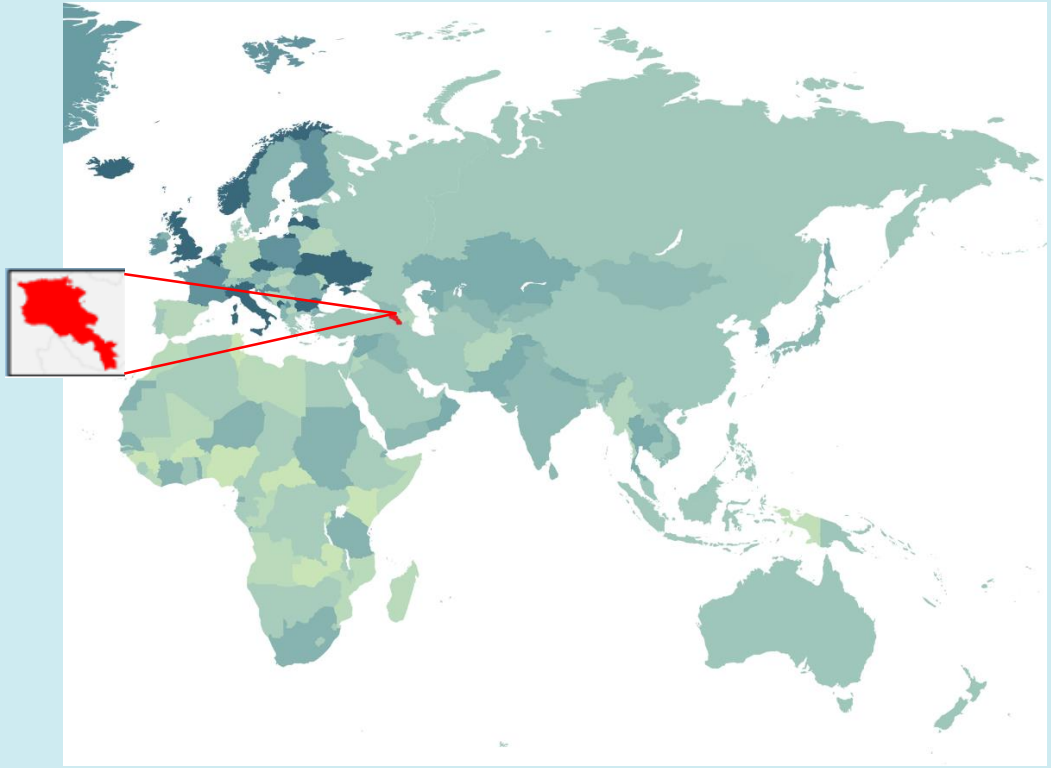
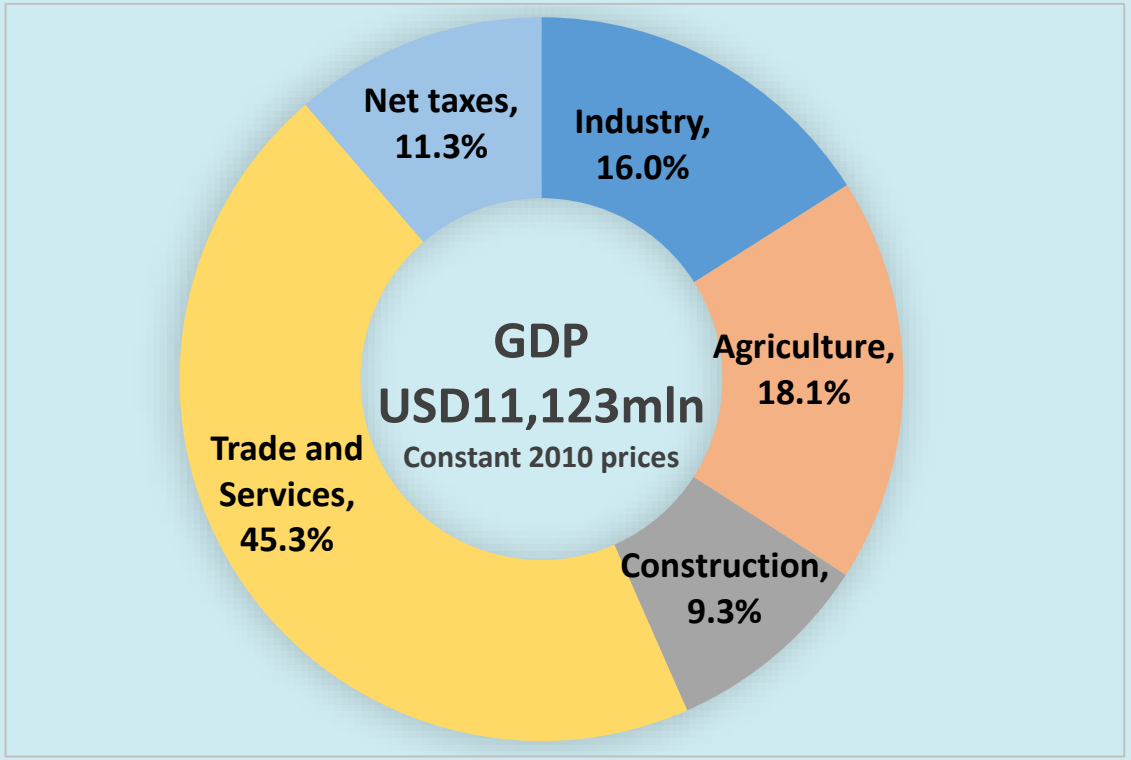
Armenia's Second Biennial Update Report

Facilitative Sharing of Views
Bonn, 19 June, 2019

Ministry of Nature Protection of the Republic of Armenia

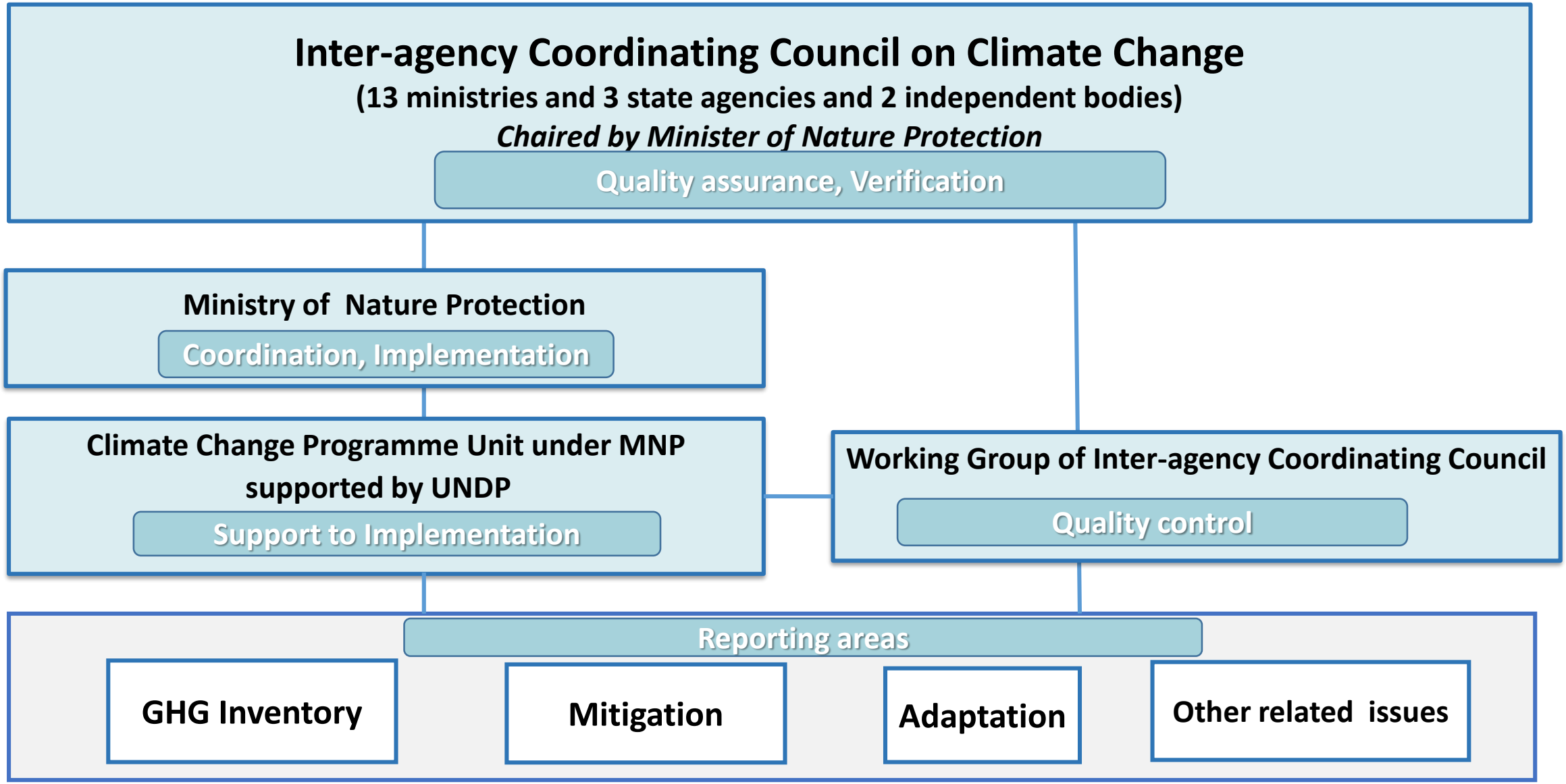
National circumstances, 2014



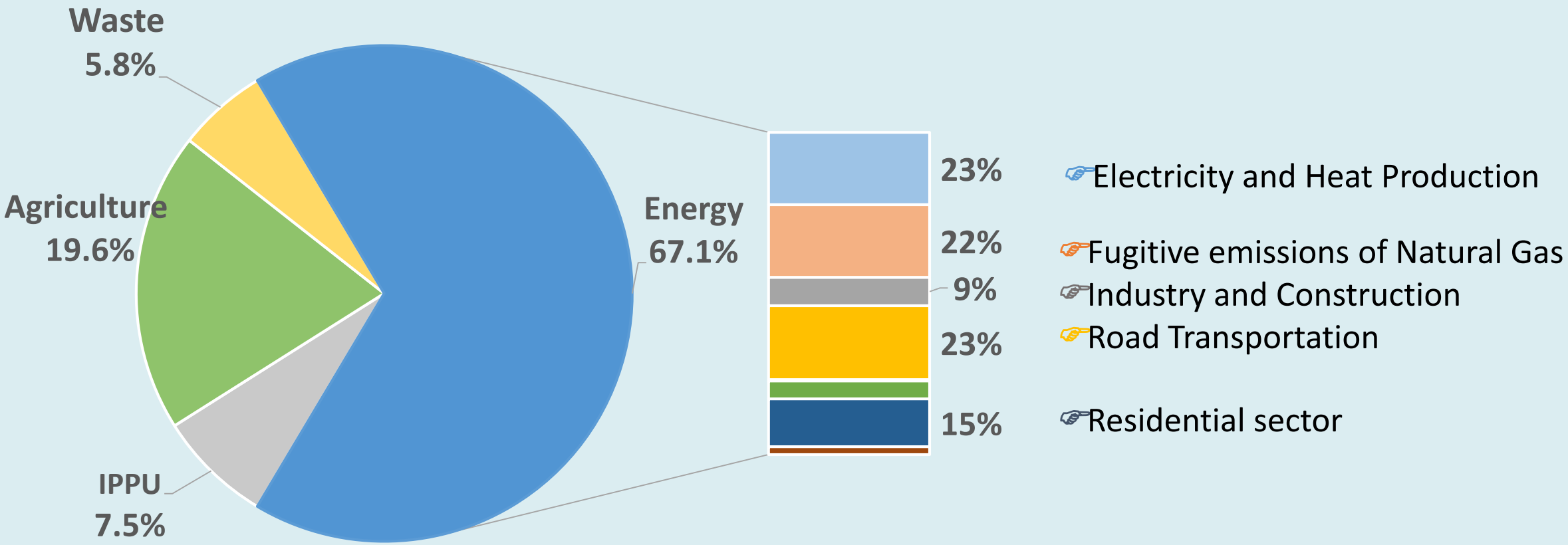


AREA	POPULATION	CLIMATE	DEVELOPMENT CONSTRAINTS	TPES	FINAL CONSUMPTION	INDIGENOUS ENERGY SOURCES
29,743 km²	3,010 thousand Urban population 63.5%	Highly variable rather dry	Lack of fossil fuel resources *all oil and natural gas is imported* Landlocked *with limited transportation routes*	3,193 ktoe	2,144 ktoe	in TPES 2014-31% (nuclear, hydro, biofuel)

Institutional Arrangements

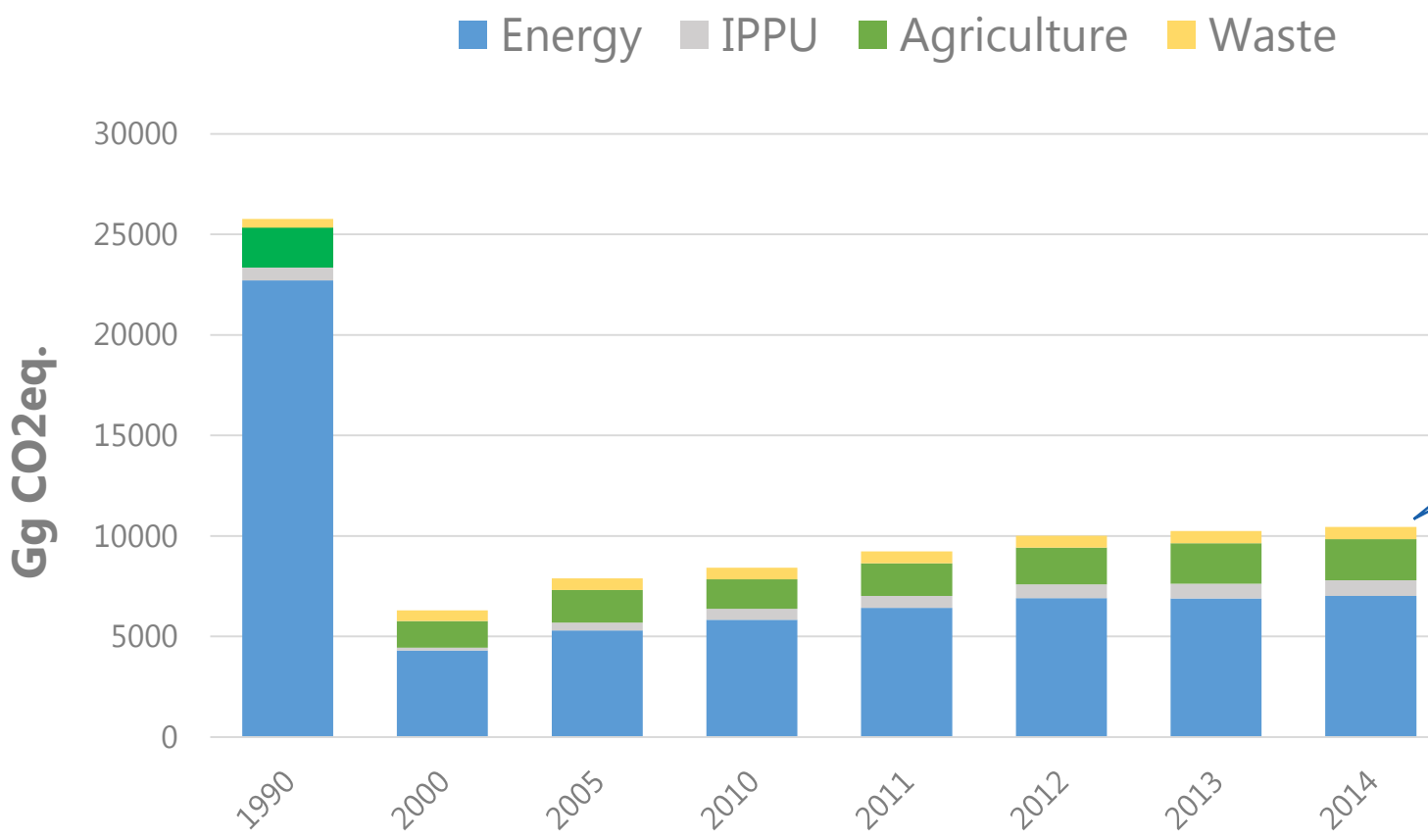


National GHG Inventory, 2014



Total Emissions: 10,450.7 Gg CO_2eq.

GHG Emissions Trends, 1990 -2014

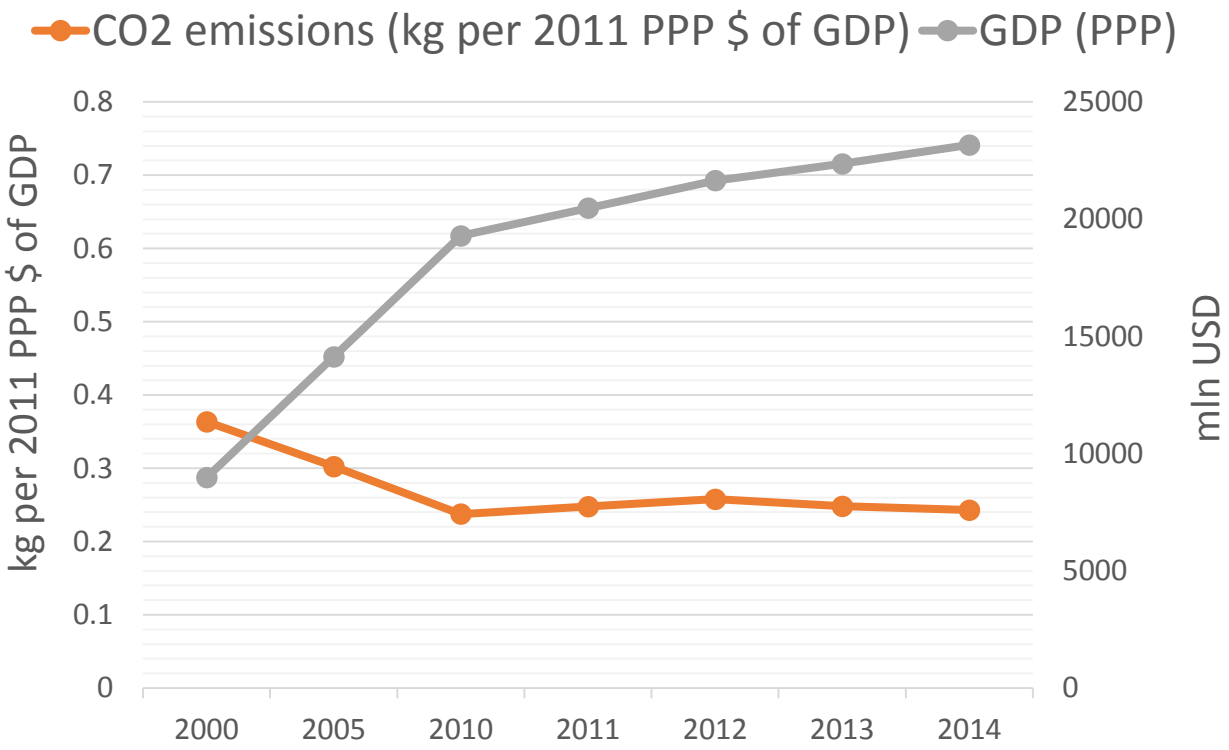


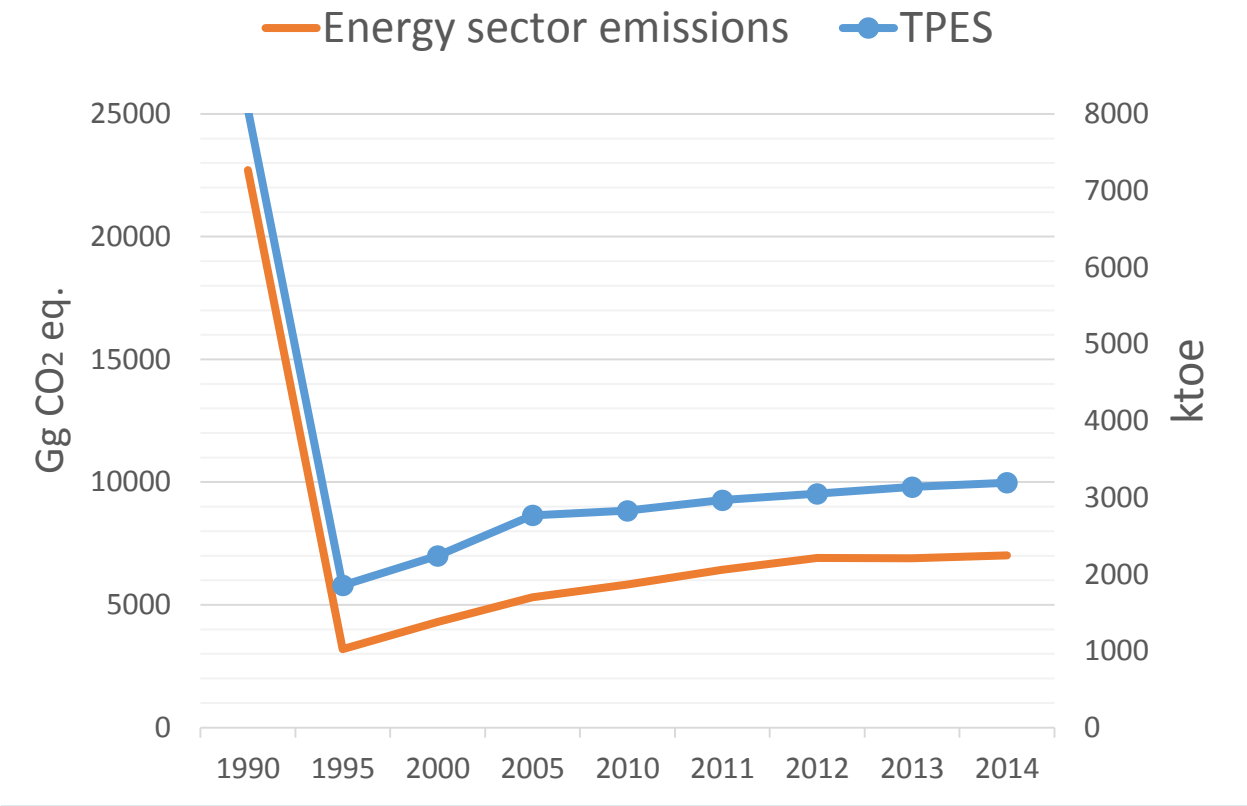
as to *1990:*
Total ↓ by 59%

as to *2000*:
Agriculture ↑ by 54%
Energy ↑ by 63%

Absolute predominance of energy-related emissions for the whole period

Economic growth and carbon intensity





Rather stable trend of GHG emissions per GDP (PPP)

Energy Sector emissions compared to 1990 decreased by 3.2 times, while TPES decreased by 2.5 times, ***which is evidence of low carbon development trends in Armenia***

Implemented measures

Majority of mitigation measures comes from the Energy Sector - both on generation and demand side

Measured emissions reduction in Energy sector achieved in 2014: 239 Gg CO_{2eq} (assessed with LEAP model)

✓ increased share of renewables in power generation mix: commissioning of 51 SHPPs (105.8 MW)

✓ adoption of minimum energy performance standard
✓ adopted program for upgrades of municipal lighting
✓ secured financing for energy-efficient municipal lighting
✓ municipal revolving funds for scaling up EE lighting from savings from piloted EE measures
✓ 34 outdoor and street lighting, and 8 indoor efficient lighting projects

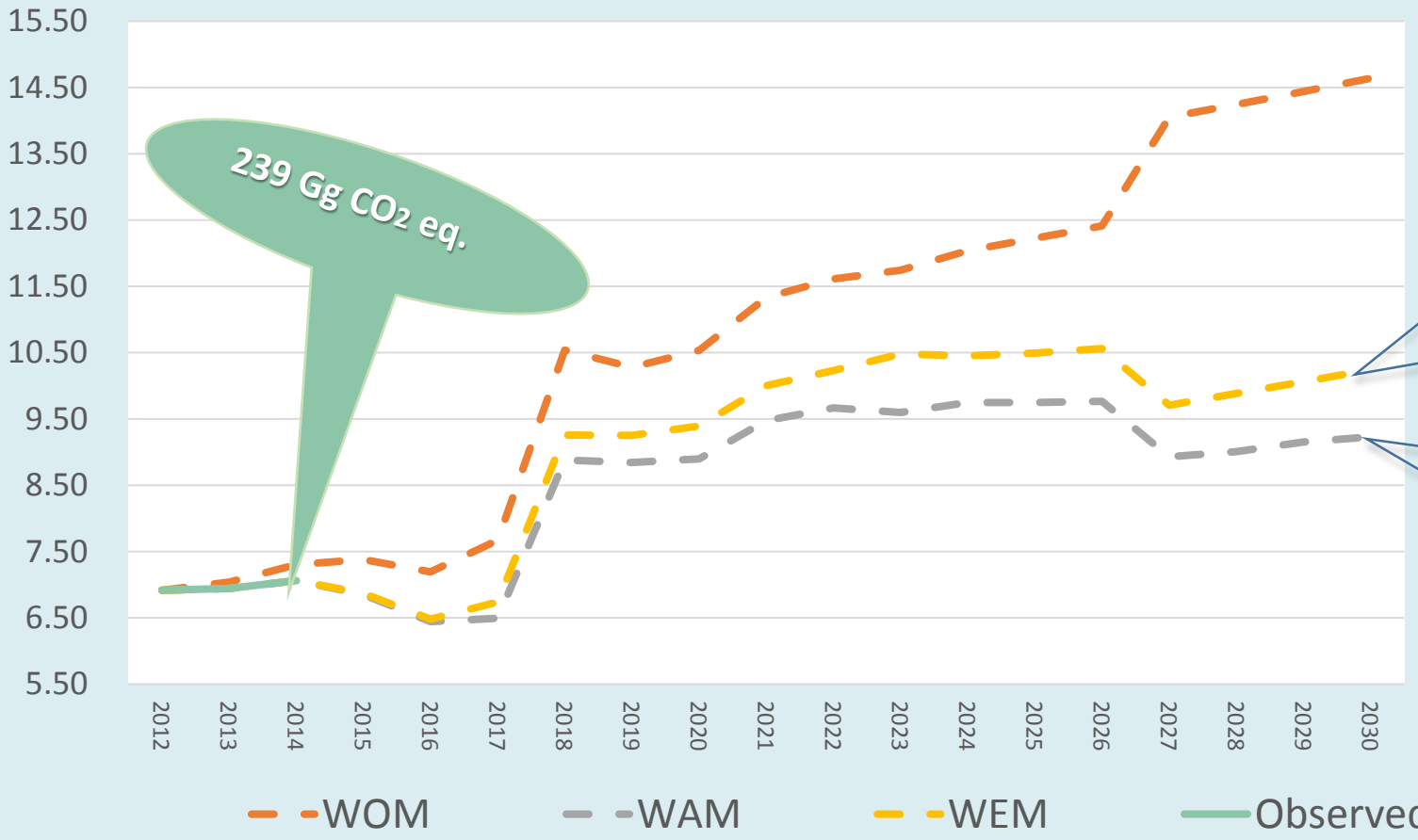
✓ RE and EE loans for small and medium size enterprises and individuals
✓ credit lines for purchasing EE appliances and reconstruction of houses
✓ EE mortgage loans for low and middle-income families

✓ average energy consumption for space heating in new residential buildings reduced by 40%
✓ GoA Decision "On implementation of ES/EE improvement measures in facilities constructed/reconstructed under the state funding"
✓ new building codes, setting mandatory energy performance targets
✓ approved guidelines for energy passport
✓ technical regulation on energy efficiency requirements for new and public buildings

✓ optimization of public road transport route grid
✓ replacement of minibuses by larger buses

Energy Sector GHG Emissions Projections

General objective of sector policy is to ensure energy security at competitive prices with the lowest possible environmental impacts



WEM	GHG emissions reduction, Gg CO_2 eq.
New NPP (1000 MW)	**2359**
New Renewables	**928**
Demand side	**1106**
Total	**4393**

WAM	GHG emissions reduction, Gg CO_2 eq.
New NPP (1000 MW)	**2383**
New Renewables	**1224**
Demand side	**1799**
Total	**5406**

Support received and needed

(technology, capacity building)

- Major share of support provided was to increase renewable energy and less - to implement EE measures
- Mitigation-related support to Armenia was delivered through multilateral and bilateral channels with a strong focus on Energy sector. The largest contributors were Germany, WB Group, ADB and EBRD

Needs	Technology	Capacity building
Mitigation	• Support scheme for biogas technology promotion for medium and large agricultural farms • Establishment of energy auditors certification mechanism	• Robust MRV system • Projection modelling for non-energy sectors • Financial needs assessment
Inventory	• Forest monitoring system and nation-wide forest inventory • GHG Inventory system, including on-line portal to provide access to data and setting up a database to enable the development of GHG inventories on a sustainable and continuous basis.	To improve: • F-gas emissions; • AFOLU sector emissions • uncertainty assessment To conduct: • Key category analysis trend assessment

Obstacles and barriers

INSTITUTIONAL

Lack of MRV system for key transparency areas

Lack of assigned responsibilities on data provision to sectoral ministries and agencies

Lack of assigned responsibilities on tracking impact of mitigation actions

GHG INVENTORY

- Inconsistencies in activity data obtained from different sources, as is the case for data on wood removals
- Absence of nation-wide forest inventory
- Lack of complete and reliable data on F-gases consumption in the country

MITIGATION

- Mitigation efforts are not coordinated, and therefore not all of them can be captured
- There are some actions that involve multiple actors, which can lead to the risk of double counting

Benefits from the ICA process

Ownership and coordination

Better understanding of enhanced reporting requirements on GHG emissions and mitigation actions effects assessment led to the increased engagement and/or ownership of different stakeholders and improved coordination by the Ministry of Nature Protection

Demand for transparency

Understanding of the urgent need to have formal institutional arrangements for tracking mitigation actions and support received to capture the whole measures while avoiding double counting

Alignment with national statistics

Close cooperation with the Statistics Committee, Energy balance compilers and GHG Inventory team to ensure completeness and accuracy of data

Data quality

Availability of reliable data and information

Areas of improvements following Technical Analysis

OVERALL

- The information is presented in a more accurate and disaggregated way
- Mitigation data collection process was streamlined – the information has been collected using developed sectoral templates

GHG INVENTORY

BUR2

- Higher Tier approach for 3 sub-categories (Tier 3 and Tier 2) applied
- GHG emissions for 10 out of 15 key categories estimated applying Tier 2 and Tier 3 methods
- Data for 14 new sub-categories included
- QA/QC of GHG inventory activity data in Energy sector improved
- Disaggregated data on F-gases in accordance with the reporting format provided

4NC

- Data for 2 new sub-categories in Agriculture sector included
- A study on domestic consumption of SF6 conducted, enabling SF6 consumption–related emissions assessment in upcoming GHG inventories
- Key category analysis at more disaggregated level done, enabling to prioritize some particularly significant subcategories

Areas of improvements following Technical Analysis (2)

MITIGATION

- Enhanced transparency of reporting on implemented and planned mitigation actions and their effect assessment
- Enhanced completeness and transparency of reporting on methodologies on mitigation actions impact assessment in non-energy sectors

CAPACITY BUILDING

- Armenia joined the NDC Partnership, 2018
- South-south cooperation (Armenia-Lebanon), 2018
- In-country review mission for GHG inventory, 2019
- CBIT project PIF approval, 2019

Responses to questions received

7 questions from Germany and United States of America

** below are answers requested to be provided in presentation:*

Questions	Answers
Armenia's experience in documentation and archiving during and after the report compilation process (USA)	• The activity data by IPCC sectors and data provision sources as well as outcomes of QA/QC procedures are archived in hard copies and in electronic version; • Worksheets and interim calculations for source category estimates and aggregated estimates are archived in electronic version. • The practice of developing National Inventory Reports allowed to have detailed summary of all steps, reference sources, copies of official letters, as well as any recalculations of previous estimates, methods used, changes in data inputs or methods from previous years, analysis of trends from previous years.

Responses to questions received (2)

Questions	Answers
Armenia's experience with IPCC 2006 GL software and suggestions for improving this software (USA)	The software does not allow performing the Key Category Analysis at a more disaggregated level to prioritize some particularly significant subcategories (with the contribution of more than 60%). In case of Armenia that is important for the following sub-categories: • "Residential - Gaseous Fuel" subcategory with the share of more than 67% of the "Other Sectors – Gaseous Fuel" category; • "Cattle" subcategory with the share of more than 90% of the "Enteric Fermentation" category

THANK YOU FOR YOUR ATTENTION