FACILITATIVE SHARING OF VIEWS – REPUBLIC OF MOLDOVA

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Presentation outline

Part I: Summary of BUR and recent development

- National context
- GHG inventory
- Mitigation actions and effect
- Barriers and support needed and received

Part II: Experience and lessons learned in participating in the ICA process

- Has participation in the ICA process raised the profile of climate actions at the domestic level?
- Has the BUR preparation enhanced domestic coordination / domestic MRV in providing climate related information? If so, how?
- What's the value addition of the technical analysis of BURs by the team of technical experts?

Part I: Summary of BUR and recent development

National context

Independence: since 27th of August 1991

Area: 33,846 km^2 (138th) (2016)

Population: 4.0 million (129th) (2016)

GDP (PPP) per capita: 5,082 USD (lower middle income) (170th) (2016)

Contribution to global GHG emissions: less than 0.04 per cent (2013)

Vulnerability: highly vulnerable to climate change and extreme meteorological events, such as droughts, heat waves, heavy rainfalls, floods, hail, etc.

National context

1. Republic of Moldova (RM) signed the UNFCCC on 12 June 1992, the Parliament ratifying it on 16 March 1995;
2. The Parliament ratified the KP on 13 February 2003;
3. RM associated itself with the Copenhagen Accord on 28 January 2010;
4. The Paris Agreement has been signed by the RM on 21 September 2016, the Parliament ratifying it on 4 May 2017;
5. RM submitted to the UNFCCC the:
   - INC and the GHG Inventory for the period 1990-1998 on 13 November 2000;
   - SNC and the NIR for the period 1990-2005 on 27 January 2010;
   - TNC and the NIR for the period 1990-2010 on 20 January 2014;
   - BUR1 and the NIR for the period 1990-2013 on 5 April 2016.

Institutional Arrangements

- On behalf of the Government, MoEN is in charge with UNFCCC implementation.
- In view of implementing and accomplishing the UNFCCC and KP provisions, the Climate Change Office (CCO) has been set up on 11.02.2004 within the Ministry of Environment.
- The role of CCO is specified also in the Government Decision No. 141 as of 24.02.2014 on creating the energy statistical system.
- Since it was set up and until this moment, the CCO remains responsible for the preparation of the GHG Inventories and NCs, while since 2014 it is also responsible for developing the BURs of the RM under the UNFCCC.

Conference of the Parties
United Nations Framework Convention on Climate Change

Ministry of Environment
UNFCCC Focal Point

Steering Committee

Chairman – Minister of Environment

Climate Change Office:
Manager, Administrative & Financial Assistant, 3 Team Leaders

Working Groups (Teams)

National GHG Inventory Team

Climate Change Mitigation Assessment and Domestic MRV System Team

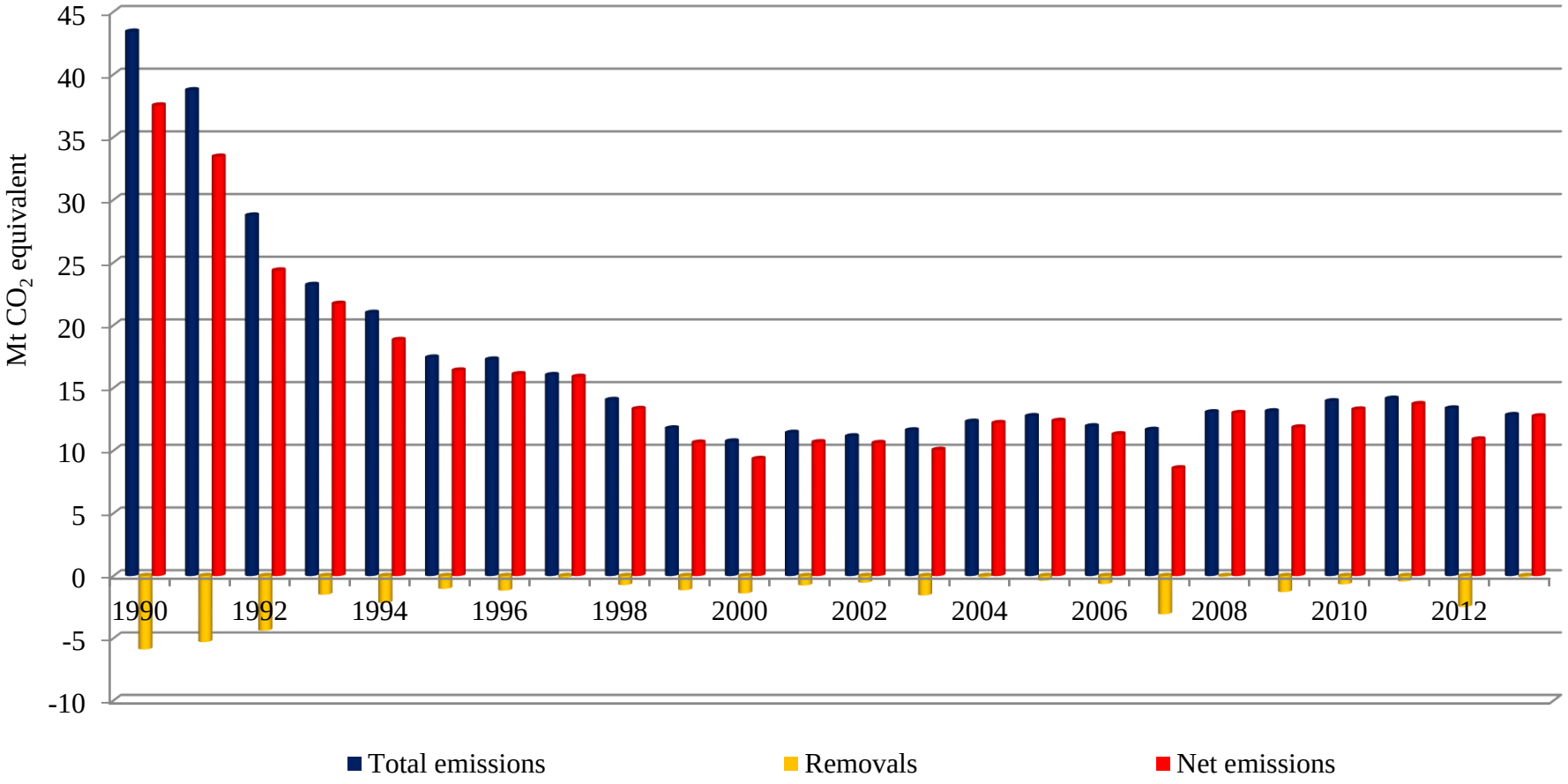
Climate Change Modelling, Vulnerability and Adaptation Assessment Team

National Partners and Main Data Providers:

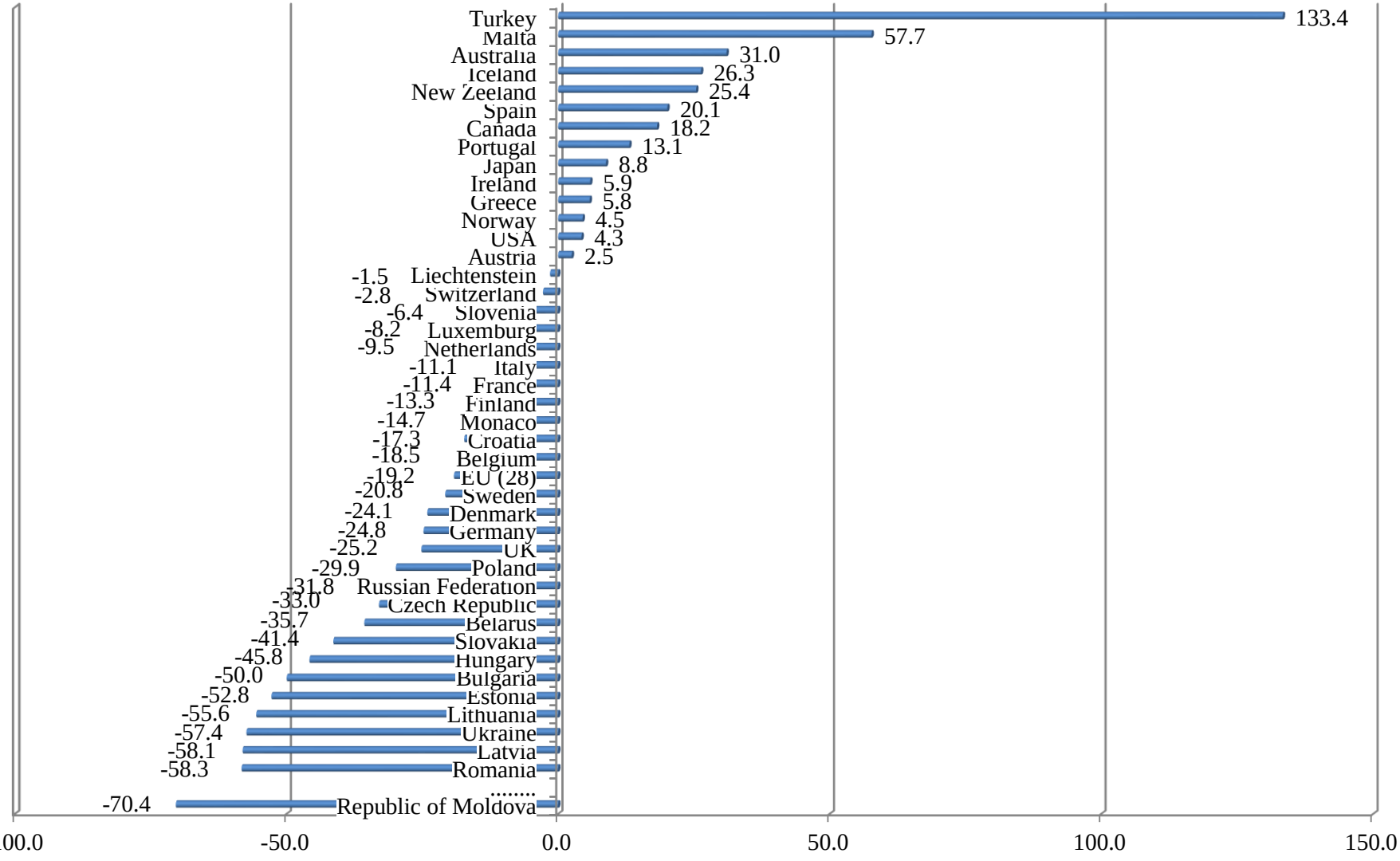
Ministry of Economy;
Ministry of Finance;
Ministry of Transport and Road Infrastructure;
Ministry of Information Technology and Communication;
Ministry of Agriculture and Food Industry;
Ministry of Health;
Ministry of Internal Affairs;
Ministry of Defense;
Ministry of Territorial Development and Constructions;
Academy of Science of Moldova;
National Bureau of Statistics;
Agency for Land Relations and Cadaster;
Customs Service;
Civil Aeronautical Authority;
Energy Efficiency Agency of Moldova;
National Energy Regulation Agency;
Agency „Moldsilva”;
Agency for Geology and Mineral Resources;
State Ecological Inspectorate;
State Hydrometeorological Service;
Forestry Management and Research Institute;
Technical University of Moldova;
State Agrarian University of Moldova;
State University of Medicine and Pharmacy;
Moldovan State University;
Industry Associations and Enterprises;
Institution „Teleradio-Moldova”;
Environmental NGOs

GHG Inventory Profile

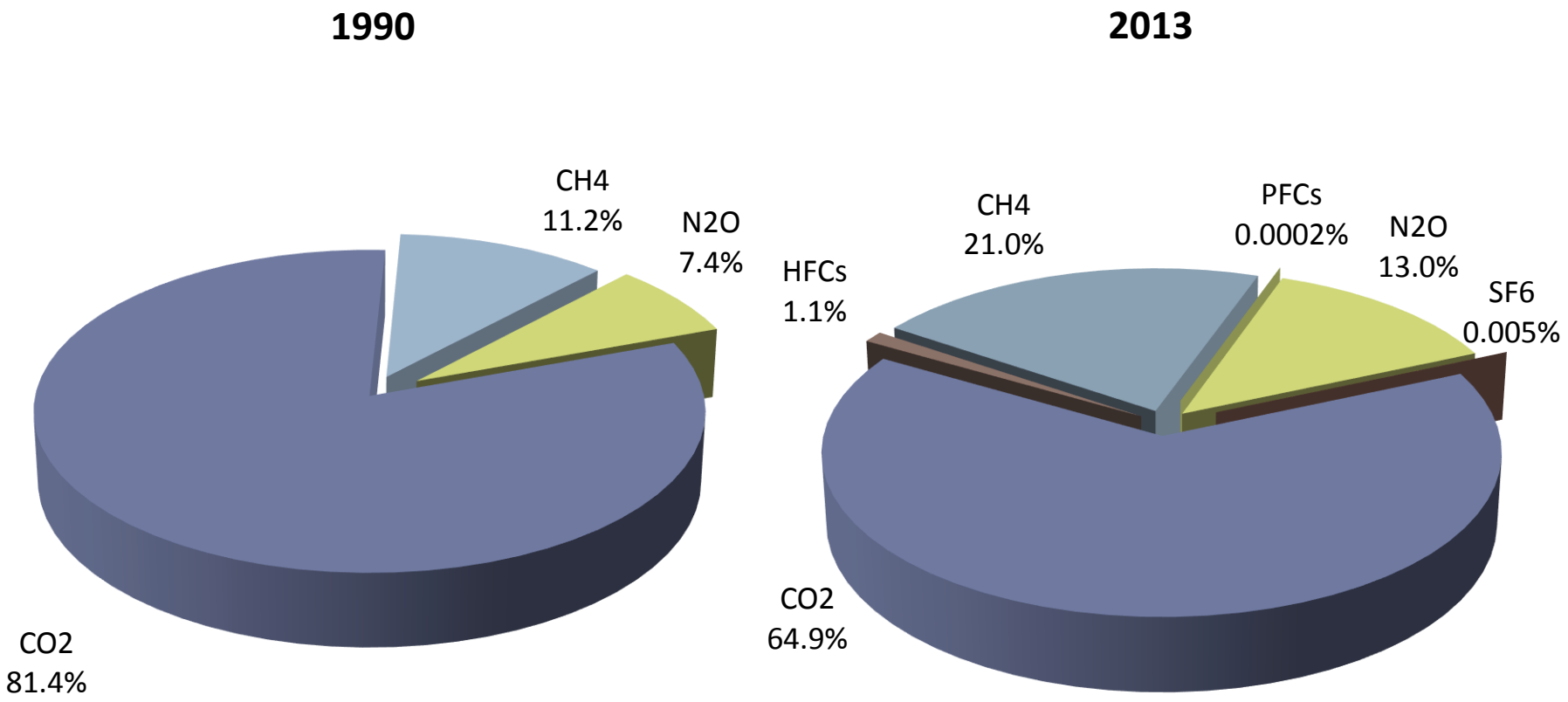
Between 1990 and 2013, the total direct GHG emissions decreased by 70.4 per cent: from 43.4 to 12.8 Mt CO_2 eq.



Changes in total GHG emissions, in per cent as compared to 1990

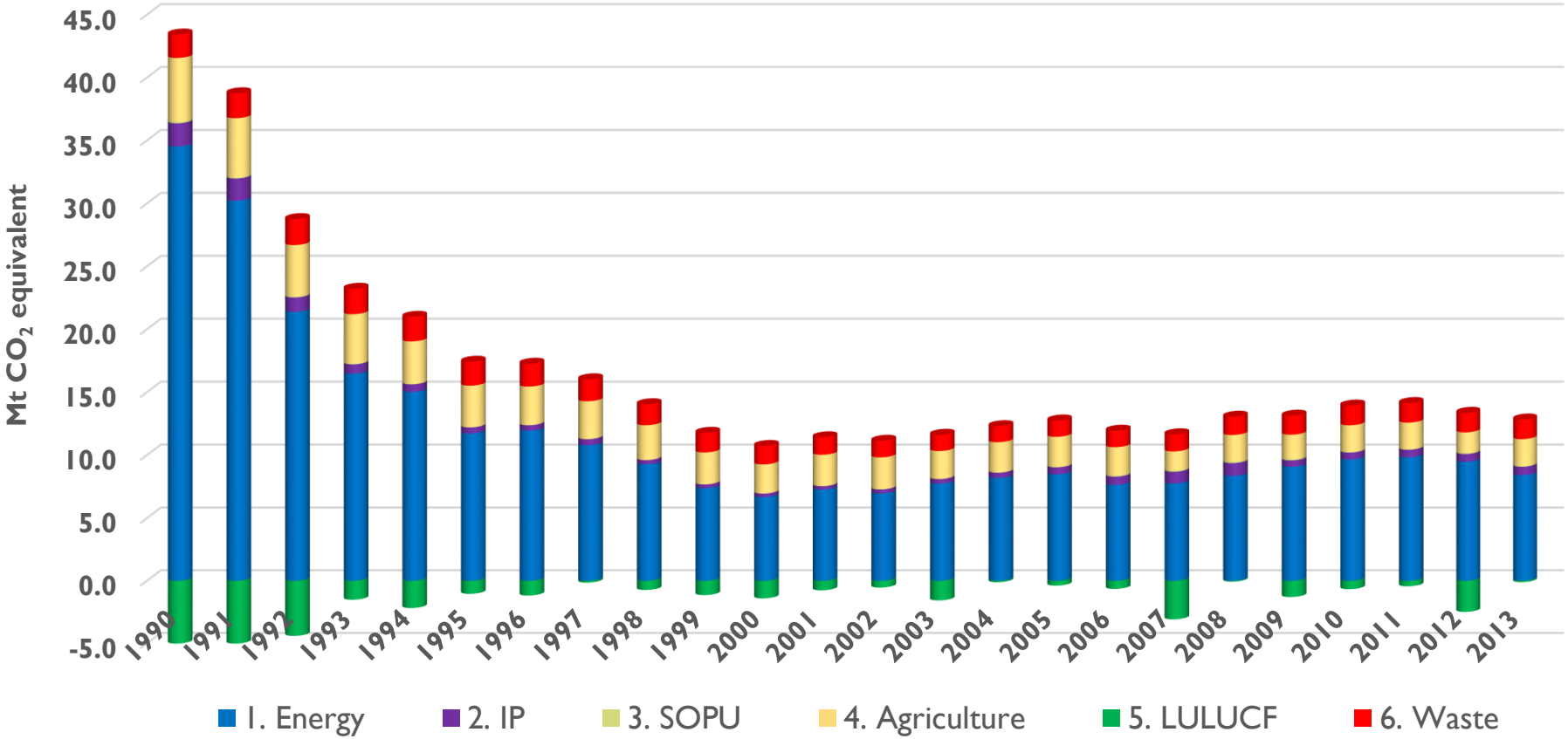


Breakdown of GHGs by gases in 1990 and 2013

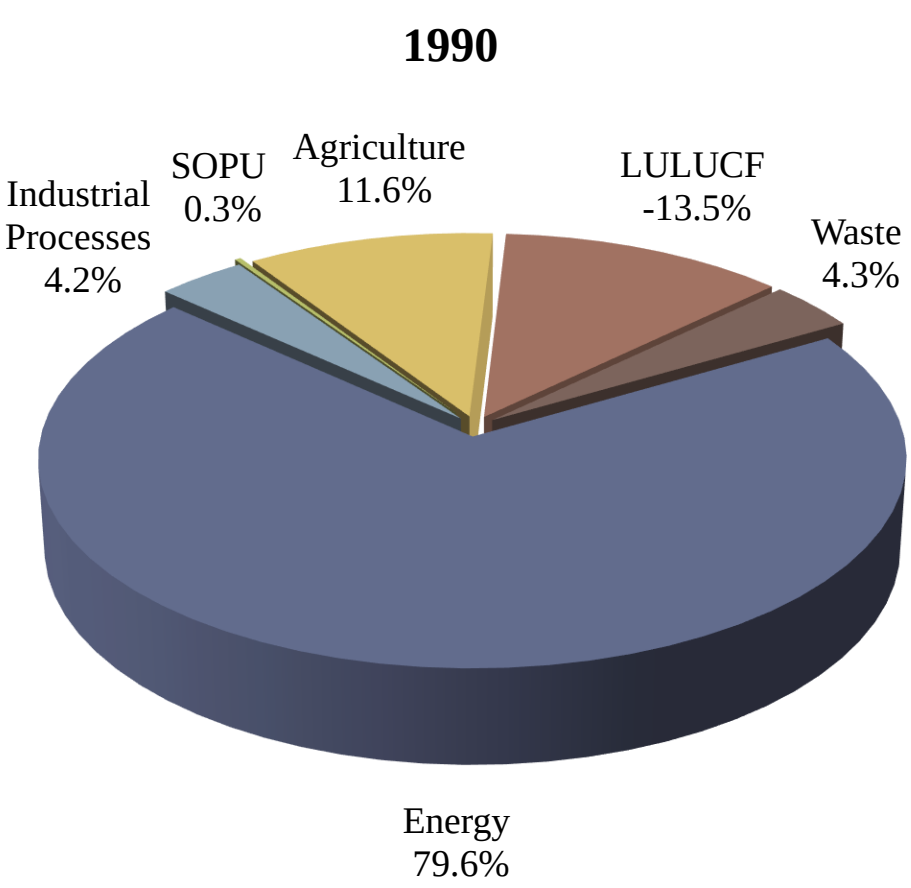


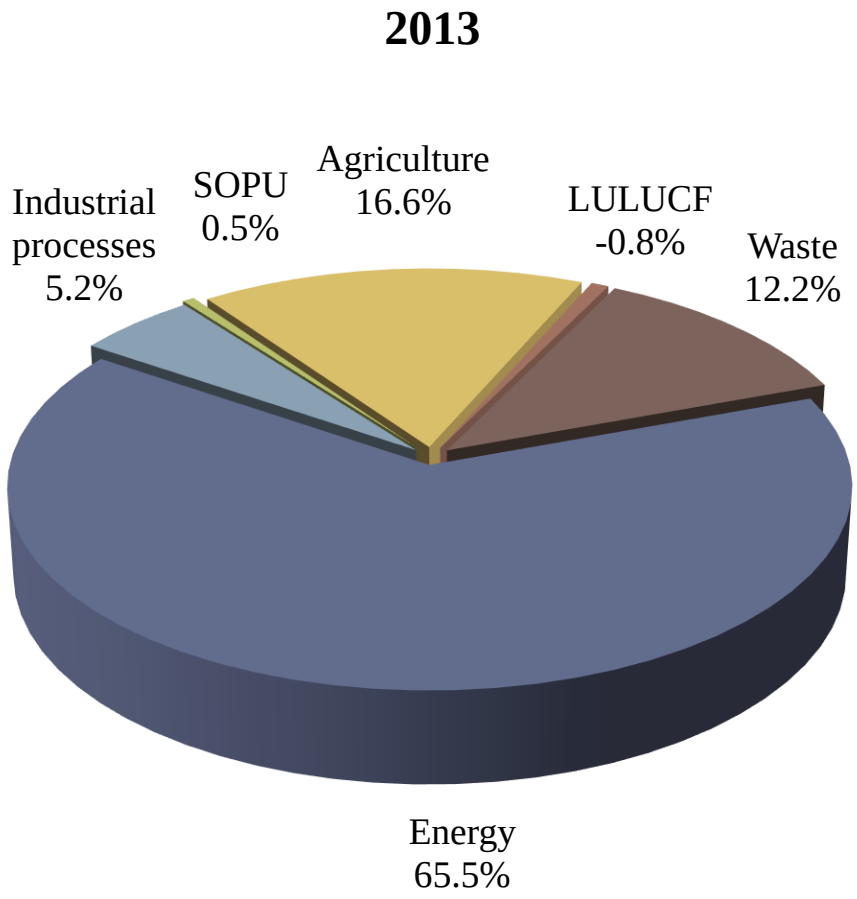
GHG emissions trends by sectors

The sectoral GHG emissions in the RM revealed a decreasing trend within 1990-2013: Energy – by 75.7%, IP – by 63.5%, SOPU – by 47.2%, Agriculture – by 58.0%, LULUCF – by 98.3% and Waste by 16.1%.



Sectoral breakdown of total GHG emissions in 1990 and 2013 years



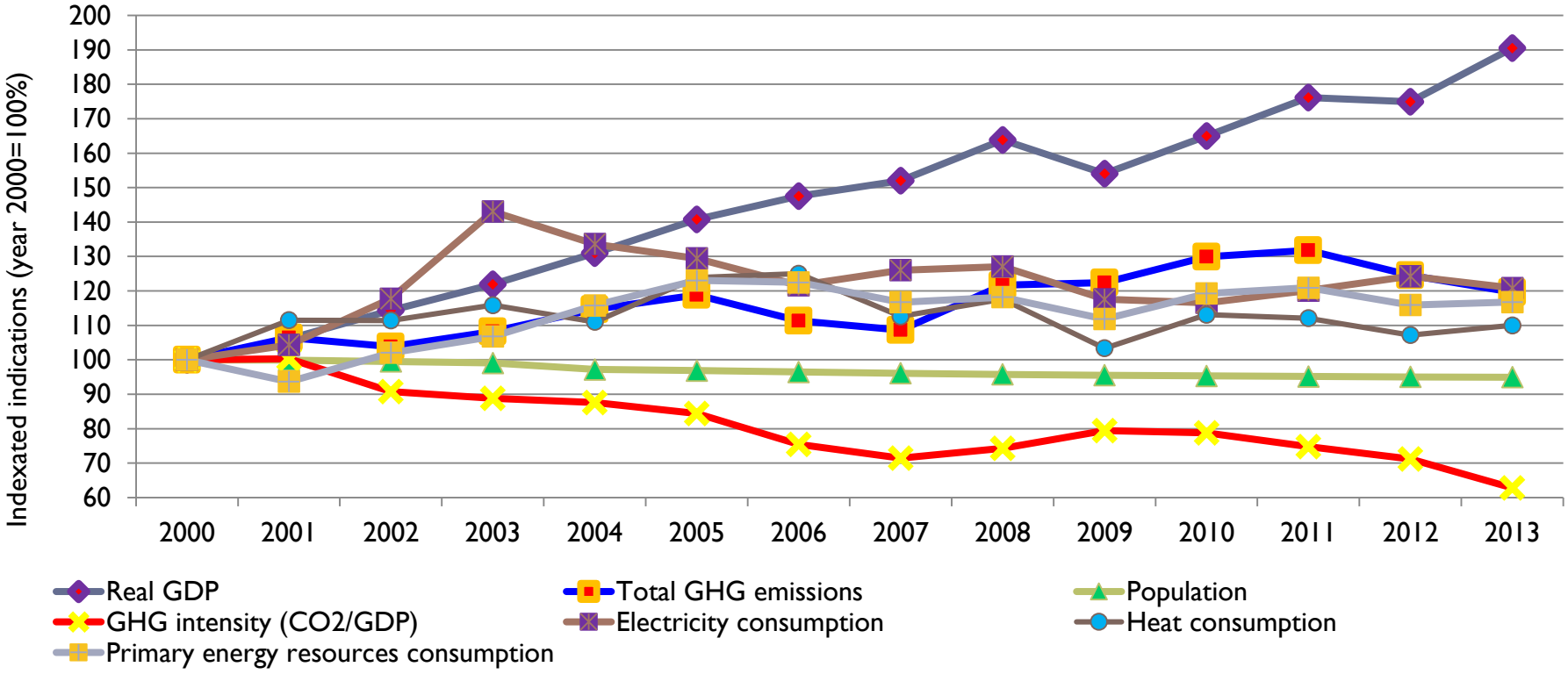


Trends in associated variables

- The reduction in GHG emissions within 1990-2013 is consistent with the decrease in some relevant socio-economic indicators:
  - Consumption of primary energy resources decreased by 78.3%,
  - Electricity consumption – by 52.3%,
  - Heat consumption – by 82.4%,
  - Real GDP – by 32.2%,
  - GHG intensity (CO_2 eq./GDP) – by 56.4%,
  - Population – by 6.8%.
- Concomitantly, within 2000-2013, the real GDP increased by 90.5%. This indicates that the economy is developing in the correct direction, although in 2013 the real GDP reached only 68% of the 1990 year level.

Trends in associated variables (cont.)

- Further, in the same period of time, the electricity consumption increased by 20.8%; heat consumption – by 10.0%, consumption of primary energy resources – by 16.8%; while the GHG intensity (CO_2eq/GDP) decreased by 37.2%, showing the first signs of decoupling the economic growth from the growth in GHG emissions (by 19.6% within 2000-2013 periods).



Mitigation actions and their effects

The RM reported in its BUR1 information on mitigation actions and their effects. The reported measures covers the following sectors:

- **Energy:** energy efficiency, renewable energy sources, application of advanced technologies for the production of electricity and heat;
- **Industrial processes:** decreasing the amount of clinker in the cement production, the gradual substitution of HFCs with refrigerant agents with lower GWPs;
- **Agriculture:** improving the structure of livestock and poultry, gradual increase of large farms share, optimizing the use of manure management systems, promoting sustainable agriculture, including the increase use of green fertilizers, increasing the share of organic fertilizers use, etc.;
- **Forestry:** gradual increase of the forest lands; forest belts areas, orchards and vineyards plantations, improving the quality of these plantations, etc.;
- **Waste:** development of new regional MSWD landfills and MSW transfer stations; extension of the current primary MSW collection and disposal from urban to rural areas; improving water supply infrastructure and waste water treatment systems.

Mitigation actions and their effects

Eleven complex mitigation programs have been reported in tabular format:

1) Production of Electricity and Heat from Renewable Energy Sources;
2) Construction of Electricity Interconnections with ENTSO-E Power System;
3) Heat Production from Biomass;
4) Enhancing Energy Efficiency;
5) Biofuels Use in Transport Sector;
6) Technology Line for Low Emission Clinker Production with Residual Heat Recovery;
7) Improving Structure of Livestock and Poultry;
8) Improved Manure Management Systems;
9) Soil Conservation and Soil Fertility Improvement;
10) Extension of Afforested Areas;
11) Improved Solid Waste Management with Biogas Recovery.

Mitigation actions and their effects

- In the frame of the EU/UNDP Low Emission Capacity Building Program (2014-2016) specific NAMAs have been selected and prioritized:

Long list

- Power sector - 15
- Transport - 38
- Building - 8
- Industry - 10
- Agriculture - 39
- Forestry - 13
- Waste - 13

TOTAL 136

TNA

MCDA

Short list

14 (2 per each sector)

TNA

MCDA

Stakeholders participated in criteria scoring

4 NAMAs for detailed PDD development

Mitigation actions and their effects

4 NAMAs PDD were developed, following a template developed by UNDP:

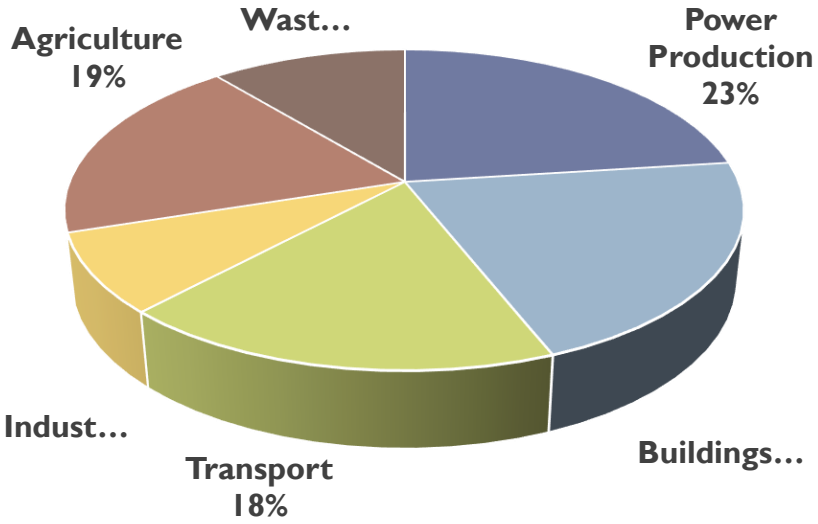
1. Waste to Energy (WTE) NAMA in the Republic of Moldova (NAMA 1), 104 pages
2. Promotion of small CHPs in the Republic of Moldova (NAMA 2), 81 pages
3. Promoting Energy Efficient Lighting in the Republic of Moldova (NAMA 3), 88 pages
4. Afforestation of degraded land, riverside areas and protection belts in the Republic of Moldova (NAMA 4), 91 pages

Energy

347 mil. Euro investments needed,

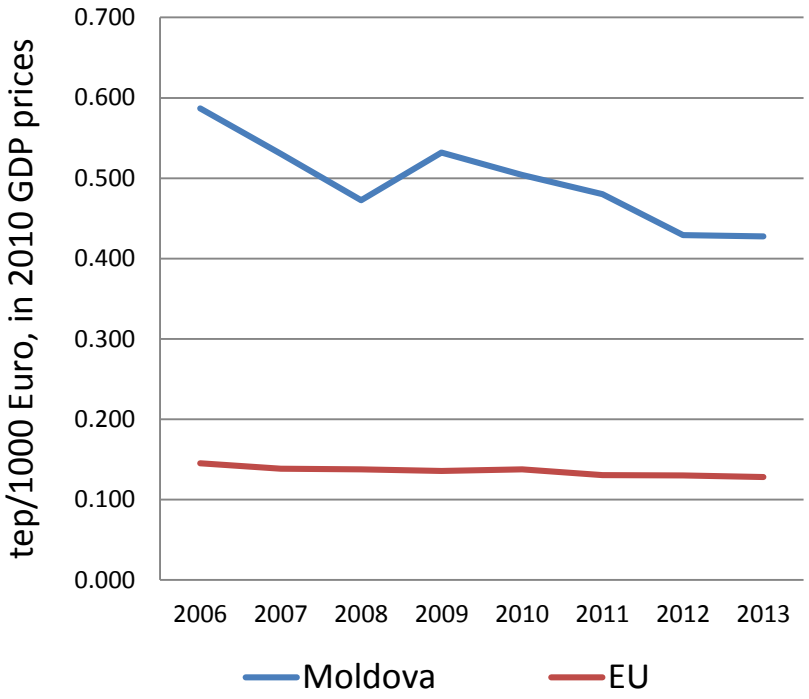
Cover up to 20% of conditional NDC.

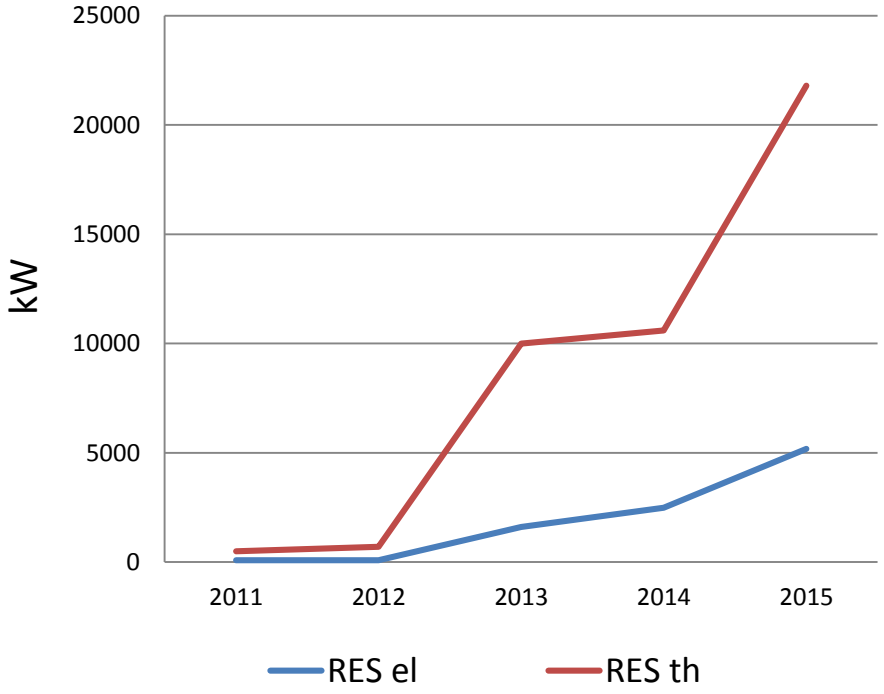
Structure of GHG emissions per sectors:



Mitigation actions and their effects

Energy Efficiency & Renewable Energy Sources Outcomes:





Energy intensity: around 4%/yr decrease during 2006-2013; 1.7%/yr in EU

Support received: EBRD (MoSEFF and MoREEFF Projects, 70 mil Euro); EU/UNDP (Energy and Biomass Project, 24 mil Euro)

CDM projects in the RM

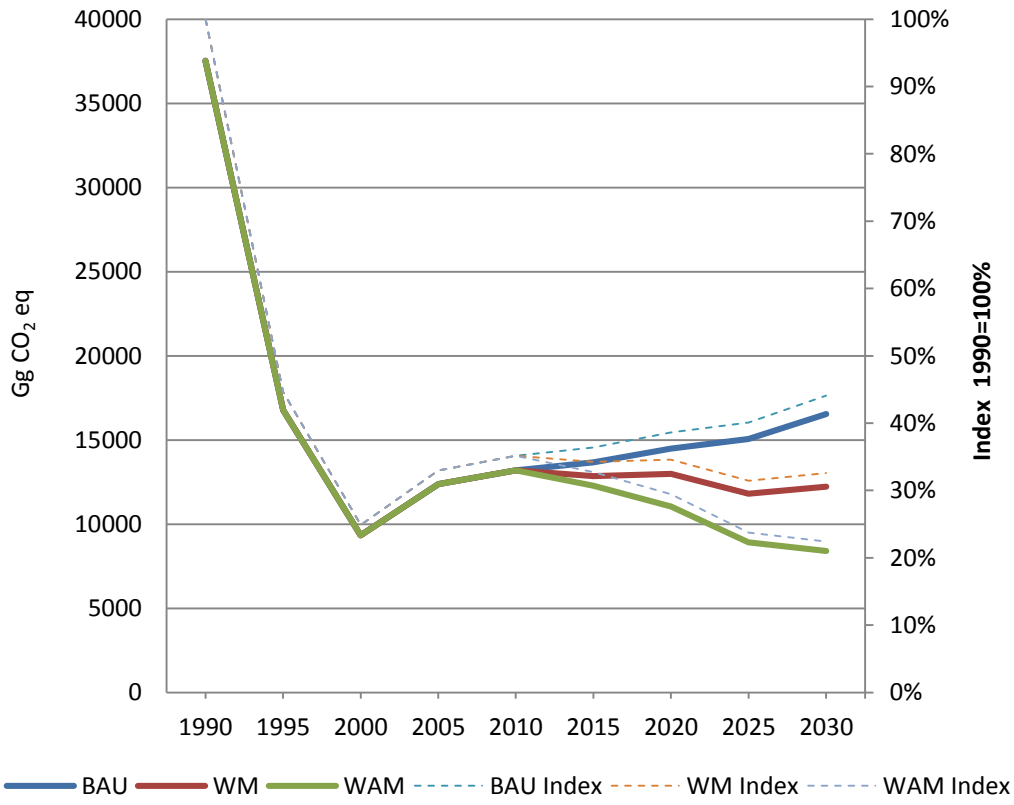
- 11 CDM project proposals have been registered by DNA, of which:
  - 8 were registered by the CDM Executive Board
    - ✓ 3 – in the process of implementation
    - ✓ 2 - credit period ended
    - ✓ 3 – no CER issued up to now
- 1 304 779 CER issued up to now from 1 555 520 CER planned
- By the moment, the RM does not have a carbon market yet.

Mitigation actions: as reported in the BUR1 and INDC

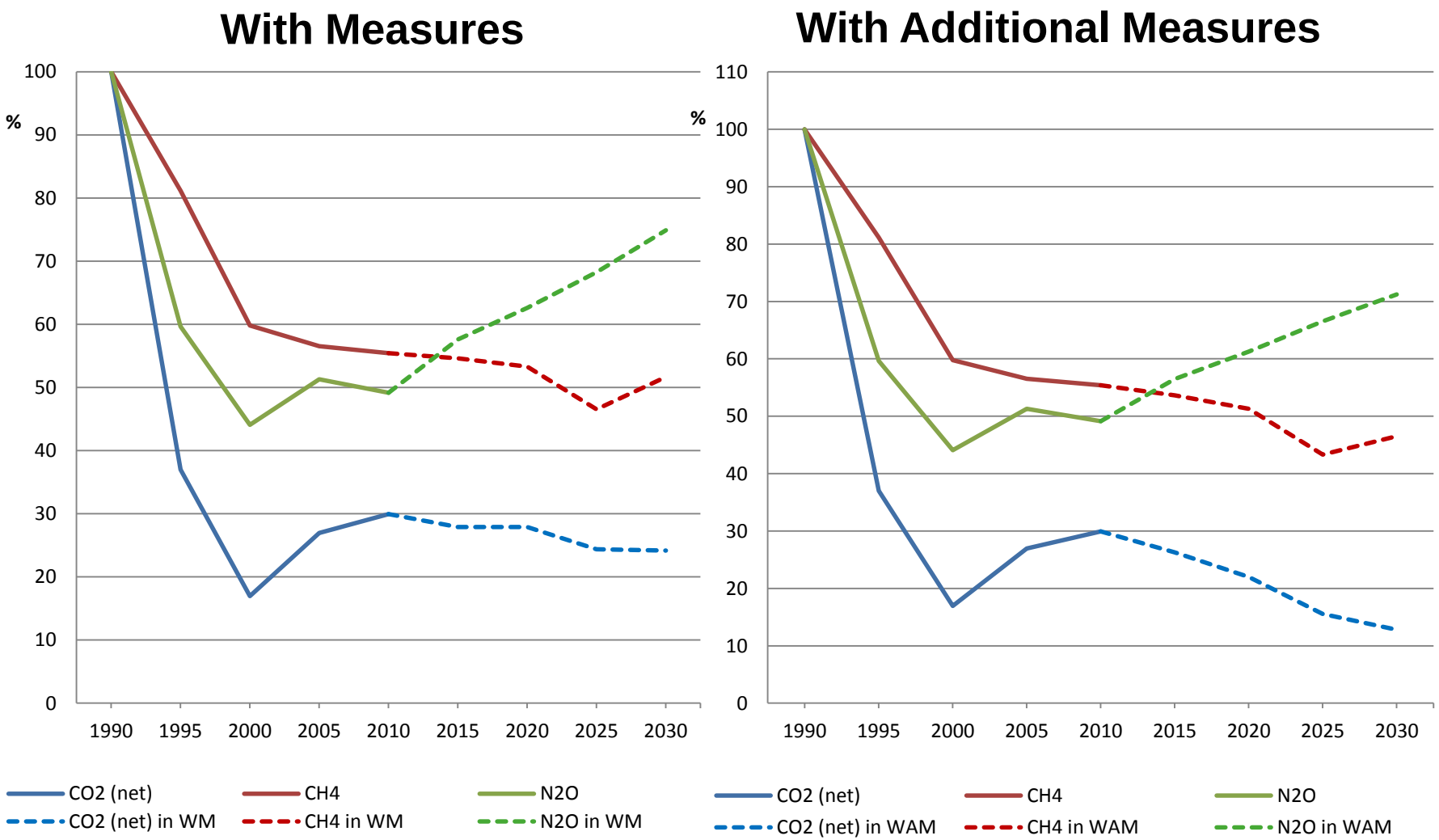
Emissions target: the RM intends to achieve an economy-wide unconditional target of reducing by 2030 its GHG emissions by 64-67% below its 1990 level.

The reduction commitment could be increased up to 78% below 1990 level, conditional to a low-cost financial resources, technology transfer and technical cooperation, accessible to all at a scale commensurate to the challenge of global climate change.

2030 vs 1990:
-56% - BAU; -67% - WM; -78% - WAM



GHG emissions projections under the assessed mitigation scenarios



Mitigation measures: implementation progress

- The Government / Parliament approved:
  - The Low Emission Development Strategy (LEDS) up to 2030, on 30.12.2016;
  - The Law on ratification of the Paris Agreement, on 04.05.2017;
- Law on promoting the use of energy from renewable sources, on 26.02.2016;
- National Action Plans on Energy Efficiency for 2013-2015, on 07.02.2013 and for 2016-2018, on 21.12.2016;
- Other 8 NAMAs PDD are under the developing in 2017 (promotion of energy plantations; development of heat pumps; clinker substitution at cement production; construction of roads; harnessing solar energy to produce hot water in urban and rural areas; deploying cattle feeding by optimal structured rations; implementation of conservative tillage system; wind farms promotion).
- Subject of approval:
  - Regulation on measures to reduce emissions from air conditioning systems in motor vehicles;
  - Taxies for halocarbons.

Domestic MRV

- The National MRV System, currently under the development, will be focused on three MRV categories:
  - GHG emissions
  - Unilateral NAMAs projects and mitigation actions
  - Supported (obtained from external donors) NAMAs projects
- All NAMA categories (unilateral, supported and CDM projects) will be monitored using specific templates;
- By 2018 the following legislative acts (developed in the frame of the UE/UNDP LECBP) are expected be approved:
  - Government Decision on establishing and operation of the national system for monitoring and reporting GHG emissions and other information relevant to climate change;
  - Government Decision on establishing a mechanism for coordinating activities in the climate change area.
- The new Environmental Protection Agency (EPA) to be established by 2020 is planned be responsible further for the National MRV System implementation.

Obstacles and barriers

Obstacles and barriers have been identified for each sector:

- **Energy:** consumers reduced payment capacity, relatively high cost of capital investments in the Republic of Moldova, regulatory uncertainty on RES promotion;
- **Transport:** second-hand vehicles used, heavy traffic in some cities, lack of clear regulatory signals in the form of vehicles efficiency standards, poor urban transport demand planning, not adequate roads;
- **Buildings:** many energy efficiency projects in buildings are too small to attract investors, the financial reserves of the majority population and state are very tight;
- **Industry:** legislative instability in fiscal and budgetary policy, increasing scarcity of technical-engineering personnel and skilled workers in the industry, lack of state financial support to restructuring of industrial enterprises, outdated;
- **Agriculture:** small budgetary allocations, excessive fragmentation of agricultural lands, underdeveloped conservative agriculture, lack of investment for livestock sector recovery and manure management systems;
- **Forestry:** inadequate forest management, insufficient size of the surfaces covered with forests (only about 12% of the country), continuous degradation of protection belts of the rivers and water basins;
- **Waste:** insufficient financing of the waste management sector, the sector is still underdeveloped, requiring a restructuring of both legal and institutional framework and development of an integrated recycling and waste recovery system.

Support received and needed

- **Financing support received**:
  - by 1 June 2015, the donor commitments to the Republic of Moldova accounted for about 4.315 billion EUR, with total disbursements of 2.432 billion EUR for a total of 1,761 projects.
  - Since joining GEF and applying for grants, the RM has received financial non-reimbursable support worth about US$ 36.6 million for implementing 22 projects, including eight capacity building projects in the climate change area, of which US$ 0.832 million for the BUR1 + NC4 Project (2014-2017).
- **Financing support needed**: for WM and WAM scenarios, the following financial support (additional to BAU) is required:
  - For WM: US$ 3.7 billion for 2016-2030;
  - For WAM: US$ 8.6 billion for 2016-2030.
- In order to strengthen the country's capacity to overpass the low emissions development barriers, around US$ 1.9 million would be needed until 2020;
- Other resources being a onetime involvement in the form of aid, principally from international donors.

Part II: Experience and lessons learned in participating in the ICA process

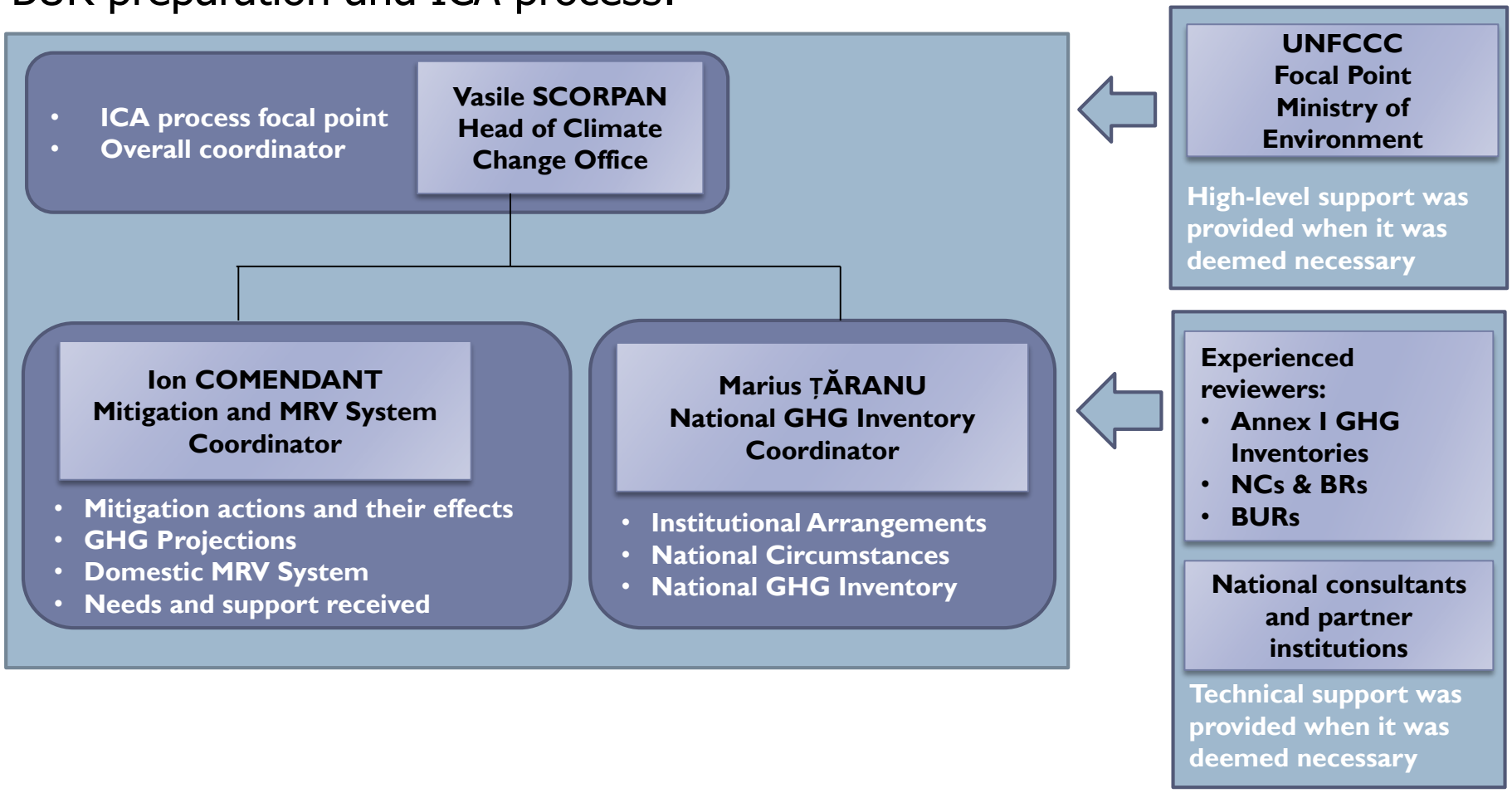
Preparing for the ICA process

Participation in the ICA process raised the profile of climate actions at the domestic level:

- BUR preparation started in the RM on 17th of July 2014, the report being submitted to UNFCCC on 5th of April 2016; the technical analysis of the BUR took place from 19th to 23rd of September 2016 and the technical review report has been published on 20th of February 2017.
- On 25.09.2015 RM submitted its INDC.
- The Low Emissions Development Strategy until 2030 has been adopted on 30.12.2016, representing the mechanism for archiving the assumed mitigation targets.
- The Paris Agreement has been ratified by the Parliament on 04.05.2017.

Preparing for the ICA process

The Republic of Moldova used the following institutional arrangements for BUR preparation and ICA process:



Preparing for the ICA process

While providing climate related information, BUR preparation enhanced the domestic coordination & domestic MRV:

- During this process the RM optimized its procedures for gathering and processing information for its GHG Inventories, BURs and NCs preparation, considering that a continuous improvement process is needed for ensuring timeliness and higher quality of the reporting.
- Two draft Government Decisions (GD) has been also developed ("On establishing and operation of the national system for monitoring and reporting GHG emissions and other information relevant to climate change"; and "On establishing the mechanism for coordinating activities in the climate change area"), being provided to the Government for approval earlier this year.
- As result, we expect enhancing considerably the national arrangements (more clearly defining the roles, responsibilities and deadlines) and domestic coordination of CC related activities.

Enhancing transparency of reporting and areas for improvement

The most relevant value addition of the BUR technical analysis by the TTE:

- It ensured for us the opportunity to enhance the reporting, as well as better prioritize the country needs;
- The process was also used to highlight the needs for national authorities in charge with various aspects related to climate change;
- It provided the opportunity to highlight to decision makers the relevance of enhancing arrangements needed for ensuring a timely, transparent and complete reporting; for establishing an effective instrument to monitor the undertaken actions and assess the progress regarding compliance with the adopted mitigation targets;
- This process highlighted also the importance of the institutional memory, and that of maintaining the key technical expertize within the national institutions involved in the reporting process.

Thank you for attention!